

DETERMINING THE CURRENT OPTIMAL ALLOCATION TO PROPERTY: A STUDY OF AUSTRALIAN FUND MANAGERS

WEJENDRA REDDY¹

RMIT University

ABSTRACT

While there are several studies on the level of property allocation in multi-asset portfolio, research on actual property asset allocation decision-making process is limited in Australia. This research paper examines the property asset allocation strategies for the A\$1.7 trillion Australian managed funds industry and identifies the important steps and considerations that influence their optimal property allocation view and decision making process. Based on in-depth semi-structured survey, the research identifies and documents the factors that aid property asset allocation decisions for Australian fund managers. It investigates the use and relevancy of Strategic Asset Allocation, Dynamic Strategic Asset Allocation and Tactical Asset Allocation strategies for property asset allocation decisions. The results indicate that the allocation of resources to property assets is a complex system of interdependent decisions given its distinctive investment characteristics when compared to alternative asset classes. Apart from definitive/ quantitative inputs in property asset allocation models, Australian fund managers are influenced by many other non-financial considerations. In addition, there are notable differences in techniques for direct property, unlisted property and securitised property asset allocation. The current level of allocation to property assets remain low (8% to 12% of portfolio) for institutions surveyed. Property nevertheless, is expected to continue to increasingly attract investor attention due to its relatively low volatility when compared to equities, its inflation-hedging qualities and its ability to provide stable income.

Keywords: property investment, asset allocation strategies, fund management, risk and return analysis, diversification, portfolio construction and management.

1. INTRODUCTION

Property has traditionally been a major part of institutional investment portfolios in Australia. According to Higgins (2007, p.15) institutional investment represent 40% of the Australian core property market. This extensive coverage compares to recent asset allocation studies which invariably have concluded that property is significantly underrepresented in the typical investment portfolio. Most institutional allocation to property in Australia is generally restricted to around 10% or lower, having peaked at 12% in the late 1980s (Armytage 2002, p.85; Newell 2008; Rowland 2010).

According to PCA (2009 p.13 p.16), due to the ‘denominator effect’, declining stock market values following the 2007 global financial crisis, the allocation to property assets is expected to increase to 10-15% for some superannuation funds. Australian superannuation assets have doubled between 2002 and 2008 to more than \$1.0 trillion and are expected to reach \$2.4 trillion by 2018. With Australia’s aging population and the increased focus on self-funding of individuals retirement, property is expected to continue to be a significant asset class in superannuation fund portfolios.

Newell *et al* (2002) stated that there is a need for more research to enhance stature of property as an asset class, identifying in particular the role of property in a mixed-asset portfolio as the top priority research topic for stakeholders in Australia. While there are several studies on the level of property allocation in multi-asset portfolio, research on actual property asset allocation decision-making process is limited in Australia. Therefore, the primary aim of this research paper is to identify the current strategies and considerations that facilitate the optimal property asset allocation view and investment decisions for Australian managed funds.

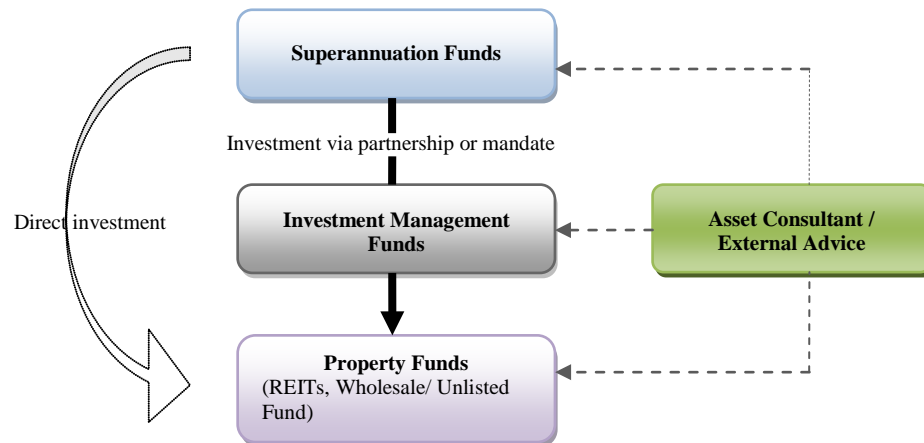
Most Australian institutional investors currently hold property investments (both direct and indirect) through property fund vehicles. Rowland and Kish (2000, p.104) defined a property fund as an investment vehicle that specialises in acquiring, developing and managing property investments on behalf of other institutions and investors. These funds include real estate investment trusts (REITs), property syndicates and other pooled investments predominately invested in real estate, for example Challenger Property Securities Fund, DEXUS Property Group and Lend Lease.

¹ Wejendra Reddy is a PhD candidate studying at the School of Property, Construction and Project management, RMIT University, Melbourne, Australia. His doctoral thesis is on “Fund Managers and their Property Asset Allocation Decision-Making Process”. The research is supported by the RMIT/ Australian Commonwealth Government PhD Scholarship. He has a Master of Arts (Real Estate) from the University of the South Pacific (Fiji Islands).

Property funds are distinct from other managed funds such as superannuation funds and investment management funds (also known as diversified managed funds) which may only hold an allocation to property in their portfolios. By definition, superannuation and other managed funds that own properties as a minor part of their investment portfolio are not 'property funds' but may be direct and indirect owners of properties. Institutions, such as, superannuation funds may also invest in property assets through their exposure in investment managed funds (via mandate and partnerships). Superannuation funds may grant 'mandates' to external advisers to manage part or all of the fund's property allocation. The mandate will be an initial amount and will define the external adviser's criteria for investing in property assets. Investment management funds invest in property assets mainly via property securities funds and REITs (Rowland 2010).

Figure 1 illustrates a typical Australian managed fund industry property asset allocation structure. The investment allocation structure is developed from superannuation fund perspective, the largest fund managers in Australia.

Figure 1: Superannuation Fund Property Investment Structure



Each managed fund type has distinct property asset allocation strategies and investment processes. In addition, the managed fund asset allocation and investment strategies can also be based on asset consultant or external advice. Hence, the industry survey undertaken as part of the data collection process for this research targeted a cross-section of industry experts from superannuation funds, investment managed funds, property funds and asset consultants. This approach allowed both fund specific analysis and general or industry evaluation of how Australian fund managers determine optimal property asset allocation strategies and decisions. The survey data was collected between May – August 2011 through semi-structured questionnaires administered by mail.² For confidentiality reasons all information is reported in an aggregate format.

The survey results will also be evaluated against similar studies conducted overseas to provide a comparative analysis of local and overseas property asset allocation strategies. In addition, the study will identify how fund manager's property asset allocation decision making process has evolved overtime in Australia with reference to prior research.

The research paper is divided into five sections. The next section (literature review) provides background theory and concepts on the area of property asset allocation, followed by a section on the research design and methodology. The survey results and discussions are then presented. The final section provides concluding remarks from the research.

² The author is indebted to those fund managers and asset consultants that responded to the survey questionnaire, including comments and suggestions from industry experts during the pilot study and industry consultation phase.

