

The Assessment and Management of Risk in the Property Investment Industry

A survey by IPD for the Investment Property Forum Risk Working Party, March 2000

Executive Summary

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- In June 1999 IPD were commissioned to undertake a major survey for the Investment Property Forum aimed at identifying the ways in which risk is understood, assessed and managed within the UK Property Industry.
- This report summarises the main findings of the survey and highlights those conclusions which may help improve our understanding and ultimately management of risk within Property Investment Portfolios.
- A three-stage model informed the design of the survey and the analysis of the 124 detailed responses from property investors and advisors. The research differentiated the identification of individual risk factors from their subsequent measurement and potential controllability.
- Drawing the threads of the research together it appears that the methods for measuring and controlling risks available to property investors currently fail to match the variety of risks they are capable of identifying. So what appears as a very diverse and multi-dimensional problem is being attacked through a highly restricted and perhaps inappropriate set of methods and techniques.
- The study has interpreted this varied picture of risk identification and management within the framework offered by conventional portfolio theory. The theory focuses on volatility and, within a capital asset pricing framework, differentiates market from specific risks in addressing the problem of portfolio risk management.
- Whilst many market risks were identified in our survey, the specific category - which focuses upon the portfolio and the assets which it comprises - attracted most interest. However, of the specific risks identified, the balance of emphasis between the portfolio and asset levels of attention was broadly even.
- The conventional approach to specific risk management within equity portfolios focuses upon diversification as a route to the achievement of benchmark tracking. Risk intervention for this asset class at the level of the individual stock is normally not possible.
- In contrast, the property investor generally has to pick up responsibility for stock risk containment by default (being both asset and portfolio manager at one and the same time), in addition to the task of overall portfolio risk control.

The way forward:

- What we should learn from the survey is therefore that property fund managers have identified a risk environment which is painfully varied and in many respects unique to the asset class.
- So, the industry needs more powerful risk measurement and management methods which respect both the complexity of the assets and the breadth of the manager's responsibility and involvement.
- This new approach should combine a conventional analysis of returns uncertainty with a much richer treatment of the business risks flowing from a management brief which tracks right down to hands-on involvement with multi-million pound assets and enterprises.
- The working group's immediate task is to try and define a framework within which some of the most critical property risks identified can be consistently assessed for portfolio management purposes - whilst also revisiting academic contributions to the debate.

The Assessment and Management of Risk in the Property Investment Industry

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The Final Report in Full

Executive Summary

Introduction

In June of last year IPD were commissioned to undertake a major survey for the Investment Property Forum, aimed at identifying the ways in which risk is understood, assessed and managed within the UK property industry. We have now completed the analysis of the self-completed responses received and have complemented this analysis with a selective face-to-face interview with a small number of the respondents to the survey. This report pulls together and summarises both of these stages of the survey, and attempts to draw conclusions which will help improve the understanding and management of risk within property investment portfolios.

In designing the study, the Investment Property Forum Risk Working Party was keen to avoid the potential pitfalls of assuming a specific complexion of risk or of its associated measurement procedures. What the Group wanted to discover was the breadth of perceived applicability of the concept within the property industry. For this reason, the survey was sent, in several cases, to more than one member of each of the relevant fund management and advisory organisations. Our aim was to discover individual responses as well as corporate strategies.

The major stages of the overall research programme were as follows:

1. An open-ended survey form was designed, in consultation with members of Investment Property Forum Risk Working Party and others, aimed at identifying current risk interpretation, assessment, measurement and management practices.
2. It was mailed out to 715 UK investment professionals drawn from the major financial institutions, property companies, management houses, chartered surveying and advisory firms, and a few others including academics and measurement organisations.
3. After a series of follow-ups, a response rate of 18% at the individual level and 24% at the company level was achieved. The discrepancy between the corporate and overall response rates reflects the fact that some of the larger organisations contacted elected to produce a single corporate response rather than a series of individual responses.
4. Since the questionnaire was deliberately designed in an open-ended format, it was essential to undertake a very carefully managed post-hoc coding procedure. A sample drawn selectively from each of the major responding groups - and designed to encompass much of the complexity and range of responses recorded - was used to generate a formal coding frame. This was then applied to the remainder of the 124 responses in order to permit broad summary quantitative analysis of what was essentially a qualitative survey.
5. The self-completion schedules were further utilised for the purposes of identifying key individuals who were approached for a short face-to-face interview. The results of these interviews were then used to flesh out the aggregate results produced from the self-completion exercise.
6. The subsequent analysis of each of these stages of the investigation was then focused upon the preparation of this report which aims to:
 - a. Review current practice, in the spheres of risk identification, assessment and control.
 - b. Pinpoint the areas of greatest uncertainty and difficulty in property portfolio risk measurement and management.
 - c. Identify the currently unfulfilled requirements of fund managers for risk related measurement and management technologies.
 - d. Offer a simple plain language guide to the most widely used risk management concepts and methods identified during the course of the study.

In addressing the above questions, the main body of the report which follows reconsiders the open-ended responses from those surveyed and attempts to set them in the context of the theories and techniques which are available. More specifically, the report is organised into four main sections, addressing the following questions:

- a. How is property investment risk understood by those involved in managing it?
- b. Does conventional portfolio theory provide models robust enough to support this understanding?
- c. How should those conventional models be extended to accommodate the subtleties of property investment risk?
- d. Where are investment practitioners suffering most from the specific inadequacies of available techniques?

Where appropriate, boxes like this are included to cover in simple language those aspects of the conventional investment theories that are relevant to the discussion of the survey results.

Understanding Property Investment Risk

The Investment Property Forum Risk Survey was designed to reveal the way in which property investors and their advisors currently understand and apply the concept of risk. It was deliberately designed in an open-ended fashion so as not to constrain responses in one particular direction or another. The initial model which was developed to inform the design of the survey and the first stage analysis of the results was thus itself open-ended. Its purpose was simply that of enabling a broad classification of the comments provided by the respondents to the survey. This model was predicted upon a simple three-stage approach to property risk:

1. Risks are identified at the asset level, at the portfolio level, and in blending property into a multi-asset class investment strategy. A broad variety of factors, therefore, ranging from cyclical synchronisation through to the presence of deleterious materials, may at some stage be identified as potential risks. The survey started by seeking to uncover something of this range underpinning the concept of property risk.
2. Once identified, the individual risks are measured or assessed, either through quantification or less formally, again at the level of the individual asset, the portfolio or potentially the multi-asset class investment vehicle. The survey aimed to establish for each of the risks identified at stage one the extent to which investors and their advisor were able, either formally or informally, to assess the scale of the risk at stage two.
3. Finally, some of the risks identified are subject to explicit management control. At the asset level this may be at the point of acquisition or thereafter through to the point of sale. At the single or multi-asset class portfolio levels controls, whether fixed rules or guidelines, may be applied on a routine or occasional bases. The survey attempted to establish the extent to which controls were applied at this third stage.

Conventional investment theory focuses most attention upon the second of the above stages - that of risk measurement - but implicitly assumes its identification and through the power of the measurements provided, offers the possibility of control. The identification of the overall or total risk of a portfolio, or of an asset, is normally equated with the volatility of its historical returns. Volatility is quantified through the measurement of variance or standard deviation. In some circumstances, attention is focused more explicitly upon the historical movement of returns below some target rate. This is termed downside risk and is in a sense a subset of the total volatility of an investment.

Risk identification and assessment or measurement are therefore essentially one and the same thing in conventional theory. However, many texts draw attention to the difference between retrospective and projective (ex-post and ex-ante) measurement of risk. Whilst the techniques utilised are often very similar, the purposes are quite different. The retrospective measurement of risk after it has been taken is done as part of the overall evaluation of historical performance. The ultimate purpose is generally that of establishing a risk adjusted measure of return in order to extend the overall evaluation of a manager's historical performance. This application of risk measurement is therefore applied quite explicitly to the returns actually achieved and their corresponding volatility.

Projective risk measurement on the other hand is a decision making tool for management and so is applied to the assets available for holding in the future rather than the manager's own historical track record. Market and sub-market indices are thus of most importance for the purposes of projective (ex-ante) risk measurement.

