

Property—are current risk management practices appropriate?

Australia is replete with aspiring property millionaires but DAVID PARKER questions whether portfolio managers are using the correct risk management procedures in investing in the property boom.

The Australian property fund management industry includes listed property trusts, unlisted wholesale property funds and unlisted retail funds or syndicates. PIR (2003) estimates that the Australian property fund management industry controls gross assets of A\$163 billion in 694 property funds managed by 194 property fund managers on behalf of more than one million investors.

Over the recent past, merger and acquisition activity within the property fund management industry has been unusually active, including Westfield Trust's acquisition of AMP Shopping Centre Trust, Stockland Trust's acquisition of AMP Diversified Property Trust and Centro's acquisition of the massive syndicator, MCS.

PIR (2003) notes that the 10 largest direct property fund managers now control 70% of property funds under management, with the next 10 largest accounting for a further 18%. With gross assets of around A\$145 billion managed by only 20 property fund managers, the concentration of property portfolio management risk is both magnified and intensified.

The property portfolio management discipline may be distinguished from facilities, property, asset or fund management, and comprises the typical activities of forecasting, modelling, valuing, monitoring, measuring, benchmarking and market analysis at the property group level (Parker [2003A], informed by Nelson [2002]). In the context of property fund management and property portfolio management, risk management came

modelled in such a cash flow return forecast, including rents, rental growth, reletting assumptions, outgoings growth, outgoings recoveries, etc., and the number of tenants in a large property, are now requiring a level of added complexity.

In addition, for every tenancy or suite, there is an extremely large number of variables to model, with some being independent, some being related, some being specific and some being generic and so forth.

This results in a potentially very sensitive cash flow model where small changes to key variables may result in significant differences to cash flow results. As such, risk management of the contributors to, process of and outputs of cash flow forecasting for property portfolio management is crucial.

While other asset classes evolved the requisite technology some 20 years ago and have developed sophisticated risk management processes accordingly, evolution in property portfolio management has been somewhat slower.

Historically, in broad terms, smaller and medium-sized property portfolio managers tended to develop their own proprietary software for cash flow forecasting while larger property portfolio managers tended to invest in generic software packages.

The term 'generic software package' is used to distinguish a software package produced by a vendor and which is widely available from a proprietary software package developed by a company for its own use.

Currently following consolidation in the property fund management industry, various of the smaller and medium-sized property portfolio managers have ceased to exist.

Accordingly, the larger property portfolio managers now dominate, resulting in the predominant use of generic software packages for cash flow forecasting.

In previous research (2003B), I found 92% by funds under management (FUM) of property fund managers surveyed were using generic software packages for property portfolio management, with two packages in common use.

...property fund management businesses face a wide range of risks, from the systematic of debt and derivatives to the idiosyncratic of ice-cream slips and legionnaires' disease.

Generic software packages are, therefore, central to cash flow forecasting for property portfolio management in Australia today, such that the development of appropriate risk management practices surrounding such packages is essential.

In Australia's prevailing corporate environment, key risk management practices for generic software packages may be contended to surround such issues as:

- integrity of software and user training;
- inputs and outputs; and
- decision-making on outputs.

Through a survey of property fund managers, it is proposed to investigate the nature and appropriateness of risk management practices surrounding such issues arising from the use of generic software packages for property portfolio management.

Survey of major property fund managers

Twelve property fund managers were surveyed, including listed property trust, unlisted wholesale property fund and unlisted retail fund or syndicate managers, with funds under management of A\$66.7 billion in a portfolio cumulatively comprising more than 1,000 properties with more than 21,000 tenants.

This sample represents managers of

41% of the gross assets of the property fund management industry including seven of the 10 largest managers (following PIR [2003C]), and so is contended to be both indicative and representative.

Using a survey instrument in a structured, face-to-face, confidential interview with a business representative of the manager (rather than an IT or accounting representative), responses were gathered concerning:

- integrity of software and user training;
- inputs and outputs; and
- decision making on outputs.

Integrity of software and user training

It may be contended that property portfolio management risk may be optimally managed if the property portfolio manager has confidence in the generic software package vendor, the generic software package itself and their own ability to use the product. Accordingly, respondents were asked to answer the following questions:

- do you trust the product vendor that the maths in the package are correct?;
- have you checked the maths in the package to ensure that they are correct?; and
- do you feel confident that you fully understand all aspects of the package's functionality? (See Table 1.)

Significantly, around two-thirds of respondents by FUM did not trust the product vendor that the maths in the package were correct, leading to almost every respondent having checked the maths.

Such a high level of checking is consistent with the 94% by FUM of respondents who felt confident that they either understood or partially understood all aspects of the package's functionality.

TABLE 1 SOFTWARE INTEGRITY AND USER TRAINING

Survey response	% FUM	
	Trust	Checked
Yes	35%	98%
Maybe	N/A	N/A
No	65%	2%
		Understand
		81%
		13%
		6%

Source: Author

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Accordingly, while respondents may not have confidence in the product vendor, checking the package and the knowledge of functionality gained therefrom may be contended to contribute significantly to risk management.