2. LITERATURE REVIEW

Investment Theory and Asset Allocation Concepts

Investment theory suggests that investors should diversify their investment portfolio in order to reduce total risk at a given level of return (Alexander *et al* 2001; Gitman *et al* 2004). This is easier said than done as institutional investors face a complex set of choices with respect to investment portfolio composition and management. Modern portfolio theory provides a theoretical framework for this process, however in practice, asset allocation decisions must be made in an environment of incomplete information, changing estimates of return, and shifting definitions of the acceptable investment risk.

Markowitz (1952) quantitatively explored the notion that diversification is not achieved merely through an increased number of investments, but by investing in a number of assets whose patterns of returns are distinct and different enough from one another to partially or wholly offset each other's returns and thus reduce overall portfolio volatility. Markowitz pioneered the mean-variance approach which has been used to determine the optimal portfolio allocation. An optimal portfolio of assets is selected by combining an efficient frontier with a specification of the investor's preferences for risk and return. Furthermore, according to Darst (2003, pp.46-47),

'.....the asset allocation process draws upon and ties into Markowitz's Modern Portfolio Theory by focusing on the effects that including, limiting, or excluding a specific asset class will have on the risk (volatility) and return characteristics of the portfolio as a whole'.

Any investment selection decision is preceded (either implicitly or explicitly) by an asset allocation decision. Asset allocation is therefore an important factor in investment decision making process. Asset allocation decisions refer to the appropriate asset mix and relative weighting of asset classes in an investment portfolio. Asset allocation also seeks to identify what is the proper division of assets between conventional and alternative investments (Ragsdale & Rao 1994).

In the past asset allocation was described as a pedestrian and ad hoc process. Institutional investors were generally advised to place 60% of their assets in stocks and 40% in bonds. Today, the asset allocation process is far more rigorous exercise for institutional investors involving the use of complex and sophisticated decision making tools and techniques that has transformed the process. Asset allocation is now seen as a complex system of interdependent decisions that is divided into two broad categories: strategic (longer term) and tactical (short term) allocation. There are now several economic, statistical and financial principles which affect the asset allocation decisions. In addition, asset allocation and asset selection decisions are now increasingly being made by investment fund managers and asset consultants (Hauss 2004; Lummer & Riepe 1994; Rowland 2010; Wendt 1994).

Property Asset Allocation Concepts

Typically, institutional investors have used their property allocations to improve portfolio performance by adding an uncorrelated asset class (MacGregor & Nanthakumaran 1992; Morrison 2010). Combined with its comparatively good returns, real estate's low volatility (even after adjusting for the effects of valuation smoothing) emphasis its attractive risk and return characteristics to investors (Bond *et al* 2007; Dhar & Geotzmann 2005). Although property has always been considered as one of the major asset classes in an investment portfolio, it has a number of disadvantages, mainly illiquidity. Robinson (2002) explains that in the context of property investment, illiquidity is a major deterrent to investment and divestment decisions because of the time required to complete a transaction.

Geltner *et al* (2007) explains that property investment products can be divided into four capital market categories according to whether they are traded on the public or private markets and if they are either equity or debt assets.

Table 1 provides details of the four quadrant investment market and associated property investment products.

Table 1: Four Quadrant Investment Market and Associated Property Investment Products

	<i>Public Markets</i>	<i>Private Markets</i>
Equity Assets	Shares - REITs	Private Equities - Unlisted Property (wholesale property trusts and syndicates)
Debt Assets	Traded Debt Securities - Commercial mortgage (CMBS) - Property trust bonds	Bank Loans - Whole commercial property mortgages

Source: Higgins 2007, p.13.

The property investment products divided in a four quadrant investment market can offer different risk and return profile and deliver different diversification benefits.

According to Dhar & Geotzmann (2005), the allocation of resources to property provides several challenges for institutional investors as choices about investment vehicles have expanded over the past two decades with the rise of REITs and other unlisted property funds and syndicates. In addition, the decision making process may differ for unlisted property and REITs and based on the size and type of fund, therefore making generalisations across funds inappropriate. Parker (2010) extensive literature survey of REITs found that in theory investment decision making process is sequential and linear but the nature and extent of the process differ between investment products.

Several leading researchers (Craft 2001; De Wit 1996; Farragher & Savage 2008; Rowland 2010) have concluded that property asset allocation is typically made in the context of a mean-variance framework. An optimal portfolio of assets is selected by combining an efficient frontier (representing the risk and return characteristics of available portfolios) with a specification of the investor's preferences for risk and return. Dhar & Geotzmann (2005) explain that the application of modern portfolio theory as developed by Harry Markowitz is almost mechanical once all the parameters of the asset return distributions are known. However, in reality, investors are faced with considerable uncertainty about the true underlying return-generated process.

According to French (2001), whilst definitive inputs in property asset allocation model (historic data or predictive forecasts) is important, fund managers are also influenced by many other non-financial considerations such as behavioural issues. Fund managers use their own judgement, experience and creativity to make a good property allocation investment decision. An earlier study by Worzala and Bajtelsmit (1997) of US pension funds found that the most common investment technique used for real estate allocation was general experience/ intuition.

Some institutions determine future property allocation by anchoring on their current allocation. This may primarily be due to the fact that they see the current allocation as conceptually a safer harbour and it thus becomes a benchmark from which the institution deviates as new information becomes available and the yardstick by which the magnitude of deviation is measured (French 2001). Gallimore & Gray (2002) explored the concept of investor sentiment and argued that investor sentiment for property investment differs from that which applies to the financial markets. Their study of UK property investors found that while there is extensive use of hard market information, use of personal feel for the state of the market or information based on the views of others is highly significant in a decision-making process.

Institutional Real Estate, Inc (2010) study of US pension fund's highlights that the use of asset consultants in real estate investment strategies is commonplace. Asset consultants typically advice US pension funds on portfolio strategy, manager selection and performance monitoring. Likewise, the use of asset consultants in Australian superannuation fund property allocation decisions is also widespread. According to Newell (2008), asset consultant contributions were more evident at the strategic level, as well as in the allocation to direct property versus listed property and at the specific property fund selection level.

Institutions make reference to a series of risk and return evaluation measures when evaluating their property asset allocation decisions. Farragher & Savage (2008) investigation of US institutional real estate asset allocation decision making process found that the internal rate of return (IRR) and cash-on-cash rate of return were the most important return measures. Sensitivity analysis, debt coverage ratio, and scenario analysis are the most popular quantitative risk assessment techniques. Rowland & Kish (2000) in a study of Australian property fund's investment decision making process identified IRR as the most important return evaluation measure. In evaluating properties, sensitivity analysis, and to a lesser extent scenario analysis dominated the methods of defining risk. Earlier Australian institutional investor studies (Boyd *et al* 1995; IPD 2000; Newell *et al* 1993) also identified IRR and the initial yield as that the most frequently used measure of property return, with sensitivity analysis being the most popular risk analysis technique.

Dhar & Geotzmann (2005) and Rowland (2010) explain that the secular trends in property returns (ranging from periods of credit crunch to the boom in values) made long-term forecasts of risk and return somewhat challenging. Events such as the 2007 global financial crisis has seen investors questioning fund managers' investment models, with a re-think on the optimal allocation level to property assets and the related asset allocation strategies. Newell (2008) found that institutional investors were unsure about the impact of their future exposure for both direct and listed property, with this uncertainty being stronger for A-REITs than direct property. The institutional survey conducted as part of this research investigated these issues, including the theories and concepts related to property asset allocation in an Australian context.