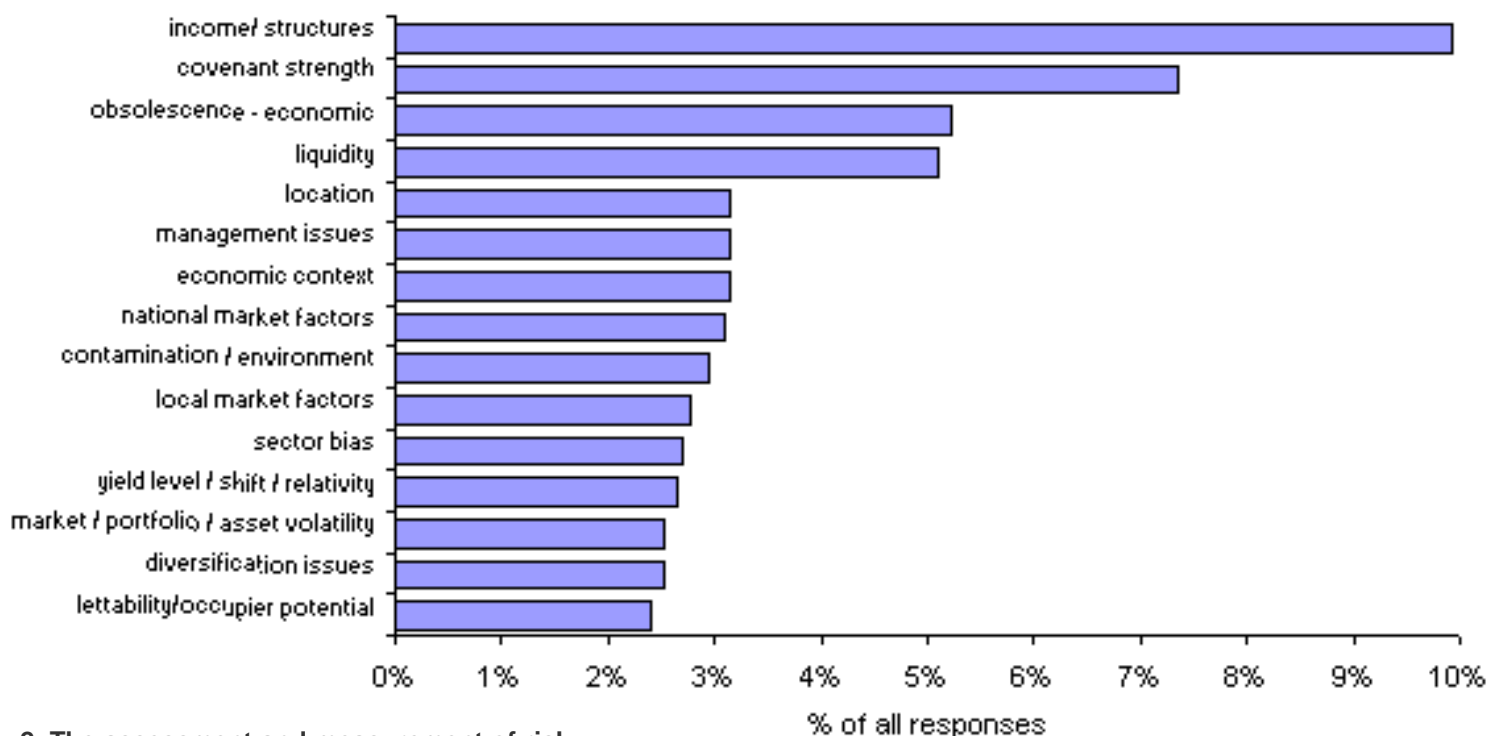
The projective application of risk measurement using market and local indices is clearly of potential utility for the property fund manager for the purposes of risk control. Retrospective measurement of the risks attached to the current and past portfolio, whilst little relevance for the purposes of future strategy formation, may become a critical part of post hoc manager evaluation.

The three-stage - identification, measurement and control - model outlined above informed the design of the survey and the first stages of its analysis. This analysis revealed a surprisingly rich and diverse picture of the property fund manager's concept of risk, and one which is therefore difficult to summarise. In the brief account which follows, therefore, the three levels of risk are dealt with separately:

1. The aspects of risk identified

The 124 respondents who returned self-completion questionnaires mentioned a total of just under 1,600 specific property, portfolio or wider risks which were of greater or lesser concern to them. Inevitably, there was a fair amount of duplication but the initial codification of these responses was only able to reduce the number of different risks identified down to 57 separate varieties. These ranged from third party rights through client perceptions and local planning policies to the overall economic and demographic context in which property sits. The most widely shared concerns were with the income security of the properties held and related lease structure and tenant covenant strength factors. A total of just over 17% of the 1,600 responses were classified in this way. The next highest risk identified was that of functional/economic obsolescence, attracting 5.2% of the replies. It is perhaps interesting to note that this functional risk was mentioned far more frequently than physical obsolescence, with only 1.8% of the total number of responses.

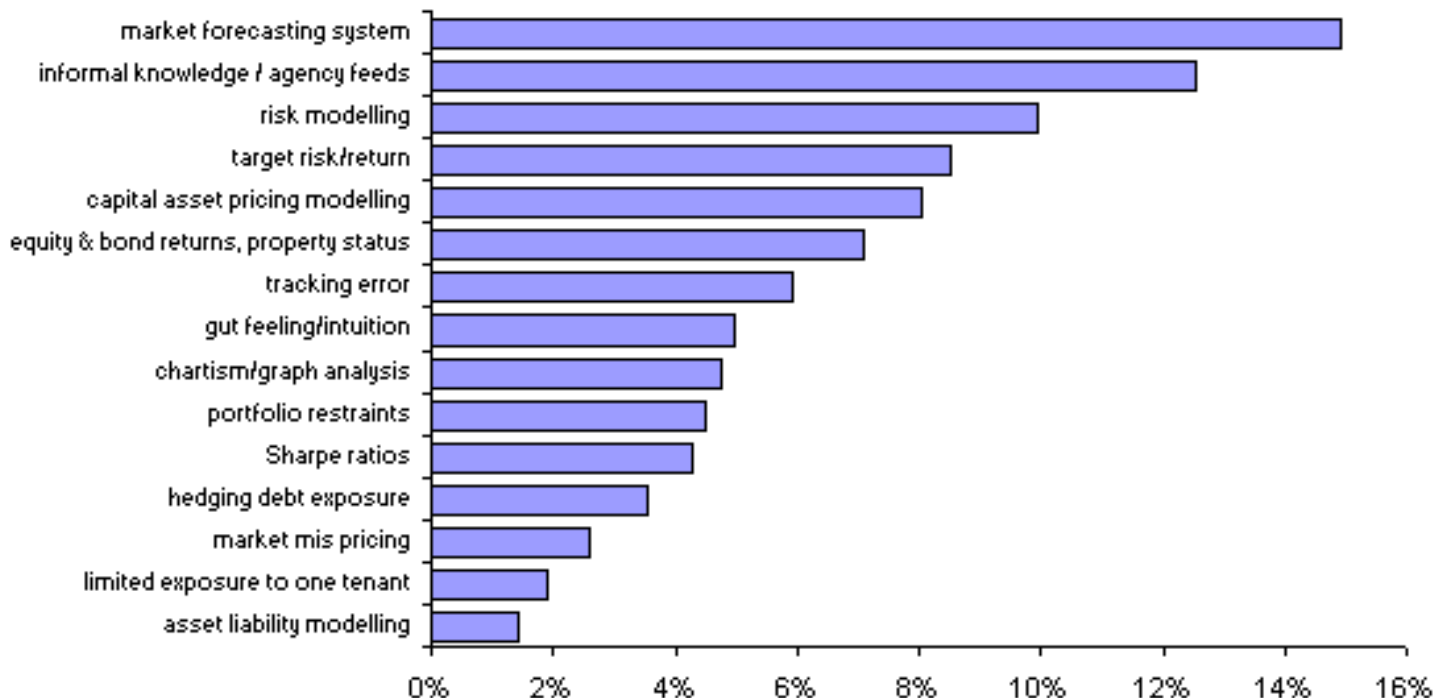
1. Aspects of Risk Identified: 57-way classification, the top 15 selected



2. The assessment and measurement of risk

When respondents were asked to state which of the identified aspects of risks were subsequently subjected to a more formal assessment or precise measurement, the number of individual responses dropped to only just over 400 - reflecting some 23 separately classifiable ways of formally assessing or quantifying the relevant risks. Despite the much smaller number of responses, the answers provided in this section of the questionnaire were extremely varied and ranged from full scale simulation studies to the application of gut feeling or professional expertise. The most frequently mentioned method of assessment was an annual risk appraisal, which attracted 15% of the total individual responses, but the much more specific approach of tenant credit rating followed a close second with 13%. In third place came discounted cash flow and/or internal rate of return analyses, accounting for 10% of all replies.