Inputs and outputs

As with any IT solution, the quality of outputs from generic software packages for decision-making purposes may be directly influenced by the quality of inputs. Accordingly, the control of data entry and the application of results and reports may be contended to be significant aspects of risk management for property portfolio management. Concerning inputs, from a risk management viewpoint, electronic upload of data presents a relatively low risk profile for data entry error, whereas manual upload should require adherence to rigorous quality control processes to ensure data integrity.

It may also be contended that electronic quality control is preferable to manual (to reduce the risk of human error) and that quality control before the event (at the start of the period) rather than after the event (at the end of the period) is preferable. All respondents sourced data from a separate property management system for upload into a generic software package for property portfolio management. Interestingly, 76% by FUM of respondents uploaded such data electronically with only 24% by FUM uploading data manually.

When surveyed on the quality control process for such manual upload of data, respondents advised checking was either:

- manual before the event (i.e. at the start of the period); or
- manual after the event (i.e. at period end); or
- electronic after the event (i.e. at period end).

Accordingly, none of the quality control processes currently being adopted for manual data upload were found to be preferable (i.e. electronic and before the event), casting some doubt on the effectiveness of risk management surrounding manually entered data.

TABLE 2 USE OF STANDARD TECHNIQUES IN MODELLING

	% FUM
Probability analysis	0%
Sole variable sensitivity analysis	16%
Multiple variable sensitivity analysis	51%
Scenario analysis	33%

Source: Author

Concerning outputs, from a risk management viewpoint, it may be contended that ranges are preferable to point estimates and that some form of qualification to such ranges is preferable to no qualification. Accordingly, respondents were surveyed as to the use of various standard techniques in their modelling to enhance the usefulness of results, with the findings given in Table 2. Significantly, none of the respondents identified any techniques currently in use other than those listed in Table 2.

It is very interesting, given the relative simplicity of probability analysis and the relative sophistication of the sample surveyed, that none of the respondents were currently using probability analysis.

While it is comforting, from a risk management viewpoint, that sensitivity and scenario analysis are being used, the level of respondents using sole variable sensitivity analysis was surprisingly low given the significance of certain individual variables being modelled and the diversity of influences thereupon.

While the finding that 84% of respondents by FUM use some form of multiple variable sensitivity analysis is positive from a risk management viewpoint, it was interesting that discussion with respondents did not indicate a clear understanding of scenario analysis as a technique.

Significantly, the use of two techniques was most common, with only 38% by FUM of respondents using one technique and 15% by FUM using all three techniques. When asked if risk analysis reports were included within reports to senior management, 86% by FUM confirmed that they were, suggesting that such decision makers are likely to be in an informed position.

From a risk management viewpoint, while the preferable use of ranges with some form of qualification was evident, it may be contended that there is scope for property portfolio managers to make greater use of qualification techniques to enhance the quality of outputs from generic software packages.

Decision-making on outputs

To minimise the influence of and reliance upon one party in the modelling process for property portfolio management, it may be contended to be preferable for a different party to undertake the steps of deciding the inputs for modelling, executing those inputs in the generic software package, receiving the outputs from the package for consideration and review and then

making a decision based on those outputs. Conversely, there would be significant risk implications if the same party were to undertake each of these steps.

To determine the extent of reliance on one party for each or all of the steps, respondents were asked to describe the party responsible for each modelling process step in their organisation and each party was given a different letter in Table 3.

For risk management, party A may decide the inputs, party B execute those inputs in the generic software package, party C may receive the outputs for review and party D make a decision based on those outputs. An unsatisfactory scenario, from a risk management viewpoint, would have party A responsible for each of the modelling process steps.

As Table 3 shows, the preferable scenario of a different party undertaking each step in the modelling process was not evident but neither was the unsatisfactory scenario of the same party undertaking all steps in the modelling process.

Interestingly, 42% by FUM of respondents used two parties for steps in the modelling process and 58% used three parties, suggesting that property portfolio management is moving towards a preferable scenario for risk management but still has some way to go.

The use of two parties for one step, with an overlap from either the step before or to the step after, is worthy of further research from a risk management viewpoint. It may be argued, for example, that this enhances the continuity of the modelling process or, conversely, that it may adversely influence an otherwise independent party or step.

Disconcertingly, from a risk management viewpoint, the party making a decision on the outputs was independent of the other parties in the modelling process in only four cases (representing only 25% FUM). It may be contended that this situation places a greater risk management emphasis on senior management to whom the outputs of

TABLE 4 OUTPUT OF GENERIC SOFTWARE PACKAGE FOR DECISION MAKING PURPOSES

	% FUM	
	Yes	No
Consensus with	41%	59%
Reliant upon	39%	61%

Source: Author

the modelling process pass for approval of the decision (where appropriate or required) and upon the audit process. The survey continued to investigate the extent to which senior management were conversant with or entirely reliant upon the outputs of the generic software package for decision-making purposes, with the results summarised in Table 4.