3. RESEARCH DESIGN

After university ethics approval and a pilot study, the survey was mailed to a target sample of 130 institutional fund managers and asset consultants within Australia. Previous institutional surveys (Newell *et al* 1993 and Rowland & Kish, 2000) on the subject similar to the research topic have generally targeted sample size of 100 participants. The target respondent group included superannuation funds (60), investment management wholesale funds (40), property funds (15) and asset consultants (15). The institutions surveyed were identified on the basis that they held or managed significant investments in property assets (both direct and indirect).

The survey has two versions. The fund manager version was targeted at superannuation funds, investment management funds and property funds, where participants were required to answer a series of closed and open ended questions about their institution's property asset allocation strategy. The asset consultants' version had similar questions but related to their wholesale client's property asset allocation strategies and decisions. Both versions of the survey questionnaire were tested during the pilot study phase (November 2010 – March 2011) involving leading fund managers and asset consultants in Australia.

Of the targeted 130 institutions, the survey pack was successfully delivered to 125 respondents. In total, 79 institutions responded to the survey which included 51 completed response and 28 refusals. The 51 completed response included superannuation funds (21)³, investment management wholesale funds (15), property funds (7)⁴ and asset consultants (8). From the 28 institutions that did not agree to be part of the survey, 19 were superannuation funds that mainly outsourced their property asset allocation functions to asset consultants or external managers. Some funds were also in the process being merged with other superannuation funds. The asset consultant firms surveyed were those listed as service providers for the targeted superannuation funds. Overall, the completed response rate for the survey was 41%, refusals 22% and non-response rate 37%. The list of survey respondents/compilers included chief executive officers (8), chief investment officers (18), fund managers (14) and analysts/ consultants (11).

4. SURVEY RESULTS AND DISCUSSION

Property Allocation Level of Funds Surveyed

The funds under management of institutions surveyed (excluding asset consultants) were approximately A\$576 billion, distributed approximately 50% superannuation funds, 39% investment management funds and 11% property funds (PFs). The property exposure for these institutions was approximately A\$115 billion. The total property exposure excluding property funds was A\$53 billion.

Table 2 provides details of the Australian fund manager's property asset allocation level in relation to their funds under management.

Table 2: Property Allocation Level for Fund Surveyed

<i>Property Type (% of FUM)</i>	<i>Superannuation Funds</i>	<i>Investment Management Funds</i>	<i>Average</i>
Direct Property	4%	2%	3%
Indirect Property			
REITs	3%	4%	4%
Unlisted Property Fund	5%	1%	3%
Total indirect property	8%	5%	7%
CMBS	0%	1%	0%
Total Property Exposure	12%	8%	10%

Property formed 12% of the superannuation fund and 8% of the investment management fund's portfolio. The average property asset allocation level for superannuation funds and investment management funds surveyed was 10% (3%

³ Public Sector Superannuation 9; Industry Superannuation 6; Corporate Superannuation 3; Retail Superannuation 3

⁴ To avoid bias results, responses from property funds have been excluded from some survey analysis.

direct and 7% indirect). The results are consistent with earlier studies (Armytage 2002; Newell et al 1993; Newell 2008; Rowland 2010) and shows that the allocation to property has remained unchanged (average of 10% of lower) for Australian managed funds in recent decades.

In terms of the investment strategy, only 16% of the institutions surveyed invested in property assets directly, with the majority investing via property fund vehicles (45%), mandate (24%) and investment management funds (15%). Respondent comments indicate that there is disparity in how institutions surveyed classify different property assets. Some fund managers surveyed now categorise direct property within the unlisted band together with infrastructure assets. REITs are increasingly banded within the equities asset class. Other respondents argued that the mindset needs to change, stating that fund managers/ investors need to understand the function and dynamics of real estate and to keep REITs out of the general equities classification.

The level of manage fund investment in property assets and the related investment strategies are largely dependent on the property personnel available. The asset allocation team of the managed funds surveyed generally consists of 4 to 12 committee members with property staff representation being 1 to 2. Other representations on the asset allocation committee are from the equities and bonds team. Some fund managers and asset consultants surveyed were at unease with the low level of property personnel presence within the fund asset allocation team. The key concern was that their lack of understanding of local and overseas property products or markets indirectly limits the fund's exposure to property assets.

The average number of property professionals employed to make property allocation decisions for the institutions surveyed is three (excluding PFs). This figure generally includes one senior manager and two analysts each contributing 50% of their time. A superannuation fund in-house team generally consist of two property professionals. Investment management funds employ an average of three individuals with property background. Funds that do not employ any property professionals outsourced their property allocation and investment managed functions to asset consultants or via other partnerships.

Table 3 provides a cross-tabulation of results for number of property professionals employed by fund managers versus their level of property exposure and related property investment strategy.

Table 3: Cross Tabulation: Number of Property Professionals Employed vs Property Exposure

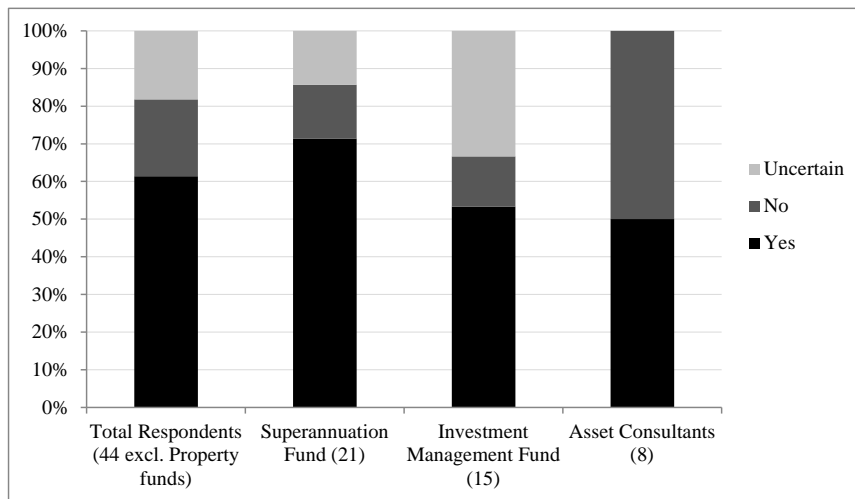
<i>Property Professional Employed:</i>	<i>0</i>	<i>1 to 3</i>	<i>3+</i>
Superannuation	11	7	3
Investment Management Funds	1	12	2
Percentage of funds surveyed (36 excl. PFs)	33%	53%	14%
Property Exposure \$ Billion			
Average	0.4	1.6	3.2
Lowest	0.1	0.2	0.2
Highest	1.1	4.0	8.0
Property Investment Medium:			
Direct Property	0%	21%	43%
Indirect/ Securitised Property	100%	79%	57%

Of the 36 managed funds surveyed (excluding PFs), 33% do not employ any property staff, while 53% employed between 1 to 3 and only 14% had more than 3 property personnel. The funds that did not employ any property professional had a nominal average property investment of A\$0.4 billion. In contrast, funds that employed staff with property background generally had property investments in the range of A\$1.6 to \$3.2 billion (average). Funds with fewer than 3 property staff are likely to invest predominantly in the indirect or securitised property sector. Funds with higher number of property personnel (3+) are likely to invest actively in both direct and indirect property investment sectors. The cross-tabulation results indicate that the number of property personnel employed by an institution has a direct impact or influence on a fund's level of property asset allocation and its property investment strategy.