2. Assessment / Measurement: 23-way classification, top 15 selected

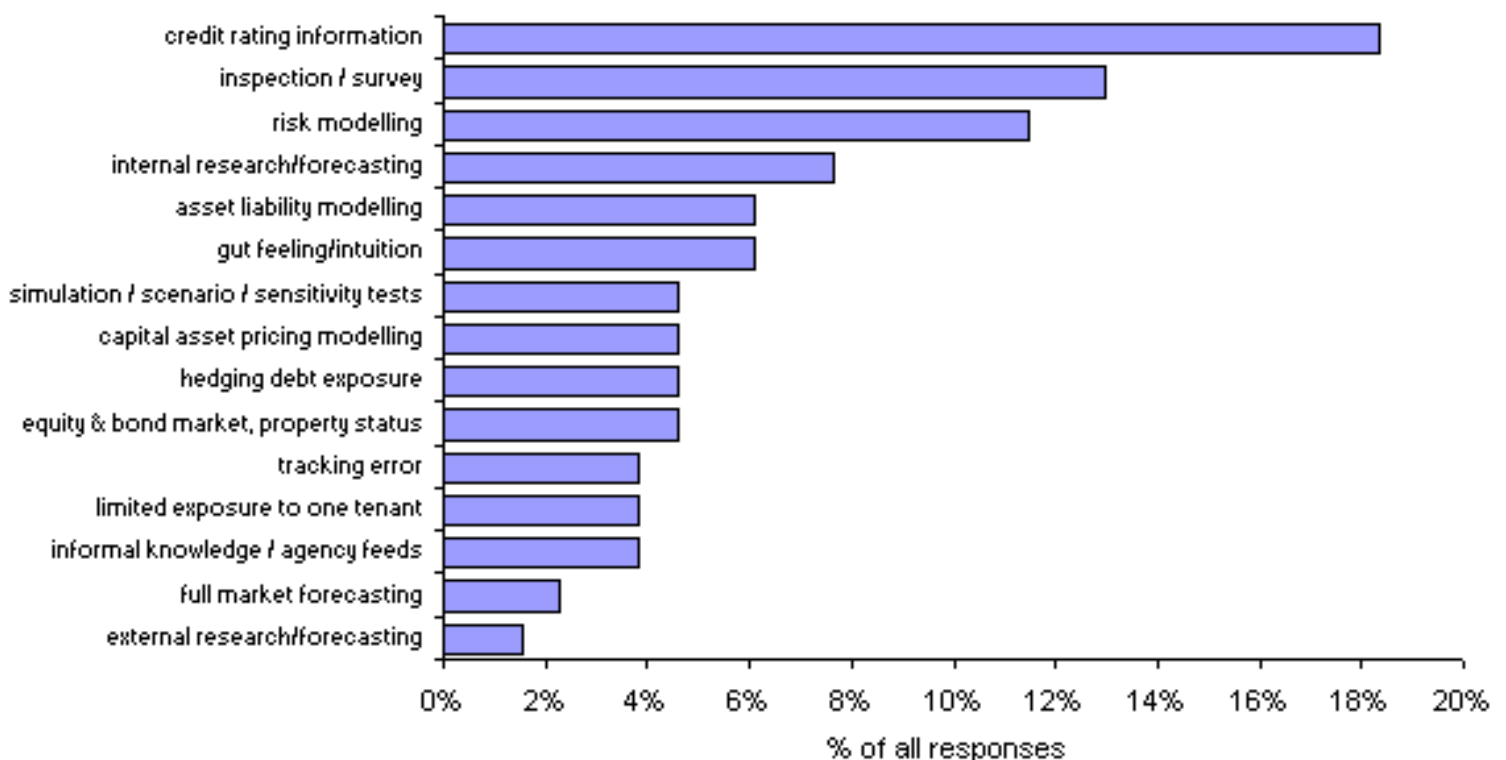


3. Techniques for risk management and control

If the methods available for the formal assessment of risk fail to match the breadth of the risk problems identified by fund managers and their advisors, then at this third level there appears to be a further reduction in the toolkit available to cope with the problem of risk management and control. Only 131 responses were given identifying specific techniques applied at present to the management and control end of the problem and these referenced a total of only 20 different approaches. There was in addition a great deal of overlap between the approaches mentioned for the purpose of risk measurement and those referred to as means of control - hardly surprising given the way in which conventional theory applies an identical technology to both ex-post and ex-ante risk appraisal.

Due to this close relationship between risk assessment (the measurement or quantification of risk) and its management (control through the use of acceptability tests and restrictions) the same typology was employed for both sets of responses to the survey. As with risk assessment, a formal annual appraisal was again found to be the most commonly used approach - this time for the purposes of risk management - accounting for 18% of the responses. Second came before comparative portfolio analysis with 13% of responses and DCF analysis was again popular, attracting 11%.

3. Risk Management / Control: 20-way classification, top 15 selected



What therefore are we to learn from these responses and their initial classification as to the way in which the property investment community reads, measures and manages the risks that it faces? At one level, property investors appear to face a daunting variety of risks and potential uncertainties. These range from the broadest aspects of the context within which property investment is pursued - a national and international socio-economic and demographic environment - to the most detailed and stock specific aspects of the assets in which they invest. However, as we step down from risk identification to its measurement and management, the daunting variety is radically reduced. Fewer individuals are applying a much more restricted set of techniques to the problems of formal risk assessment and measurement, and a further reduction is noted when the problem of measurement becomes that of management and control. At present, therefore, the available technology of risk analysis appears to be imposing a sort of "funnel restraint" upon the treatment of the risks that have been identified as of potential importance. Thus, what appears to be a very diverse and multi-dimensional problem is being effectively constrained through a highly restricted, and perhaps inappropriate, set of measurement and management techniques.

Applying Conventional Models

It is difficult to draw clear and unambiguous conclusions from responses classified in the ways described in the above section. As noted, 57 separate aspects of risk have been identified in the responses given and these are currently being processed through some 23 approaches to measurement and 20 approaches to management. This hardly counts as a simple model of risk.

If we look to conventional portfolio theory for a simplifying typology, we find that total risk is in most simple formulations sub-divided into just two categories - market and specific risk.

The initial classification adopted by modern portfolio theory for the purpose of measuring managing prospective or ex-ante risk flows first and foremost from the capital asset pricing model (CAPM). This partitions total risk (or total volatility) into systematic and idiosyncratic components. Idiosyncratic or specific risks are those which are particular to the assets in question and relate to the past and potential future performance of the companies whose shares are being traded. Systematic or market risk refers to variations in the returns to assets or portfolios which are driven by movements in the market from which those assets or portfolios are drawn and thus potentially affect all stocks which constitute that market. In more general formulations of the model there may be several 'systematic' factors deemed capable of affecting all assets rather than just the shape of the market itself (see later).

The CAPM is a "single factor" model because it relates the excess return (over and above an appropriate risk free rate) on an individual asset simply to the excess return achievable on the market - the market therefore being the single systematic risk factor. The reason for partitioning total risk (measured most simply as the standard deviation of asset or portfolio returns) into market and specific components is that in an efficient market a portfolio of a sufficient size should be capable of reducing the asset specific, or idiosyncratic, risk close to zero by a process of diversification. So long as sufficient assets are held, their idiosyncrasies in returns because self-cancelling and the resulting portfolio return tracks that of the market.

It is in theory impossible to eliminate market risk in this way and so a useful and simple measure of specific risk commonly applied is that of tracking error. This is defined as the standard deviation of the differences between the portfolio and market returns.

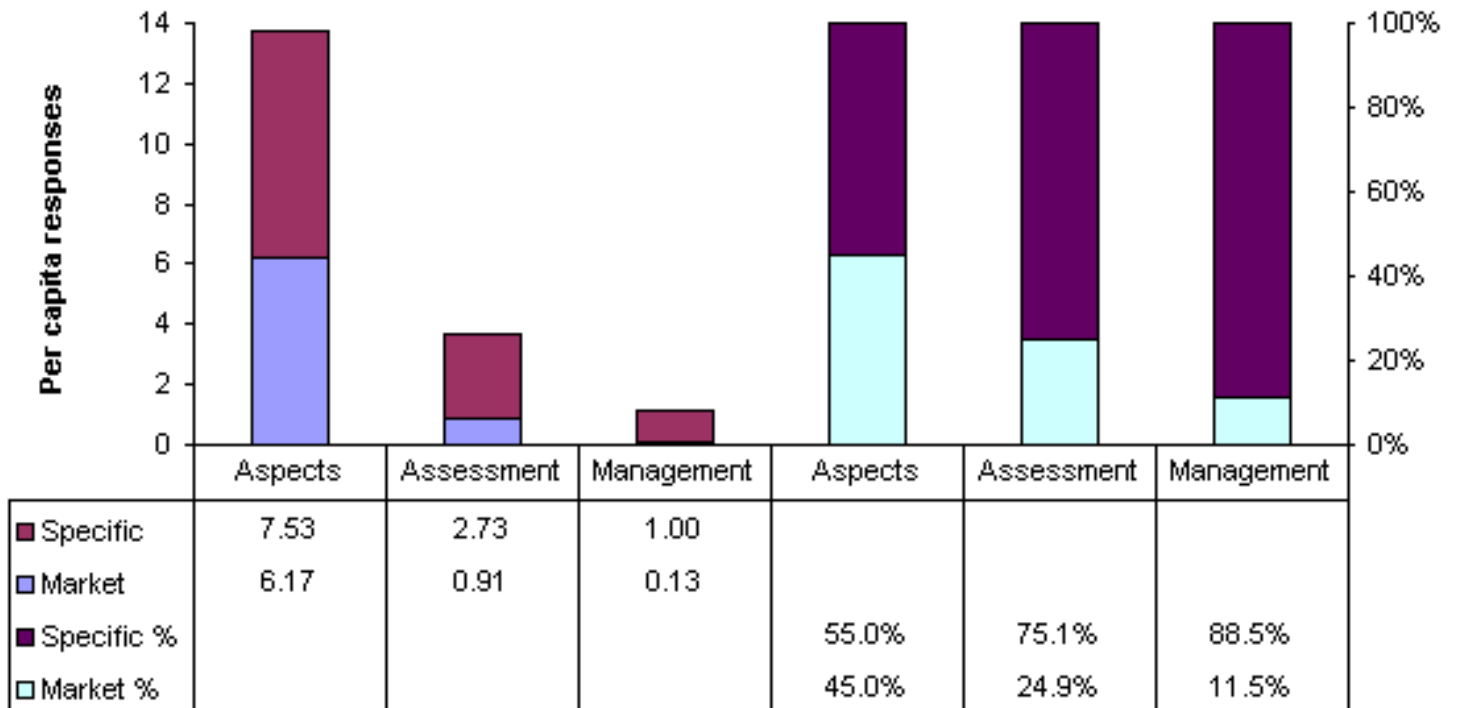
It is in principle possible to classify the property risks identified in the survey into one of the above two categories: market or systematic, and specific or idiosyncratic. First, each of the risks identified and the measurement and control methods outlined must be sorted on the basis of the focus of their attention, with those aimed primarily at factors external to the portfolio and beyond the manager's direct control being labelled as market risks. If the rest are labelled as specific risks, then a classification which corresponds to that used in modern portfolio theory is achievable. The risk factors identified by our sample which may best be labelled "market risks" on this basis range from very broad national economic and property market issues, to do with interest rate changes and the impacts of property cycles, through to much more particularly property market externalities such as transaction costs and planning policies.

If we do adopt the conventional market/specific dichotomy, the overall pattern revealed is one of a shifting emphasis as the survey moves from the risks identified through to the processes of management and control. The ratio of portfolio/specific to market risks actually identified by the respondents was only 55:45 in favour of the former category. A very broad range of risk independent factors, operating systematically upon the typical property portfolios, were identified across the spectrum noted above.

This split shifts significantly to a 75:25 ratio when the focus shifts to the measurement and risk assessment techniques used, indicating that such measurement technology which is available to property investors is applicable mostly at the portfolio and possibly individual asset level. There is clearly a shortage of methods available for quantifying market risks.