While the majority of respondents by FUM did not have senior management decision makers conversant with the generic software package, 61% by FUM of senior management decision makers were not entirely reliant on the key outputs of the generic software package for decision-making purposes, suggesting that such outputs may assist in the decision-making process but were not the sole criteria. From a risk management viewpoint, this latter aspect may be reassuring.

For completeness, respondents were asked if the role of the generic software package was part of the audit trail for the property fund manager and 66% by FUM responded positively. Given the absolutely fundamental role of generic software packages in property portfolio management and the prevailing requirements for active risk management, it was considered surprising that every respondent did not have the generic software package as part of the audit trail.

From a risk management perspective, therefore:

- only 25% by FUM have the decision-making step in the modelling process independent of each of the other steps;
- 39% by FUM are reliant upon the outputs of and 59% are not conversant with the generic software package at senior management level; and
- 34% by FUM do not have the generic

software package as part of the audit trail.

It may be contended that there is considerable scope for improvement in risk management practices concerning decision-making on outputs from generic software packages in property portfolio management.

SUMMARY

Concerning the appropriateness of current risk management practices for property portfolio management in Australia's prevailing corporate environment, the survey found:

- a lack of confidence in the generic software package vendor offset by extensive checking and knowledge of the product functionality gained therefrom, providing user confidence in the generic software package;
- sub-optimal manual data entry processes and sub-optimal use of qualification techniques for outputs;
- sub-optimal separation and independence of the input/execute/ receive/decide steps in the modelling process; and
- considerable scope for improvement in decision-making processes based on outputs from generic software packages including audit.

Having regard to the findings of the survey, the following conclusions may be drawn.

CONCLUSIONS

With the use of generic software packages for cash flow forecasting comprising a key risk management aspect of property portfolio management, the development of appropriate practices is central to and essential for risk management by the property fund management industry.

In those areas considered, the survey found considerable comfort from a risk management viewpoint with appropriate risk management practices being found to exist, but with the following aspects having scope for improvement:

- all data inputs being electronic and before the event;
- greater use of qualification

techniques for data outputs to enhance quality;

- independence of the input/execute/ receive/decide steps of the modelling process with each undertaken by a separate party;
- greater familiarity by senior management with the generic software package being used;
- less reliance by senior management on the outputs of the generic software package for decision making; and
- inclusion of the generic software package in the audit trail of every property fund manager.

In Australia's prevailing corporate environment, whilst relatively minor and easy to address, improvement in such aspects of risk management would allow property portfolio managers to provide a more appropriate level of assurance to investors in the A\$163 billion Australian property fund management industry.

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Diary Note

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Risk and return properties of fund-of-funds

Single managed investment portfolios (fund-of-funds) have increased in popularity. SIMONE BRANDS and DAVID R. GALLAGHER take a look at how these funds are structured.

Fund-of-fund (FoF) investment products are defined as a single managed investment portfolio, where fund assets are allocated across a number of individual investment vehicles. FoFs provide investors with the opportunity of accessing a suite of investment products offered by competing investment management institutions by utilising a single investment vehicle. The alleged benefits of investing in actively managed FoFs include enhancement in the execution of an investor's investment strategy as well as improved diversification. This is achieved through the delegation of responsibility to FoF providers in the selection and monitoring of investment products, while controlling for manager-specific investment style and process risk.

Research examining FoF structures can be motivated in terms of the significant growth and proliferation in the number of fund-of-fund investment vehicles in Australia, equivalent to a 11.9 percent growth rate over the last five years and accounting for \$16.6 billion in assets as at March 2002.¹ While FoF products represent a distinct form of investment vehicle available to investors, conceptually, a FoF approach can also be extrapolated to include any investment arrangement or product utilising the products of a number of investment providers.

Institutional superannuation funds, through their employment of external institutional fund managers, themselves exhibit features similar to FoFs. According to APRA's Superannuation Trends for the March Quarter 2003, more than \$A173 billion

in assets is delegated to investment managers by institutional investors. An additional investment approach that closely resembles a FoF structure is known as implemented consulting or a manager-of-managers arrangement. Asset consulting organisations provide specialised investment advice to large institutional superannuation clients as a means of enhancing the efficiency and selection of investment managers comprising the overall pension fund portfolio. In this case, asset consultants assume responsibility for manager selection and the execution of day-to-day decisions normally faced by the fund's trustees.

The bundling of investment products and services can also be extended to include discretionary master trusts and WRAP accounts, which are administrative platforms that enable investors to select their desired investment portfolios from a suite of products offered at a single gateway. The most important difference between FoFs, master trusts and WRAP accounts is that in the latter two cases it is the individual investor who assumes responsibility for the selection of the underlying funds (rather than the platform provider). The discretionary master trust segment of the market also grew substantially over the last five years, equivalent to 61.3 percent, and represented \$155 billion as at March 2003.²

This study examines portfolio selection, performance and risk by examining the relationship between investment performance and diversification properties arising from the construction of actively managed equity fund-of-fund portfolios. The

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