Is Current Allocation to Property Optimal?

Figure 2 illustrates the respondents view on whether current level of allocation to property is optimal for their funds.

Figure 2: Respondent's view on whether Current Allocation Level to Property is Optimal



A majority of the institutions surveyed (61%) are comfortable with their current level of property asset allocation. However, approximately 39% of respondents believe that the current allocation level to property is not sufficient or were uncertain. Approximately 50% of the asset consultants that were surveyed indicated that the current level of allocation to property for their clients is not optimal.

Respondents felt that the allocation level to property for their funds was optimal based on the institution's asset liability modelling, portfolio construction process, risk/return profile, advice received from asset consultants and property's relative attractiveness to alternative assets. In most cases, the institutions have pre-agreed investment constraints and thus manage their property optimisation process within those constraints.

A large 64% of the institutions surveyed (excluding PFs) believed that their optimal property allocation decision is constrained. Respondent comments highlight liquidity as the predominant constraint to optimal property allocation decisions. Apart from liquidity, other constraints to optimal property allocation include management fees, limitations on modelling, limits on listed/ unlisted split, difficulty in obtaining stock, declining market conditions, funds available to invest, entry restrictions and time and staff.

An interesting factor was that some fund managers surveyed felt that their institution's allocation level to property was optimal based on assumption that it equates to a neutral market allocation of 10%. This conforms to researches conducted in UK (French 2001; Gallimore & Gray 2002) which highlighted that some institutions may determine future property allocation by initially anchoring on their current allocation or information based of the views of others in the market.

Property Allocation Target

Table 4 provides a breakdown of the fund manager's current property asset allocation target range.

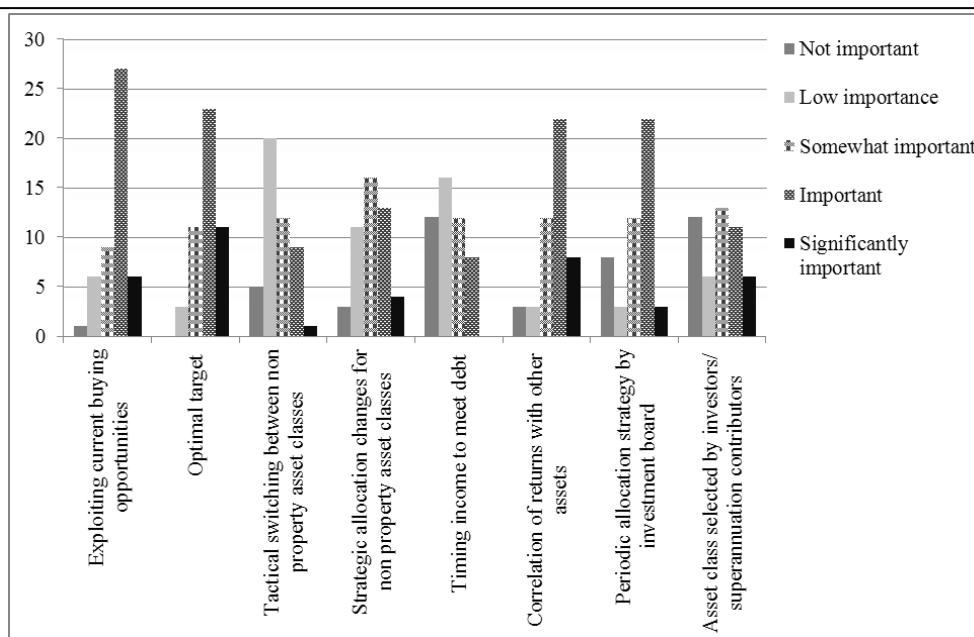
Table 4: Property Allocation Range for Fund Surveyed

<i>Fund Type</i>	<i>0-5%</i>	<i>6-10%</i>	<i>11-15%</i>	<i>16-20%</i>
Superannuation Funds	1	14	6	0
Investment Management Funds	4	7	3	1
Total (36 excl. PFs)	14%	58%	25%	3%

The survey results indicate that Australian fund manager's property asset allocation model generally fall within the 6 to 10% range. From the total 36 superannuation funds and investment management funds surveyed, only 10 (or 28%) have property asset allocation target above 10%.

The fund managers were also asked to rank the importance of a set of key factors that are likely to influence how much property their institution holds. The results are illustrated in Figure 3.

Figure 3: Factors Influencing Property Allocation Target



Overall, the dominant factor likely to influence how much property an institution holds is the *exploiting of current buying opportunities*. Interestingly, tactical switching between asset classes was ranked as a low importance factor. Rowland & Kish (2000) in an earlier study of Australian property fund managers identified tactical switching between asset classes as the most important factor likely to influence the level of property weight in a portfolio. The current results are reflective of the changes in property asset allocation tactics for Australian fund managers amid a competitive and uncertain market.

Funds Managers were also asked if there are written rules that restrict what percentage of their investment portfolio can be allocated to property assets. Of the total 21 number of superannuation funds surveyed, 13 (or 62%) have specified limits to their property allocation levels. Similarly, 67% of the investment management funds surveyed and 63% of the asset consultants surveyed are restricted by their (or their client's) investment policy statements when determining optimal allocation to property assets. The responses indicate that for some funds there may not be restrictions placed specifically for property assets, but unlisted investments generally. The written rules governing target allocation to property assets can be amended by the investment committee.

Property Allocation Process

The fund managers surveyed were asked to identify and describe their institution's property asset allocation strategies. The response indicates that Australian managed fund's property asset allocation models are generally run on a 7-10 year (strategic allocation) and 1-3 year (dynamic allocation) time horizon.

Strategic asset allocation (SAA) was identified as the fund's long term property investment strategy or policy. Dynamic strategic asset allocation (DSAA) was defined by fund managers surveyed as a medium term tilt from the fund's long term property allocation strategy mainly to defend against or exploit market extremes. Tactical asset allocation strategy (TAA) is described by respondents as short term opportunistic moves, linked to annual basis plans and only relevant to listed property. The decision-making process for these long and short terms strategies is the same, but the timing within which decisions are made or reviewed differs (annually, quarterly or monthly/weekly).

Table 5 provides details of the asset allocation strategies adopted by Australian fund managers for property assets.

Table 5: Fund Manager's Property Asset Allocation Strategies

<i>Institutions</i>	<i>SAA</i>	<i>DSAA</i>	<i>TAA</i>
Total Respondents (44 excl. Property funds)	57%	22%	21%
Superannuation Fund	54%	26%	20%
Investment Management Fund	63%	17%	21%
Asset Consultants	47%	35%	18%

Table 5 results illustrate that SAA is the dominant asset allocation strategy used by the fund managers for property; reflective of the nature of the property asset class (illiquid and long-term investments). However, respondent comments indicate that shorter term strategies (DSAA, TAA), although not as prominent as SAA is now viewed as more effective by fund managers. In particular, dynamic asset allocation structure has become more prominent for several funds surveyed due to its ability to react to current market environment more effectively. Respondent comments indicate that post 2007 global financial crisis investors are disbelieving of long term data and therefore the industry is more tactical than in the past.