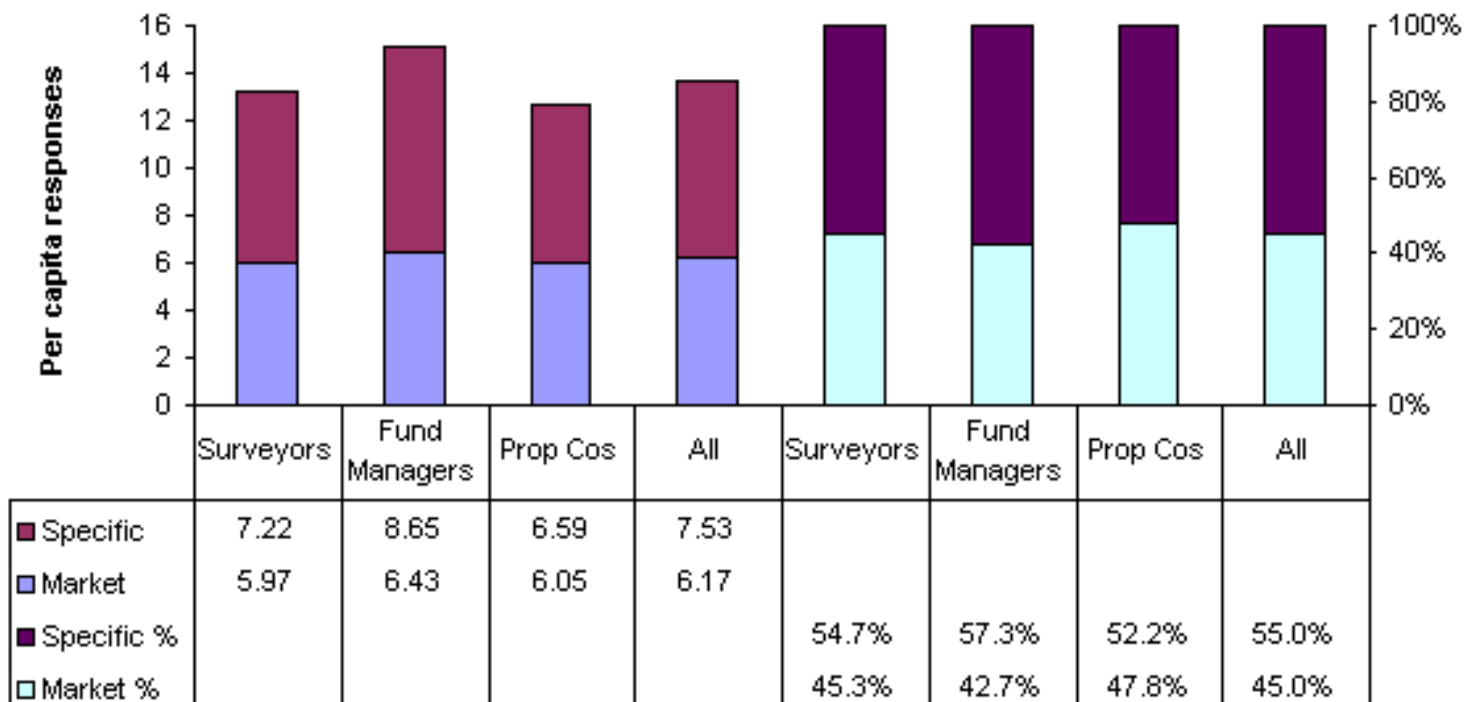
Finally, the ratio shifts further to a 90:10 split in favour of specific risks when the focus moves to the processes and procedures for control and management of risk. In principle there should be no "market risk" factors which are manageable as such. The point of the classification is to segment the external/independent, and thus in principle uncontrollable, risk factors from those which are subject to manager influence. However, in property investment it appears that there are some (although only a very few) grey areas where managers believe that certain risk factors to do with their asset class, which are in principle uncontrollable, such as its illiquidity or its intrinsic transaction costs, are none-the-less manageable at portfolio level.

4. Number of risks identified, assessed and managed

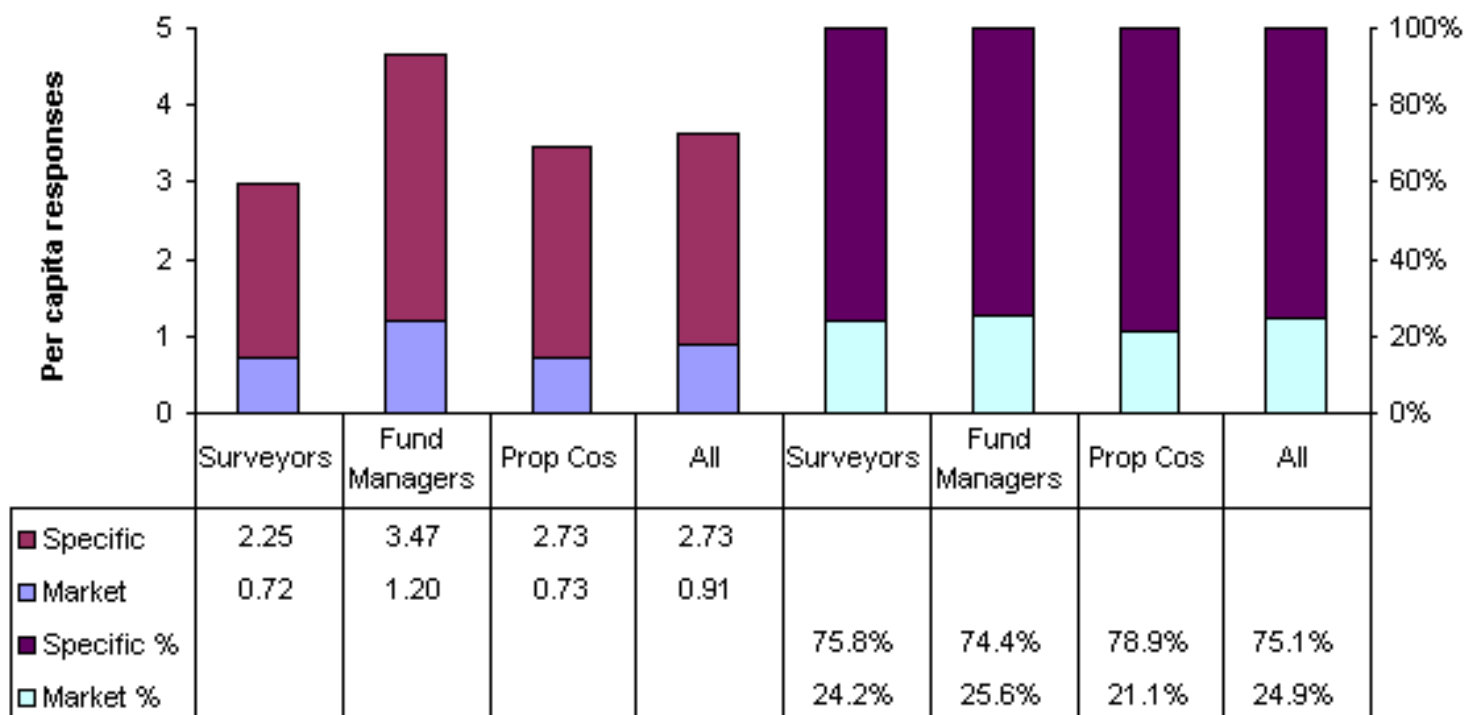


When this market versus specific classification is applied separately for each of the main categories of respondents to the survey - institutional fund managers, property company directors, and advisors working for chartered surveying firms - the position varies only very subtly. The charts show that institutional fund managers on balance reported higher per capita rates of risk identification, risk measurement/formal assessment and risk management/control. The same charts also indicate that there were no significant differences in the balance between market and portfolio specific risk factors selected by each of the three main groups. Institutional fund managers identified a marginally greater number of portfolio specific risks relative to their respective totals. At the other end of the spectrum, respondents from chartered surveying firms claimed that nearly 20% of the advice they were able to provide on risk management and control focused upon market risk factors rather than portfolio specific ones.

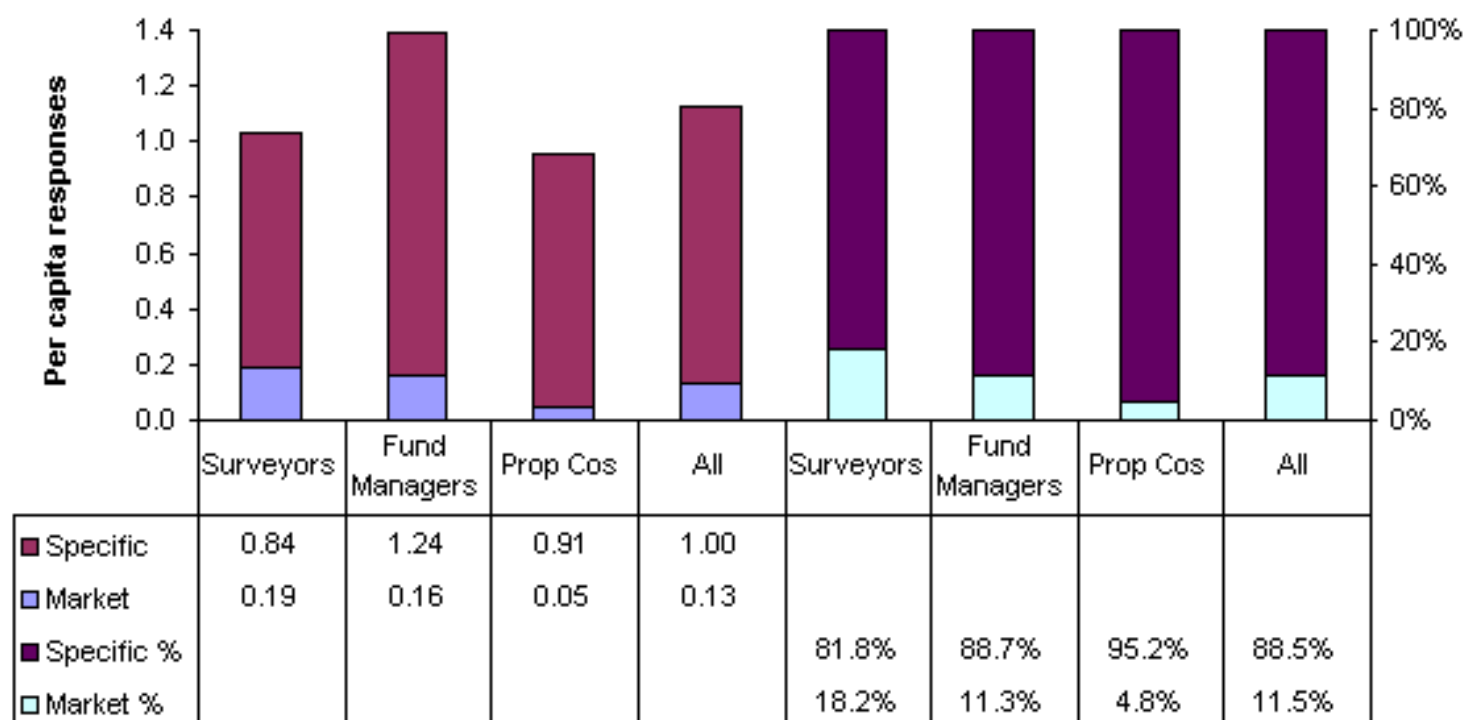
5. Number of market and specific aspects of risk identified