Of the total number of 51 institutions surveyed, only 15 (or 29%) outsourced their asset allocation models, with 11 being superannuation funds and 4 investment management funds. A significant majority (92%) of the institutions that out-source their property allocation and investment management functions do not provide complete discretion to outside managers or consultants.

Determining Optimal Allocation to Property Assets

Table 6 provides a summary of the key determinate factors that guide Australian fund manager's property asset allocation decisions.

Table 6: Key Determinate Factors Influencing Fund's Optimal Allocation View for Property

<i>Key Determinate</i>	<i>Drivers/ Inputs</i>
Asset Allocation Committee	Investments choices by plan members
Asset consultant advice	Fund member profile (such as age)
Investment policy statement	Funds available to invest
Product Disclosure Statement /Prospectus	Client investment mandates/ objectives or expectations
Fund investment strategy	Client investment constraints
Quantitative and qualitative analysis	Investment philosophy (active, risk managing)
	Risk tolerance
	Risk/return forecast
	House view on asset classes/ opportunities (correlation with other assets)
	Characteristics of property (assessment of liquidity)
	Liability matching (superannuation)
	Economic trend
	Market view/ peers
	Regulatory compliance – ASIC/ Corporation Act/ Superannuation Act)

The institutions surveyed determine optimal allocation view for property assets based on the fund's asset allocation strategy, external advice and a series of quantitative analysis and qualitative overlay. Funds would generally have a capital markets or investment research team that provide analysis and run optimiser models (both historic and forecast integrated such as efficient frontier) for each investment asset class. The fund's asset allocation committee would review both in-house and external recommendations for determination of the institution's optimal allocation to property assets.

For most superannuation funds surveyed, external advice and asset liability modelling were the key determinates of optimal allocation to property assets. Asset consultant's optimal allocation view is customised to their client's investment objectives. Like superannuation funds, the investment management funds surveyed determine their optimal property allocation view based on a series of quantitative analysis and qualitative overlays. However, their analysis is predominantly undertaken in-house. External advice (mainly from asset consultants) is limited to setting up fund's strategic asset allocation targets on 3-5 year internals.

The institutions surveyed use a number of forecast models (property, capital markets, financial and mathematical) and softwares to aid their property asset allocation decisions. Larger funds would generally have a team of in-house professionals dedicated at conducting industry research, developing and maintaining databases on various markets and submarkets such as economic, geographic, political, capital markets and property. Such databases would also track the performance of various property markets and sub sectors including key property statistics (rental, occupancy, outgoing, and valuation), demand and supply forecasts, transaction volumes, construction or re-development costs, correlation matrix (property vs alternative assets) and other variables. Smaller funds that did not employ any property professionals or have a small research team base their property asset allocation decisions on analysis conducted by industry consultants.

Table 7 provides a summary of quantitative analysis methods and qualitative overlay used by the institutions surveyed as part of their property asset allocation decision-making process.

Table 7: Analysis Techniques Influencing Property Asset Allocation Decisions

<i>Methods</i>	<i>Key Inputs</i>
Quantitative Valuation modelling (cap rate) Scenario analysis Efficient frontier based on historical returns/ Mean variance optimiser Covariance Monte Carlo simulations Risk/return analysis Volatility analysis Correlation matrix Factor analysis Financial models (cashflow; P&L; DCF) Financial ratios (REIT specific) Econometric models Asset liability modelling Portfolio construction models/ portfolio optimiser Relative return models vs alternative investments Qualitative Judgement (“gut-feeling”) Manager skill and quality Asset quality General discussions with managers Client/ member views (surveys) Investor/ shareholder meetings Fund manager experience/ understanding Industry peer comparison	Portfolio construction process (investment objective/ strategy) Asset consultant advice Investment committee meetings External fund manager meetings Softwares (Cougar; Bespoke; Yardi; Estatemaster; Argus) Market understanding (in-house research) <ul style="list-style-type: none"> ▪ property market fundamentals ▪ property market forecast (expected long term fluctuations in values) ▪ top-down and bottom up analysis (property and economic) ▪ economic forecast ▪ historical data ▪ capital markets assumptions Factsheet/ data from managers (e.g. returns, leverage etc) Market investment opportunities Investment timeframe Funds available to invest

The results show that Australian fund managers use a combination of quantitative and qualitative analysis as part of their property asset allocation decision-making process. The type of quantitative analysis that generally aid Australian fund manager’s property asset allocation decisions includes valuation, financial/ investment analysis models and economic analysis. Asset allocation models used are efficient frontier analysis based on historical returns, and scenario analysis.

Fund managers surveyed have also placed greater importance on qualitative overlay to any quantitative output before decisions are finalised. The key qualitative overlays identified by the Australian fund managers include judgement (‘gut-feeling’), experience and understanding of investing in property assets, feedback from clients or shareholders, fund manager skills, asset quality assessment and peer comparison. The results are comparable to similar studies conducted overseas (French 2001; Gallimore & Gray 2002; Worzala & Bajtelsmit 1997) that identified general experience/ intuition, judgement and the use of personal feel of the market as key qualitative factors that influence institutional property allocation decisions in US and UK.

Table 8 highlights the predominately used market indices for the institutions surveyed.

Table 8: Market Indices Influencing Property Asset Allocation Decisions

<i>Direct and Unlisted Property Benchmark Indices</i>	<i>Listed Property Benchmark Indices</i>
IPD/Mercer Direct Property Index	S&P/ASX 200 A-REIT Accumulation Index
IPD/Mercer Unlisted Property Index	S&P/ASX 300 A-REIT Accumulation Index
PCA Sector Indices	FTSE/ NAREIT Global Property Index
PCA/IPD Investment Performance Index	FTSE EPRA/ NAREIT Global REIT Index
Intech Direct Property Index	FTSE EPRA/ NAREIT Developed Real Estate Index
S&P Citigroup World Property Index	S&P Citigroup Global REIT Index;
UBS Global Real Estate Investors Index	
Mercer Unhedged Property Index	
Rainmaker Financial Standard Property Index	

Reference to industry research reports and market indices/benchmarks is common across all institutions surveyed. The key direct and unlisted property market benchmark indices include IPD/Mercer and PCA sector indices. For the listed property sector, fund managers use the S&P/ASX A-REIT Accumulation Index as domestic benchmark and a series of global REIT indices for offshore property exposure including FTSE/ NAREIT and S&P Citigroup Global REIT Index. Institutional investment in a global market is predominantly through listed property funds or REITs. Funds also develop and follow proprietary (or in-house) indices and benchmarks. The key inputs in their models include 10 year bond rate (absolute return relative to bonds) and consumer price index (CPI+ benchmark). Australian managed fund has consistently used similar property market benchmark in recent years. Newell (2008) also highlighted the S&P/ASX A-REIT Accumulation Index and the Mercer unlisted property index as key domestic property measures and EPRA/NAREIT global property securities index for global property investments.