6. Number of market and specific risks assessed/measured



7. Number of market and specific risks managed/controlled



The Inadequacies of Conventional Models

There are many difficulties in collapsing the diffused picture of risk interpretation and management which flows from our survey into the simple market versus portfolio specific dichotomy offered by conventional theory. Property investment appears to be characterised by a multiplicity of risks and a measurement and management technology that is at present inadequate to the task of coping with this range. In order to develop a more robust set of methods and approaches to risk, it is almost essential that we revisit the simple conventional dichotomy and attempt to refine it for the purpose of locating the risk measurement and management requirements of property fund managers. In this section we shall revisit each of the two broad risk categories offered by conventional portfolio theory.

Market Risk

Within the property sector, market risk reflects the derived demand for property both as a capital asset and as a commodity. Uncertainty characterises the links between the host economy and the mechanisms that drive both the occupier and investment demand and supply of property. Market risk also reflects the immobility of land and property, which therefore localises market mechanisms in a way which does not happen in all sectors. There is moreover inevitable feedback in each of these arenas since property still figures large in the overall economic network of relationships, and sometimes critically at local levels.

The doubts implicit in the above comments about the inadequacy of a simple market versus specific risk dichotomy have, for many years, been raised and discussed by theoreticians attempting to address the problem of over-simplification in a single factor CAPM approach. This model assumes that the totality of the independent effects upon portfolio and individual asset returns flow from the stock or bond market in which those assets are traded. Researchers have suggested that multi-factor models would help to remove this over-simplification which implies that an asset class market is the only risk factor which potentially effects all stocks in the market. Multi-factor models allow for other "independently significant" factors such as interest rates, inflation, the semi-independence of sectors and sub-sectors within the market, the differential performance of different sizes of companies, etc.

Multi-factor models do however raise a plethora of problems of classification. There is no such thing as a universally accepted and applied multi-factor model of portfolio risk management and it remains a fairly contentious research area within the theoretical literature.

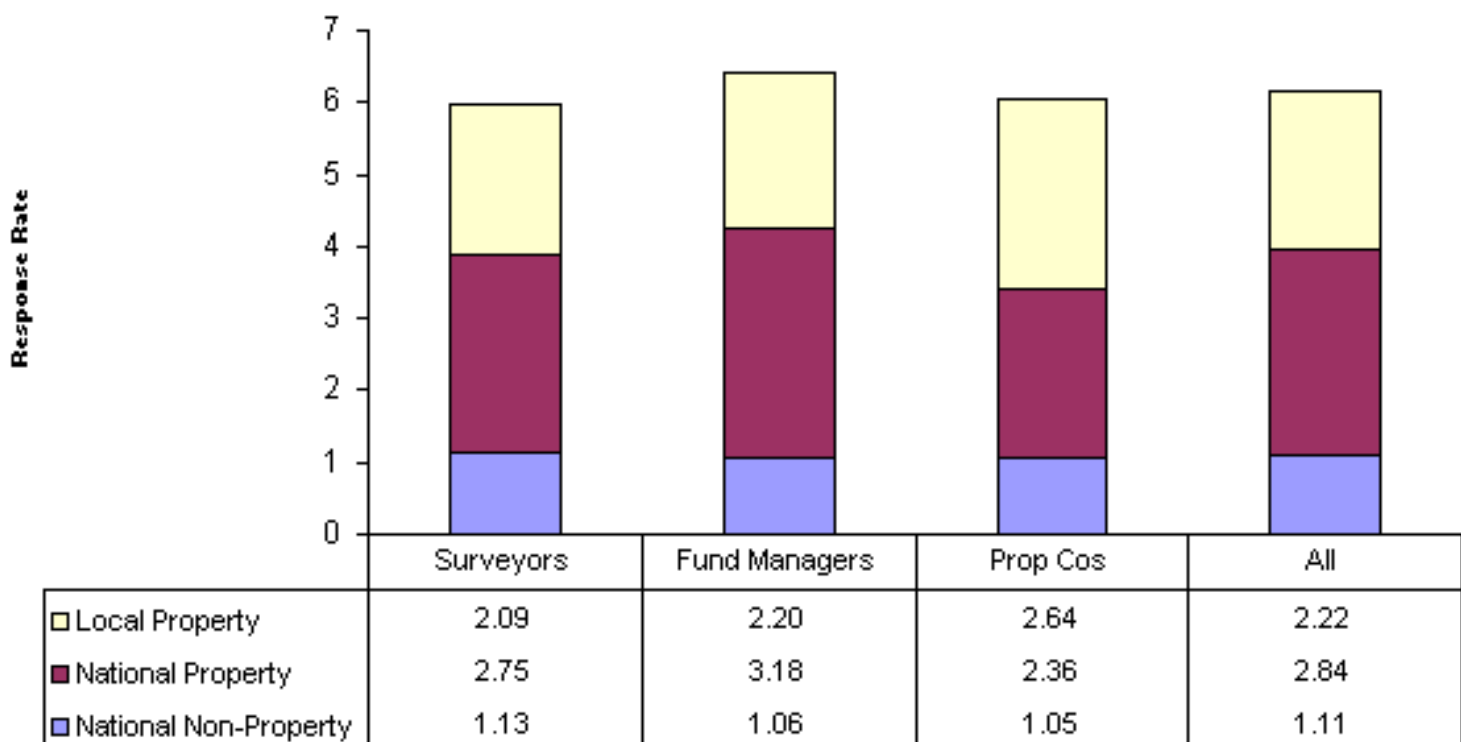
It may, however, provide the only technology adequate to the task of assimilating the multiplicity of factors which bear upon the volatility of property portfolio performance.

Our initial review of survey responses to risks which were identified as external, independent both of portfolio and asset management control, suggested a three-level classification. Thus the market or systematic risk typology which appears most appropriate to the problems and uncertainties faced by property investors is as follows:

1. At the highest and most remote level come a raft of features of the national economic, political and demographic framework which conditions and constrains the way in which the property market works.
2. Within this framework, a further series of factors are identified as defining the risk profile of the commercial investment property market at a national level.
3. At the lowest level, the actual stocks available for inclusion within a property portfolio are each seen to be subject to local property market mechanisms which add a further level of risk.

The evidence of the survey revealed a perhaps not surprising bias of concern with property rather than national non-property risk factors amongst property investors and their advisors. Less than 20% of all of the individual risks identified related to the national economy, interest rates, population movements, and commodity/labour market dynamics. It is perhaps more surprising that of the remaining market risks identified, significantly over 50% related to the national property economy rather than to local market factors. Only the directors of property companies showed a slightly higher concern about local as opposed to national market uncertainties. For institutional fund managers the bias towards national market factors was in the ratio 60:40.

8. Aspects of Market Risk Identified, Local and National Scales



The balance, however, shifted quite noticeably as our analysis focused upon second stage risk assessment rather than simply the initial identification of the risks themselves. At this stage, close to 30% of the measurement and assessment techniques applied were focused upon revealing the way in which the host economy affects property market risk. Of the remaining 70% plus, less than 5% related in any way to measuring or reducing uncertainty at the local property market level. The forecasting and related analysis methodologies utilised were much more commonly applied to the national property market for risk measurement purposes.