Institutions surveyed were asked to rank internal and external factors that are likely to influence their property asset allocation decision making process. Table 9 illustrate the results by institutions surveyed.

Table 9: Internal and External Factors Influencing Property Asset Allocation Decisions: Median Rank by Fund Type

<i>Internal factors influencing property asset allocation decision</i>	<i>Overall</i>	<i>Superannuation Fund</i>	<i>Investment Management Fund</i>	<i>Property Specific Fund</i>	<i>Asset Consultant</i>
Advice from internal investment team	5	5	5	4	5
Relative external asset manager skills	4	5	3	2	5
General skills/ intuition of decision-maker	4	4	4	4	4
Intended investment period	4	4	4	4	4
External factors influencing property asset allocation decision					
Recent trends in the property market	4	4	4	4	4
External/ independent advice	4	4	3	3	4
Actions taken by industry peers	3	3	3	2	3
Market sentiment	3	3	3	2	3
Regulatory/ legislative environment	4	4	3	3	4
Economic environment/ outlook	4	4	4	4	4
Financial market conditions	4	4	4	4	4
Market demand and supply factors	4	4	4	4	4

Note: Degree is median score on a scale of 1 to 5 (1 not important; 2 low importance; 3 somewhat important; 4 important; 5 significantly important)

Responses on a fund specific level were generally parallel, with *advice from internal investment team* rated as the most important internal factor likely to influence the property asset allocation decision making process. The key external factors likely to influence a fund's property asset allocation decision were *market demand and supply, economic*

environment and outlook (inflation, interest rate, and exchange rate), financial market conditions and the recent trends in the property market.

Table 9 show correlation of result was high between the superannuation funds and asset consultants with both also ranking *relative external asset manager skills* as significantly important. The factors that are rated as less significant or somewhat important for Australian fund manager’s property asset allocation decision making process include *actions taken by industry peers* and *market sentiment*. Respondent comments indicate that whilst actions taken by industry peers may be considered by fund managers, it does not drive their own property asset allocation process.

Overall, the results were comparable to similar studies conducted overseas (Dhar & Geotzmann 2005; Gallimore & Gray 2002; Worzala and Bajtelsmit 1997) that highlighted relative skills of external manager, intuition, statistical estimates of risk and return and long-term historical performance as the key factors influencing institutional investor’s property allocation decisions. However, these studies also placed greater importance on peer comparison and market sentiment.

Institutions surveyed were asked to rank a series of risk and return evaluation measures that were important to their optimal property asset allocation decision.

Figure 4 provides the results from the survey for property return evaluation measures most commonly used by Australian fund managers surveyed.

Figure 4: Important Property Return Evaluation Measures/Hurdles

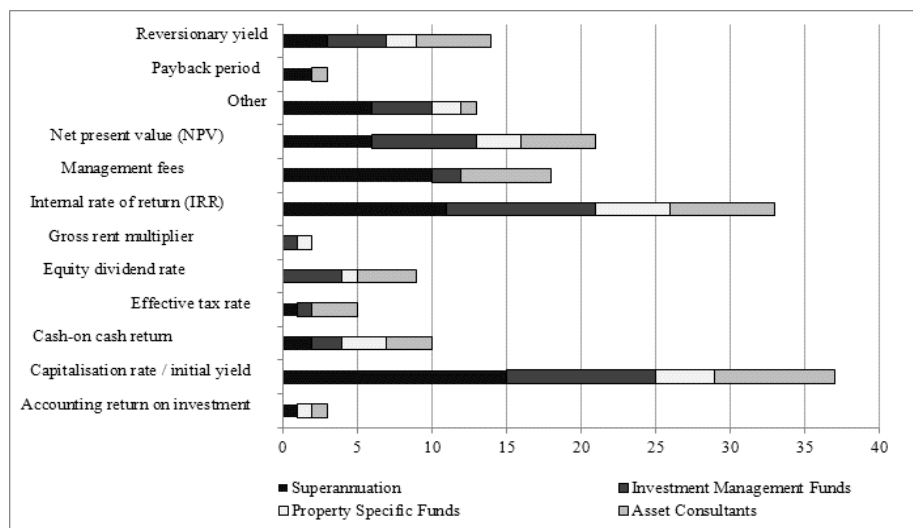


Figure 4 shows capitalisation rate, followed by IRR and net present value (NPV) were the most popular property return evaluation measures. The least used techniques were gross rent multiplier, accounting rate of return and payback period. The results were highly correlated for superannuation funds and asset consultants with both institution type also ranking management fees as one of the top three return elevation measures. Superannuation funds generally outsource their property allocation and investment management functions to asset consultants or via partnership which in part explains their higher ranking of management fees.

The higher weighting to capitalisation rate and IRR is reflective of the re-importance placed on valuation methods by Australian fund managers now. Respondent comments indicate that the change in market conditions due to the recent global financial crisis warrants additional valuation tools or the need to develop better proprietary or in-house valuation and forecasting models.

Overall, the results are consistent with earlier Australian studies (Boyd *et al* 1995; Newell *et al* 1993; Rowland & Kish 2000) that mainly ranked IRR and capitalisation rate as the most important return evaluation measures. However, the variables driving Australian fund manager’s property investment process differs slightly from that employed overseas. A similar study conducted in US by Farragher and Savage (2008) found that IRR and cash-on-cash rate of return were the most important return measures. However, cash-on-cash return evaluation measure has been ranked fairly low by the Australian fund managers.

Figure 5 illustrates the key risk assessment methods predominantly used by the institutions surveyed for property allocation decisions.

Figure 5: Important Property Risk Assessment Evaluation Techniques

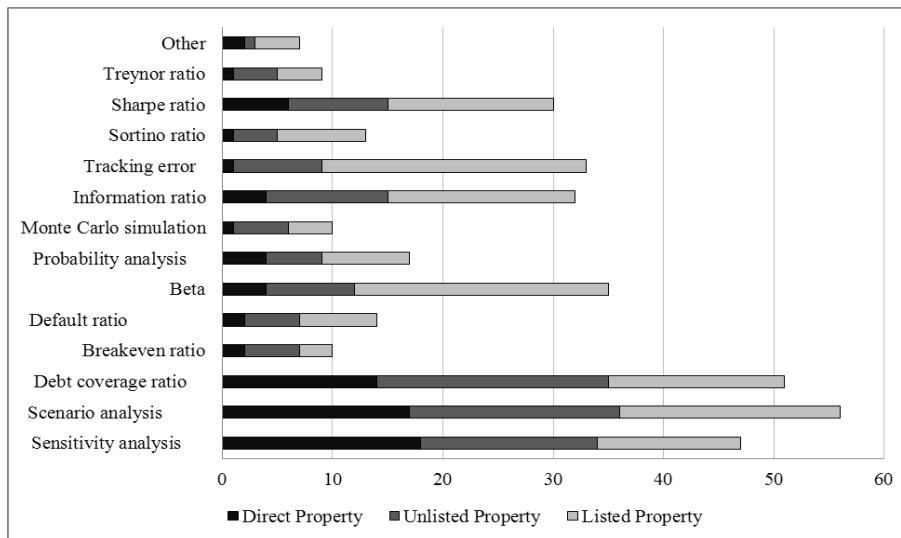


Figure 5 indicates that for direct property, sensitivity analysis is the dominate risk assessment method. Scenario analysis was the most used risk assessment method for unlisted property investments. The least popular risk assessment method for direct and unlisted property was the Monte Carlo simulation approach. Beta and tracking error were the most important risk assessment method for listed property. The least popular risk assessment method for listed property was the breakeven ratio.