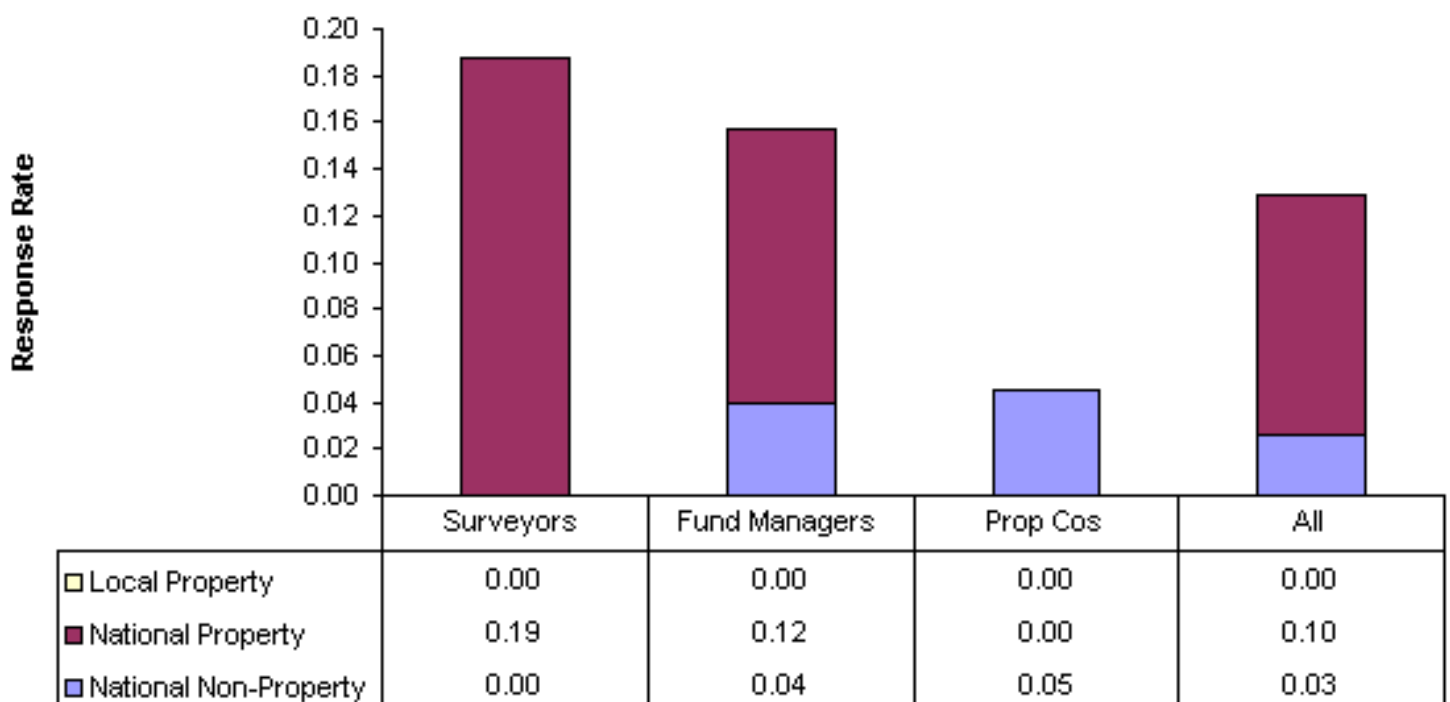
Chartered surveyors and, to a slightly lesser extent, property company managers focused most attention on the national property market, whilst institutional fund managers invested a significant minority of their effort (over 30%) in exploring national economy and demographic issues. However, there were no major group differences between the risk assessment strategies deployed.

9. Market Risk - Assessment Techniques Applied , Local and National Scales



As noted above, very little effort was invested by anybody in attempting to actually manage or control that which is in principle uncontrollable - the market framework within which investment is pursued. However, a very small minority of the chartered surveyors contacted and (to an even smaller extent) the institutional fund managers, mentioned measurement procedures applied at the level of the national property market which were used, at least indirectly, for controlling or managing risk.

10. Market Risk - Management Controls Applied, Local and National Scales



Specific Risk

In conventional investment theory, specific risk flows from the vagaries of the performance of the individual stocks or assets held. However, such risk is normally managed at the level of the portfolio through a process of diversification - the balancing of the mix of assets in such a way as to contain the asset specific risk within acceptable margins. Specific risk is thus often equated with portfolio risk since that is the only level normally available for its management.

Markowitz first demonstrated a method for specific risk management which remains central to the CAPM framework and enables the specification of an asset allocation strategy which is consistent with an acceptable level of specific risk. The problem and opportunity which Markowitz identified was that there is no absolute optimum mix of assets within an efficient market since high volatility assets in such a market will typically produce higher long term returns.

In this circumstance, a manager must decide what level of risk is acceptable in selecting and rejecting individual assets for the sake of an increase in his or her expected return. Markowitz proved that an efficient frontier can be defined which identifies all of the optimal portfolio mixes in the sense that each point on that frontier represents the maximum return achievable through mixing specific assets, or assets classes, for a given and thus explicitly accepted level of risk.

Risk return combinations above this frontier are impossible (assuming historical volatility patterns continue into the future) and those below the frontier are sub-optimal in the sense that alternative asset mixes are available which achieve higher levels of aggregate return for no greater risk (or lower risk for the same level of return).

The implication of conventional investment theory is therefore that specific or idiosyncratic risk is only manageable at the level of the overall portfolio through the procedures of stock selection and asset allocation. In a portfolio of equities it is self-evidently impossible for the investment fund manager to intervene in the processes of income and capital return generation at the level of the individual asset, since the day-to-day operation of the companies concerned are not accessible to investors.

The responses volunteered by property investors and their advisors on the risks which they can identify, measure and subsequently manage, do not appear on the face of it simple to classify within this conventional framework. The majority of the aspects of specific risk identified by the sample were focused quite explicitly upon manageable features of the individual assets themselves. Less than 40% of the total were capable of sensible classification as risks identified at a portfolio level. In addition, there seemed to be a clear distinction at both the portfolio and the individual asset level between controllable risks and those whose 'management' depended exclusively upon forecasting.

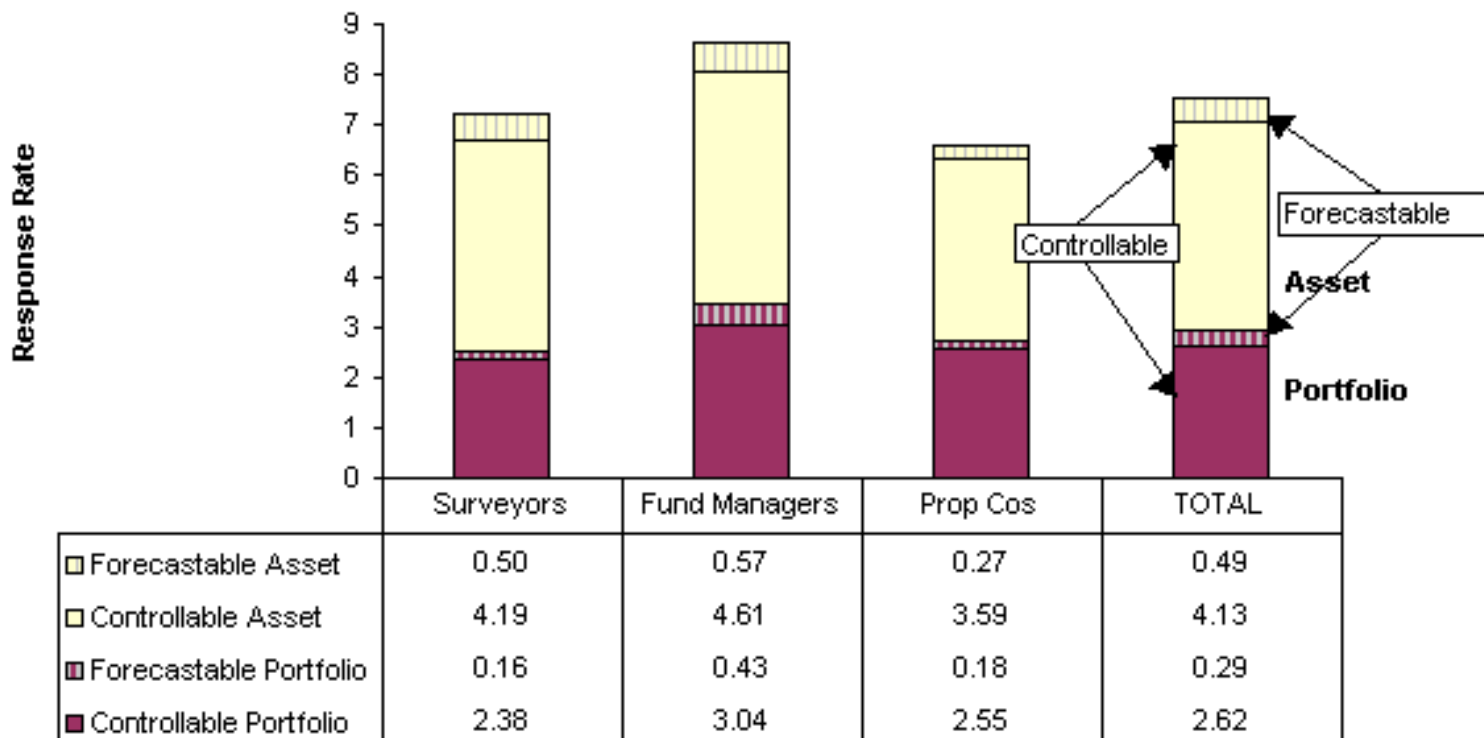
For this reason the analysis of the specific risk responses to the survey was based upon a two-level sub division:

1. Portfolio risks included sector/region imbalance and related diversification issues as well as factors like the overall level of development exposure or the lot size profile of the portfolio. These risks were further sub-divided into those which were regarded by respondents as controllable (most of those mentioned above) and those which could be managed only through forecasting - tracking error, portfolio performance and relative returns, shareholder/trustee/client perceptions and assumptions, etc.
2. Property risks included the frequently mentioned income security, lease structure and tenant covenant strength factors, but also stretched to location, building quality, and environmental problems. A similar controllable/forecastable sub-division proved relevant with many of the above risks falling into the former category. Amongst the property specific risks which were identified as forecastable rather than controllable, individual asset level financial performance and pricing figured significantly.

When this classification was applied to all of the aspects of risks identified by our respondents, the first and clearest feature which emerged was that of the heavy bias in favour of controllable rather than merely forecastable risks. Close to 90% of all the risks identified fell into the former category.