Overall, scenario analysis, followed by debt coverage ratio and sensitivity analysis are the prominent risk assessment methods for Australian fund managers. The use of techniques such as Treynor ratio, Monte Carlo simulation and breakeven ratio is limited. The results are generally consistent with earlier Australian studies (Boyd *et al* 1995; Newell *et al* 1993; Rowland & Kish 2000) and overseas research (De Wit 1996; Farragher and Savage 2008) which also identified sensitivity analysis, debt coverage ratio, and scenario analysis as the most used quantitative risk assessment techniques for property asset allocation decisions.

Optimising Future Property Allocation Level

Despite the current low allocation level, indications are that a majority of the funds are likely to increase their investments in property assets. Figure 6 provides details of whether the institutions surveyed expect any change to their level of property asset allocation in the next 5 years.

Figure 6: Do institutions expect change in property allocation in the next 5 years?

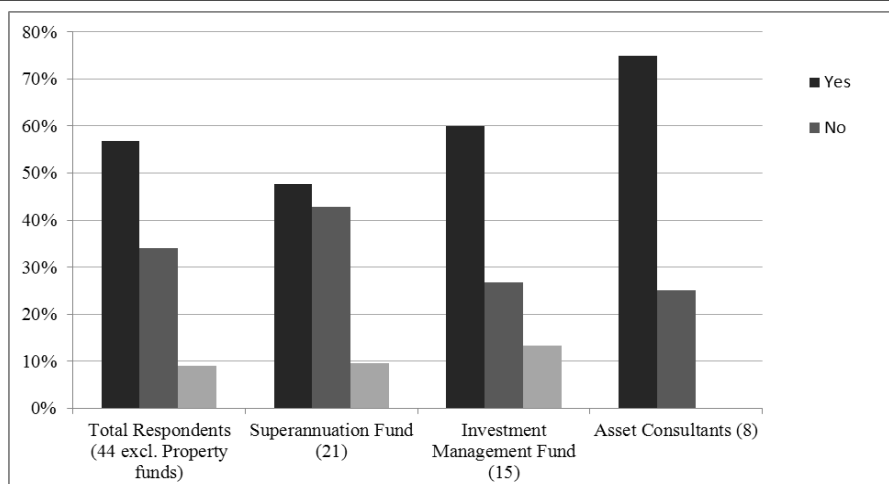


Figure 6 showed the level of responses indicates that approximately 56% of the funds surveyed expect to see changes in their property asset allocation level in the next 5 years. Based the 15 investment management funds surveyed, 9 expect changes to their property asset allocation levels. Similarly, 75% of the asset consultants surveyed are confident of changes in their client's property asset allocation level in the next 5 years. However, superannuation funds were split in their response, where 49% expected changes to their property allocation level and the rest either indicating no change or were uncertain about the issue.

The institutions that have indicated a change in their property asset allocation level were driven by its attractive risk/return outlook. According to the survey respondents, property's mid to low risk asset classification and its strong inflation hedging characteristics is likely to continue to attract investors in future. The key reasoning behind the expected change in property asset allocation level includes:

- i) A move away from listed market – the current trend is to diversify away from REITs with higher allocation to direct property and unlisted property funds due to the stability of income.
- ii) Examining international property opportunities or allocating additional property investment offshore due to factors such as the growth in Asian markets, higher Australian dollar and lack of opportunities locally. Also potential move towards global REITs from Australian A-REITs.
- iii) Portfolio diversification and stability - need to attain a 50/50 split between listed and unlisted assets.

The respondent comments were similar across the managed funds concerning their future property allocation direction. The asset consultants surveyed also expect a minor increase in the level of property allocation for their wholesale clients due mainly to market factors such as the stabilisation of property fund industry.

Fund managers surveyed have also indicated their desire to have more control in how they invest in property assets. Funds are more focused on core assets and owning property directly to reduce risk. Although indications are that Australian managed funds will become more direct player of property, the investments will mainly be via partnership and mandates. Respondents stated that the preference for direct is due to the control element, ability to control key decisions relating to the assets. The consensus view was that fund managers were only interested in making key decisions. They do not want to be involved in the day-to-day operation of the assets, i.e. they don't want to be asset managers. This will be a slight change from current allocation strategies where managed funds largely allowed external managers to make the key property asset selection, investment and disinvestment decisions.

5. CONCLUSION

The research illustrates that there has been a shift in Australian fund manager's property asset allocation views and strategies driven mainly by the fund's need to adapt to the continued uncertain global financial and investment market conditions. The techniques and analysis that drive the Australian fund manager's property asset allocation decisions are sophisticated and comparable to those utilised by US and UK fund managers.

The average allocation to property for the managed funds was 10% (3% direct and 7% unlisted) which has predominantly remained unchanged in recent decades. The fund's property exposure is generally through indirect investments via property fund vehicles or mandate. Only 16% of the institutions surveyed hold property assets directly. There is disparity in how Australian fund managers classify different property assets. Some fund managers surveyed now categorise direct property within the unlisted band together with infrastructure assets. REITs are increasingly banded within the equities asset class. The number of property personnel employed by an institution had a direct impact or influence on the fund's level of property exposure and its property investment strategy.

Fund managers surveyed were generally comfortable with current level of property allocation based on their institution's asset liability modelling, risk/return profile and advice from asset consultants. It is interesting to note that neutral market view (10%) drives optimal property allocation decisions for some funds. In most cases, fund managers have predetermined investment constraints and thus manage their property optimisation process within those constraints. Liquidity was the predominant constraint to optimal property allocation decisions.

Although strategic asset allocation remains the dominant property allocation strategy, shorter term strategies, in particular dynamic asset allocation structure has become more prominent for several funds due to its ability to react to current uncertain market environment more effectively. The key quantitative asset allocation analyses include efficient frontier analysis based on historical returns and scenario analysis. Fund managers also placed significant importance on qualitative overlay mainly judgement ('gut-feeling'), experience and understanding of investing in property assets, fund manager skills, asset quality and peer comparison.

Going forward, allocation to property assets will remain important for Australian fund managers. The denominator effect of declining stock market values due to the continued uncertain global financial market conditions is expected to increase the need for funds to focus on stable investment sectors such as property. In the past managed funds were generally smaller and their ability to invest in property assets were limited. Fund managers surveyed have indicated that the merger and growth of superannuation funds would result in larger investment team with more property professional employed to drive their asset allocation analysis and decisions. This may see managed funds adopt a more in-house approach, limiting external consultants or manager advice in the fund's property asset allocation decisions.

It is envisaged that there will be a shift in strategy in terms of how fund managers invest in property assets. Australian fund managers have indicated their desire to downgrade indirect /securitised property exposure, with higher weighting to direct property (mainly via partnership and mandates). Fund managers are also likely to seek greater international property exposure due to factors such as higher Australian dollar and lack of opportunities locally. Overall, the push towards direct property is reflective of fund manager's desire to achieve greater portfolio stability and the need for funds to have more control over key decisions relating to their assets (strategic and investment level). Australian managed funds are also likely to focus on developing better proprietary or in-house valuation and forecasting models to optimise fund's asset allocation decisions to property.

6. REFERENCE

- Alexander, G.J., Sharpe, W.F. & Bailey, J.V. 2001, *Fundamentals of Investments*, Third Edition, Prentice Hall International, Inc., New Jersey.
- APRA, 2011, *Australian Prudential Regulation Authority Annual Superannuation Bulletin June 2010*, January Edition, Commonwealth of Australia.
- Armytage, P. 2002, 'What is Property? Property: Challenging Conventional Thinking', *Australian Property Journal*, May Edition, pp 104-111.
- Austrade, 2010, *Investment Management Industry in Australia*, Australian Trade Commission Financial Services Division, Canberra.
- Bond, S.A, Hwang, S., Mitchell, P. & Satchell, S.S. 2007, *Asset Allocation in the Modern World*, Investment Property Forum, London.
- Boyd, T., MacGillivray, H. and Schwartz, A. L. 1995, 'A Survey of Real Estate Capital Budgeting Practices in Australia', *Journal of Real Estate Literature*, Volume 3, pp. 193-201.
- Craft, T.M. 2001, 'The Role of Private and Public Real Estate in Pension Plan Portfolio Allocation Choices', *Journal of Real Estate Portfolio Management*, Volume 7, Number 1, pp. 17-23.
- Darst, D.M. 2003, *The Art of Asset Allocation: Asset Allocation Principles and Investment Strategies for Any Market*, McGraw-Hill, New York.
- De Wit, D.P.M.1996, 'Real Estate Portfolio Management Practices of Pension Funds and Insurance Companies in the Netherlands: A Survey', *Journal of Real Estate Research*, Volume 11, Number 2, pp. 131-148
- Dhar, R. & Geotzmann, W. 2005, *Institutional Perspectives on Real Estate Investing: The Role of Risk and Uncertainty*, Pension Real Estate Association, Hartford, Connecticut.
- Farragher, E.J. & Savage, A. 2008, 'An Investigation of Real Estate Investment Decision-Making Practices', *Journal of Real Estate Practice and Education*, Volume 11, Number 1, pp. 29-40.
- Flick, U. 2006, *An Introduction to Qualitative Research*, Third Edition, SAGE Publications Inc, London.
- Fowler, F.J. 2009, *Survey Research Methods*, Fourth Edition, Applied Research Method Series edited by Bickman, L. & RoG, D.J., SAGE Publications Inc, Singapore.
- French, N. 2001, 'Decision Theory and Real Estate Investment: An Analysis of the Decision-Making Processes of Real Estate Investment Fund Managers', *Managerial and Decision Economics*, Volume 22, pp 399-410.
- Gallimore, P. & Gray, A . 2002, 'The Role of Investor Sentiment in Property Investment Decisions', *Journal of Property Research*, Volume 19, Number 2, pp. 111-120.
- Geltner, D.M., Miller, N.G., Clayton, J. & Eichholtz, P. 2007, *Commercial Real Estate Analysis & Investments*, Second Edition, Thomson South-Western , Mason, USA.
- Gitman, L.J., Joehnk, M.D., Juchau, R.H., Wheldon, B.J. & Wright, S.J. 2004, *Fundamentals of Investing*, Australian Edition 2, Pearson Education Australia, New South Wales.
- Hauss, H. 2004, 'The Role of Institutional Property Investments in the Global Asset Allocation Process', *Australian Property Journal*, August Edition, pp. 198-205.
- Higgins, D. 2007, 'Placing Commercial Property in the Australian Capital Markets', *RICS Research Paper Series*, Volume 7, No 12, London.

- IPD, 2000, *The Assessment and Management of Risk in the Property Investment Industry*, Investment Property Databank, London.
- IREI, 2010, *The Language & Culture of the Pension Real Estate Investment Market*, Institutional Real Estate, Inc. San Ramon, USA.
- Lummer, S.L. & Riepe, M.W. 1994, The Role of Asset Allocation in Portfolio Management, in Lederman, J. & Klein, R.A. (eds.), *Global Asset Allocation: Techniques for Optimizing Portfolio Management*, John Wiley & Sons, Inc, New York, pp 1-6.
- MacGregor, B.D. & Nanthakumaran, N. 1992, 'The Allocation to Property in the Multi-Asset Portfolio: the Evidence and Theory Reconsidered', *Journal of Property Research*, Volume 9, Number 1, pp 5-32.
- Markowitz, H. 1952, 'Portfolio Selection', *The Journal of Finance*, Volume 7, Number 1, pp. 77-91.
- Morrison, D.F. 2010, *Investment Strategies in the Current Market*, Morgan Stanley, USA.
- Newell, G. 2008, 'The Significance of Property in Superannuation Funds', *Australian and New Zealand Property Journal*, Volume 1, Number 8, pp. 670-677.
- Newell, G., Acheampong, P. & Worzala, E.M. 2002, 'Property Research Priorities in Australia', *Pacific Rim Property Research Journal*, Volume 8, Number 2, pp. 127-139.
- Newell, G., Stevenson, K. & Rowland, P. 1993, 'Institutional Investor Criteria for Property Investment', *The Valuer and Land Economics*, Volume 32, Number 6, pp. 450-454
- Parker, D. 2010, 'REIT Investment Decision Making: A Multi Step Process' *Proceedings of the 16th Annual Pacific RIM Real Estate Society Conference*, 24-27 January 2010, Wellington, New Zealand.
- PCA, 2009, *Australian Property Investment Industry: June 2009*, Property Council of Australia, Sydney.
- Ragsdale, E.K. & Rao, G.R. 1994, Tactical Asset Allocation at Kidder: Peabody, in Lederman, J. & Klein, R.A. (eds.), *Global Asset Allocation: Techniques for Optimizing Portfolio Management*, John Wiley & Sons, Inc, New York, pp 208-225.
- Robinson, J. 2002, 'Asset Allocation in Balanced Portfolios: A Note on the Place of Property' *Proceedings of the 8th Annual Pacific RIM Real Estate Society Conference*, 20-22 January 2002, Christchurch, New Zealand.
- Rowland, P.J. 2010, *Australian Property Investments and Financing*, Thomson Reuters (Professional Australia) Limited, NSW.
- Rowland, P.J. & Kish, J. 2000, 'Decision Making by Property Fund Managers: A Survey', *Australian Property Journal*, May Edition, pp 104-111.
- Wendt, R.Q. 1994, Strategic Asset Allocation: Asset/Liability Forecasting from A to Z, in Lederman, J. & Klein, R.A. (eds.), *Global Asset Allocation: Techniques for Optimizing Portfolio Management*, John Wiley & Sons, Inc, New York, pp 162-194.
- Worzala, E.M. & Bajtelsmit, V.L. 1997, 'Real Estate Asset Allocation and the Decisionmaking Framework used by Pension Fund Managers', *Journal of Real Estate Portfolio Management*, Volume 3, Number 1, pp. 47-56.

Email contact: wejendra.reddy@rmit.edu.au