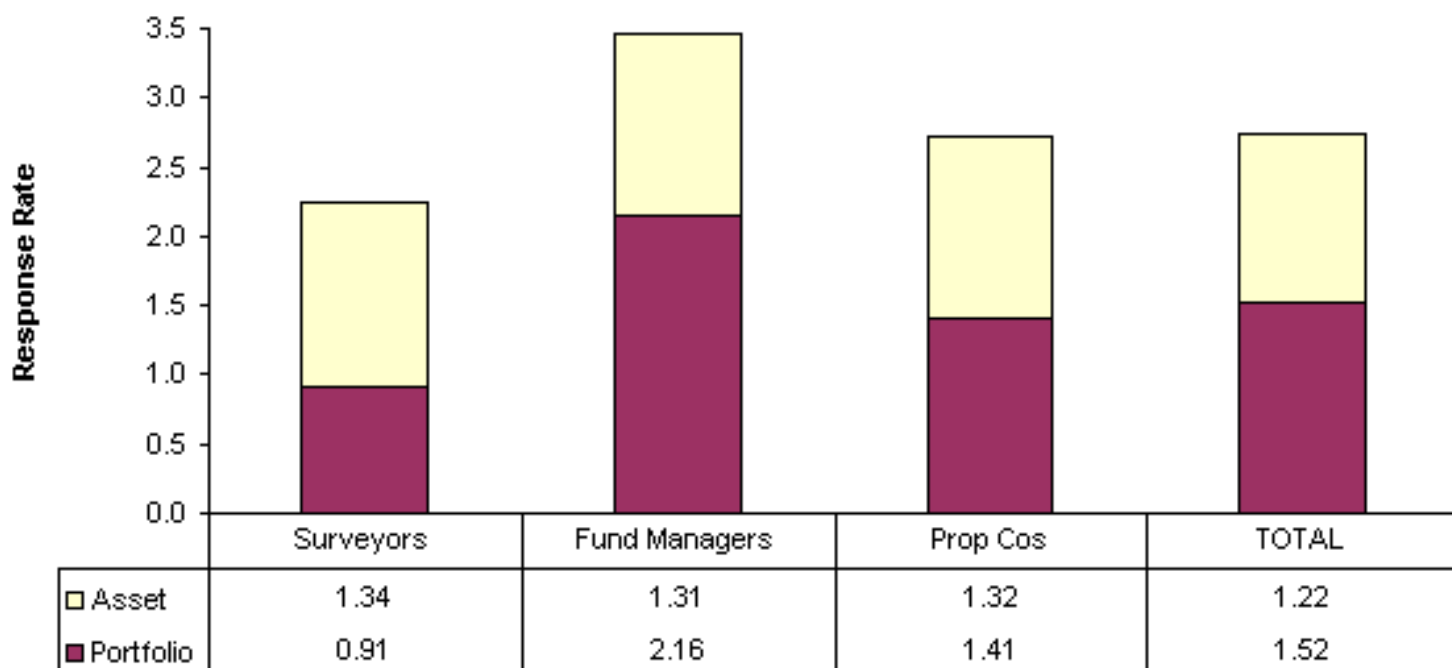
The balance between portfolio level and property level risk identification was much more even. However, roughly 60% of the risks identified by managers and advisors were best classified at the asset level and this was particular true of the chartered surveying sub-group, although the differences between each of the groups were relatively small. As with market risks, the number of specific risks identified was noticeably greater within the institutional fund management group and at its lowest amongst the property company managers and directors.

11. Aspects of Specific Risk Identified, Asset and Portfolio Levels



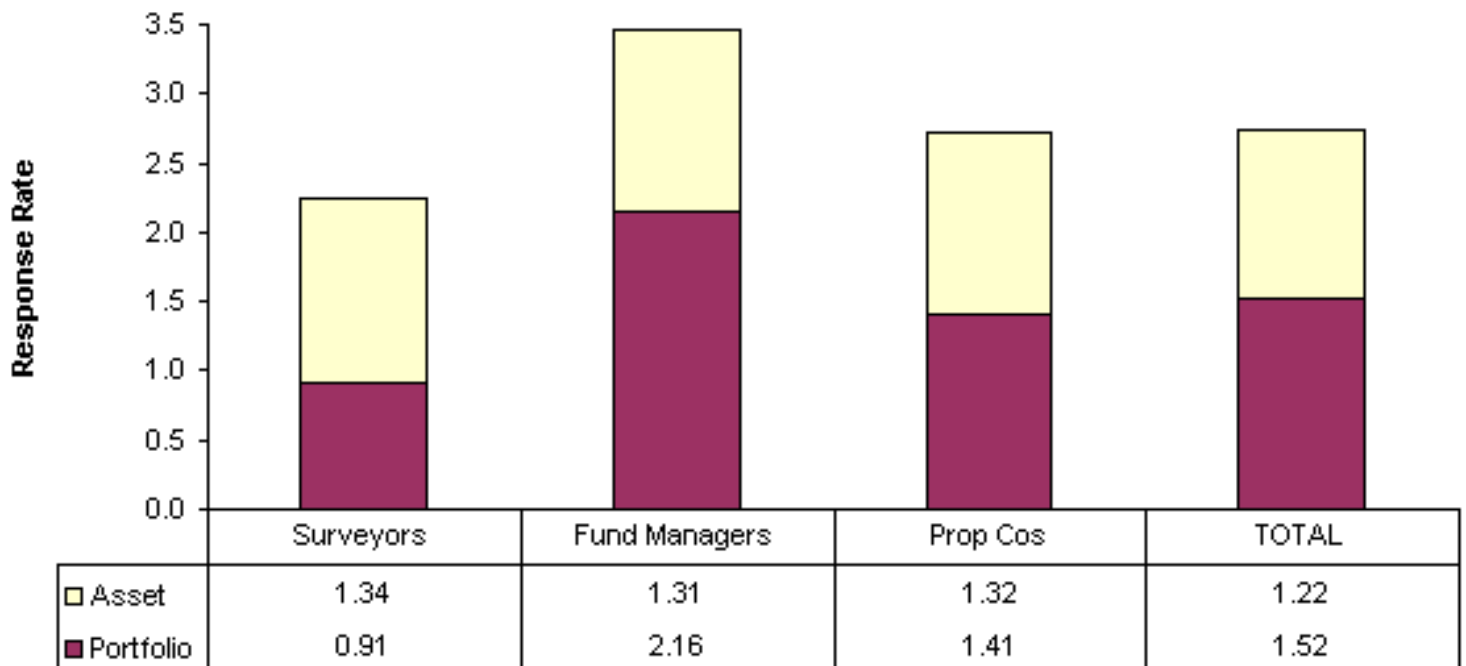
Institutional fund managers also mentioned more specific risk measurement and assessment techniques than did either of the other two main sample groups, with a significant (60:40) bias in favour of portfolio rather than asset level techniques. However across the whole sample, the approach to measurement began to rebalance the emphasis back towards a 50:50 ratio, with the overall bias in favour of portfolio level methods being only just a few percentage points.

12. Specific Risk - Assessment Techniques Applied, Asset and Portfolio Levels



Finally, the management tools identified as applicable to specific risks shifted the emphasis even further in the direction of intervention explicitly at the portfolio level. Roughly 70% of the management controlling responses adopted fell into this broader portfolio rather than asset level category. The institutional fund managers exhibited the strongest bias in favour of portfolio level controls, apparently applying over 85% of their risk management attention to approaches applicable at this level. In contrast, chartered surveying advisors demonstrated a bias the other way, with roughly 60% of their managerial intervention being applied at the asset level. This difference of emphasis is no doubt easy to explain given the typical division of labour between manager and advisor.

12. Specific Risk - Assessment Techniques Applied, Asset and Portfolio Levels



To sum up, the balance of emphasis between portfolio and individual asset levels of attention to the problem of specific risk appears not severely skewed in either direction. Around 40% of the specific risks identified were explicitly located at the individual property level and, even when it comes to managerial control, 30% of management attention is still directed at this level.

Research Conclusions

Conventional theory seems least appropriate to the needs of property fund managers when it comes to the all important question of managing the specific risks which the portfolio exhibits. Can this deficiency be explained and thereby overcome?

Specific risk management within equity portfolios is, as noted above, primarily about diversification and benchmark tracking. This is because detailed risk management intervention at the level of the individual stock is close to unthinkable for the portfolio manager. Moreover, the profile of stocks in most equity portfolios is such that someone else is almost certainly doing that job - to the best of their ability - as a director on the board of the company in question, quite probably supported by a business risk management consultant or in house team.

It is interesting to note in passing that individual property stocks are perceptibly moving in the direction of becoming corporate structures in the forms of limited partnerships or specialist property companies. However, to date, the change has been slow and confined to certain specialist asset types. Most assets, irrespective of their values or types have not assumed corporate wrappers and certainly not models which take on the responsibility of identifying, measuring and managing their own 'stock specific' risks.

The property investor therefore has to pick up this responsibility by default, as well as the task of aggregate risk control which is more conventionally associated with investment portfolio management. It is not therefore surprising that our survey revealed a heavy emphasis upon the identification of controllable property specific risks - 31% of all the 1590 risks mentioned. When it comes to risk measurement and management, however, the emphasis switches noticeably from the stock to the portfolio level - by a modest margin in the case of measurement but much more significantly in the case of control/management.

There are probably many reasons for this pattern of responses. It is at the level of the portfolio that the manager is ultimately judged, and, as with his or her counterpart on the equities desk, the portfolio is probably the only level at which investment risk management becomes remotely conceivable. The picture is just too complex to assimilate as a coherent management problem - "57 varieties" barely scratches the surface. In addition, the measurement and control technologies available to property investors are broadly speaking borrowed and adapted from the equities desk. They are therefore designed to treat individual stocks as simply parts of a larger 'designed' structure, and all attention is focused upon that structure, the portfolio itself.

There remains, therefore, a dearth of measurement and management methods available through which to process the rich variety, much of it uniquely stock specific, which characterises the way property fund managers and their advisors address the issue of risk. The 'funnel model' described earlier appears therefore a broadly appropriate way of summarising the current position, with a richly varied concept of risk being constrained through a much narrower range of measurement methods, and then further limited by the available techniques for management and control.

The Techniques Now Required

The question which therefore remains is what should we do about this problem? It is clear that the complex mix of asset and fund management which still characterises the UK approach to property investment is partly to blame for the situation identified. One option is therefore to discount the problem on the ground that this hands-on actively involved approach to fund management will eventually be superceded. Fund managers will become (are becoming) strategists; they will adopt the risk analysis techniques applied to paper asset classes; and asset managers will develop business risk control techniques for the individual property "businesses" which they are running.

This approach is probably, however, too complacent. The trend towards separating fund from asset management is by no means a universal one and it does not always imply the complete segregation of "fund" management from "active" management, if by the latter is meant stock specific intervention.

Even if property fund management does continue to become more strategic in focus, the conventional diversification methodology of risk measurement and management is still likely to be inadequate. Property markets are, if anything, becoming more rather than less heterogeneous. The average lot size is increasing (up over 20% over the last 12 months and 500% since 1981) and so the typical number of stocks per portfolio is falling. Research independently pursued at IPD has in the past demonstrated that only a handful of property portfolios, with well in excess of 200 assets, begin to approach market tracking risk/return profiles. The diversification route to property risk management thus presents serious problems, and if the main target is direct property investments, may be an unrealistic aspiration with less than a billion to invest.

It is likely therefore that we shall require the development of more powerful risk assessment and control methods that start to match the complexity of the asset class and the multi-level concept of property risk revealed in the survey reported here. One way of revisiting this question is to reassemble the overall results to the survey, adopting the classifications introduced and described in the body of the report but attempting in addition to compute some measure of the adequacy of the techniques available both for measurement and for control.

The summary table attempts this reclassification of the individual responses. All scores are computed on a per capita basis and the vertical axis partitions these responses into the risk categories and sub-categories developed for analysing the survey. The horizontal axis shows the rate at which each of the identified risks is effectively measurable and/or controllable in the eyes of those attempting this measurement and control. Thus the adequacy scores are constructed to demonstrate the extent to which respondents were able to apply measurement and assessment or management and control techniques to the various risks identified. Each is computed as a ratio expressing the frequency of measurement (or management) on a per capita basis as a proportion of the larger frequency of identification. Each adequacy score is computed separately within overall risk categories and sub-categories.

Summary Table: Overall Effectiveness of Property Risk Measurement and Management

Average rates per head recorded for:

Matching of information and control to risks identified:	Individual risks identified, by type		% measured, assessed		% managed, controlled		Adequacy of information	Adequacy of control	
	count/ head	count/ head	count/ head	count/ head	count/ head	count/ head			
All risks (total per head)	13.71				3.64		27%	1.13	8%
→ overall market risks	45%	6.17	25%	0.91	11%	0.13	15%	2%	
→ National Non-Property	18%	1.11	27%	0.24	20%	0.03	22%	2%	
→ National Property	46%	2.84	70%	0.63	80%	0.10	22%	4%	
→ Local Property	36%	2.22	4%	0.03	0%	0.00	2%	0%	
→ overall specific risks	55%	7.53	75%	2.73	89%	1.00	36%	13%	
→ Portfolio → Controllable	35%	2.62	56%	1.52	70%	0.70	52%	24%	
→ Forecastable	4%	0.29							
→ Asset → Controllable	55%	4.13	44%	1.22	30%	0.30	26%	7%	
→ Forecastable	7%	0.49							

Adequacy score - recorded frequency of measurement/management as proportion of frequency of risk identification (columns 1/2)
(within risk categories and sub-categories)

Market Risk

For the various market risks identified in our survey, it is probably most appropriate to focus on the top left highlighted quadrant of the summary table. This is because market or systematic risk is normally 'controlled' or contained only through the process of measurement, with forecasting or simulation procedures developed on the back of such measurement. Those surveyed who actually identified control strategies applicable at the market level were effectively referring to the reduction of uncertainty that was achievable due primarily to measurement.

The table indicates quite dramatically that the most critical scarcity of information systems occurs at the local property market level. The adequacy score here drops to a mere 2% despite the fact that well over a third of the market risks identified were best classified as occurring at the local level. Whilst this is the biggest single missing link in the chain of market risk assessment, the 22% adequacy scores computed for risks identified at the national level (both for property and non-property factors) were still clearly lower than is desirable.

One possibility for fruitful research development in this area, therefore, would be the development of a property multi-factor risk model to parallel research of this type applied to equity and other markets. Clearly if such multi-factor models could be built, the factors would need to encompass all three of the market risk sub-categories identified as of importance, but a local factor component would perhaps be of greatest value to property investors if it could be included. Such a model would enable the measurement of the sensitivity of expected asset returns to a series of market and non-market externalities, measured at the local and national scales, which impact systematically to a greater or lesser extent upon these returns. There will clearly be serious difficulties in developing such models, not least because of the statistical/distribution problems that arise in developing any econometric models which include local level factors.

Specific Risk

In this case it is probably best to focus on the bottom right quadrant of the table. Whilst it is clearly of great importance that portfolio and asset level specific risks should be measurable (and the bottom left quadrant describes adequacy levels reported in this area), specific or idiosyncratic risk is normally containable through direct management intervention. The ability to control the structure and mix of a portfolio is clearly a much more powerful tool than simply that of measurement and forecasting. However, more than half the risks identified as specific risks, and the vast majority that were classified as being susceptible to management control, were located at the asset rather than the portfolio level. Moreover, at this level, the adequacy of control score falls to a very modest 7% (as compared to the 24% adequacy score for controls applicable at the portfolio level).

It therefore seems clear that we need a much tighter measurement framework that is designed to operate initially at least at the level of the individual asset rather than one drawn from conventional theory which operates primarily at the portfolio level. If this could be combined with a much more open and flexible decision-tree approach to the aggregation of individual assets risks, then a technology which is becoming really relevant to the property fund manager is beginning to look like a real possibility.

Such a technology might include the approach to income return decomposition typical of some of the leading edge property fund management work in this area. This attempts to identify and separate for analysis purposes the equity and bond components of the income return achieved across the portfolio. This work might be extended further by developing a system for the rigorous attachment of uncertainty scores linked to lease profiles, covenant strength levels, void rates, lease renewal probabilities, etc., etc. The overall approach might then be pulled together through the application of a decision-tree model of the sort which is routinely applied for business risk management. In these ways, the specific investment risks faced by property fund managers may be rendered much more readily containable. Such an approach would combine a broad based analysis of returns uncertainty flowing from conventional investment theory with a synthetic treatment of the business risks attached to the individual items of stock.

And for the Immediate Future?

All this remains in the land of property research science fiction. Many research developments will be required before we can make significant progress in the measurement and management of the patterns of risk identified in this report. In this concluding section our aim is the more modest one of indicating where the immediate research targets of the IPF risk working party will be focused.

Much of the concern revealed in the survey and discussed in the above report focuses upon risks which are specific to individual portfolios and the assets that they contain. However, market risk as reflected in the overall pattern of volatility in property returns, cannot be ignored. The lessons of the mid 1970s and the early 1990s should still be sufficient to remind us of the potentially huge volatility of the property market itself, not to mention particular local sub-markets. Work is therefore required to provide fund managers with better estimates of future market risk both at the local and national levels. The approach noted above which may bear fruit in the near future is that of developing a multi-factor framework which allows fully for the impact of local market circumstances.

This remains however just one possibility; and the first strand in the working groups' follow up to the survey will be a further academic review of work in the sphere of market risk analysis to attempt to identify techniques and approaches which have the potential to offer more contextual circumstantial support for the complex task of property portfolio management.

In parallel with this academic review, the working party intends to focus also upon the more precise question of measuring the specific risks faced by property portfolio managers. The survey has identified this as the most seriously uncharted territory as well as the area in which there is greatest scope for immediate improvement. The suggestion above that asset and portfolio risks might be capable of aggregation through a sort of decision tree approach - in a fashion not dissimilar to the way in which complex business development and investment strategies are risk assessed - must merit serious attention. However, before we can hope to make any progress in this area an essential pre-requisite is that we are capable of collating all of the potentially quantifiable aspects of risk within a single analytical framework.

The working party's view is that probably the best place to start is with that which is currently quantified within the framework of property portfolio analysis. Such analysis, aimed at a multi-dimensional comparison of portfolio performance, already quantifies a variety of the risk factors identified by survey respondents. These include:

1. Compound annualised returns over all periods of portfolio management.
2. The decomposition of capital and income components total return.
3. The volatility of historic returns, and tracking error against a selected benchmark.
4. Asset allocation policy and benchmark matching/idiosyncrasy.
5. The dependence of relative returns on stock selection.
6. The dependence of relative returns on large lot sized assets.
7. The valuation components of relative return (potential mis-match between yield and rental growth movements, implicit mis-pricing, dependence upon lease effects, etc.).
8. Income security and over-renting/reversionary potential.
9. The concentration of income and revenue dependence upon small numbers of tenants.
10. The imminence of lease expiries
11. The bunching/clustering of lease review cycles and expiries/break clauses.
12. Void rates and development pipeline exposure.

These are just some examples of currently measured aspects of property portfolio performance which have been identified as risky by respondents to the IPF/IPD survey. The second main task in the immediate future of the working party is therefore to attempt to collate some or all of these (and maybe other measured features of portfolio performance) into a single and coherent framework so that it can be presented as a single method of measuring and collecting together the features of property and portfolios specific risk faced by property fund managers.