



A behavioural study of the decision processes underpinning disposals by property fund managers

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Abstract

Purpose – The main aim of this paper is to investigate the specific factors that influence fund managers' decisions to dispose of property.

Design/methodology/approach – This study explores the reasons behind the decision-making processes associated with the disposal of real estate within a portfolio, and the information sources utilised by fund managers. A behavioural finance approach is adopted with the field research carried out as a survey-based analysis of the disposal decisions made by fund managers in the UK property fund market.

Findings – The main reason for disposal of an investment is due, in part, to re-structuring the portfolio. This is also linked to under-performance of the asset involved, and current market expectations. The implications for the study are that it identifies that there are links between rational and irrational behaviour in the selection of assets, not only for disposal, but also in terms of investment as a whole. This can be based on the inefficiency of the property market, and the lack of accurately available information.

Originality/value – The study is unique as it provides a comprehensive commentary on the disposal behaviour of fund managers at the individual property and portfolio-wide levels.

Keywords Investments, Behavioural economics, Fund management

Paper type Research paper

1. Introduction

Neo-classical economics rests on three basic assumptions (Mullainathan and Thaler, 2000; Weintraub, 1992). People are assumed to act independently based on full and relevant information, have rational preferences among outcomes that can be identified and associated with a value, and firms are assumed to optimise decisions by profit maximising while individuals seek to maximise their utility. Fund management in practice appears to counteract these assumptions. Studies on the stock market demonstrate that judgements can be sub-optimal, and classed as irrational behaviour, a view supported by the findings of Grinblatt and Keloharju (2000). Information in investment markets is not always perfect, and there is evidence to suggest that fund managers are subject to heuristics and biases, and their investment patterns tend to follow trends.



This study introduces the behavioural aspect of financial economics to the investment decision-making processes associated with the disposal of property within a portfolio. Whilst there is a rapidly growing body of academic research into the factors that influence the acquisition of direct property investments, there is substantially less on the factors driving investment decisions to dispose of direct real estate holdings, or the attitudes and characteristics of fund managers involved with making these decisions. Studies to date have tended to be at a single-asset level, and research in the field of portfolio-wide decision making is in its infancy. Studies by both Gardner and Matysiak (2005) and Fisher and Young (2000) acknowledge this lacuna and both recommend further research into the factors that trigger the disposal of real estate assets.

Phyrr and Cooper (1982) reveal that investors dispose of real estate for the following four main reasons:

- (1) investment goals and objectives have been achieved;
- (2) failure to achieve these goals;
- (3) profitability; and
- (4) for personal reasons.

In reality, the motivation behind asset sales, and the criteria that fund managers use to decide a property is ripe for disposal are varied, and decisions tend to embrace the impact the disposal will have on the portfolio as a whole. Successful property fund management appears to require a more sophisticated and impersonal evaluation of assets, including market forecasting, portfolio risk analysis, and actuarial mathematics.

The main aim of this research is to investigate the specific factors that influence fund managers' decisions to dispose of property. Market evidence alone cannot be the main criteria for disposal; neither can reliance on forecasting to provide completely accurate guidance. By delving into the area of behavioural finance, this study will attempt to provide a commentary on the behaviour of fund managers, in terms of disposals at the individual property and portfolio-wide levels. More specifically, the study seeks to answer the following questions:

- What is the typical holding period of direct property and how does this relate to fund managers' investment strategies?
- What are the most important variables that influence disposal decisions made by fund managers?
- Do portfolio managers, especially fund managers, utilise information from a wide selection of sources in their decision-making process when disposing of investment property within a portfolio, and do their decisions appear rational?

In undertaking this research, the study aims to bridge a substantial gap that exists in this field of property research. By surveying fund managers, the study intends to identify the underlying trends in both mixed-asset and property-only funds. In doing so, the study will expand the work of Crosby and McAllister (2004), which suggests reasons why individual property assets are selected for sale. This will also contribute to the body of research completed in the area of holding periods (Gardner and Matysiak, 2005; Fisher and Young, 2000; Crosby and McAllister, 2004), giving an

insight into the changing investment spectrum of institutional investment in light of changes to the economy and the increasing pace of the investment market.

The paper is structured as follows. Section 2 begins with a critique of traditional investment theories and their use to explain the acquisition and disposal decisions made by property fund managers. It then analyses behavioural finance economics and its application to property. The examination is used to develop a relevant theoretical framework in section 3 that underpins the research conducted. There is a full description of the research methods used to gather data on behaviour and preferences in section 4. A detailed discussion of the results and their implications (section 5) leads to the conclusions and recommendations of the research, which is presented in section 6.

2. Modern portfolio theory and the application to real estate

Modern portfolio theory as developed by Markowitz (1952, 1959), not only established the normative framework for the analysis of individual portfolios but is the cornerstone of orthodox asset pricing models like the Capital Asset Pricing Model (CAPM) and Arbitrage Pricing Theory (APT). The application of these modern portfolio theories centres on fund managers managing the risk and return of their portfolios, and optimising the construction of their portfolio based on their risk preferences. The concept of efficient markets neatly ties in with these theories as they are underpinned by the assumption that the market is perfectly informed and incorporates all new information into asset prices.

Markowitz's development of his mean-variance criterion was originally developed for share portfolios, for the purposes of maximising returns whilst minimising risk. When applied to property, these empirical applications of modern portfolio theory are usually based on multi-asset portfolios. The risk and return calculations for the essential weighting of each asset class show that the proportion of property in the portfolio should "in theory" be higher. MacGregor and Nanthakumaran (1992) estimate the optimal holding of property to be above 60 per cent for low risk portfolios and between 10-20 per cent for high-risk portfolios whereas Lee *et al.* (1995) calculate that a property holding of 15 per cent can yield UK pension funds a suitable level of return. Actual institutional holdings of property in the 1980s and 1990s were substantially below these target figures, and these normative models imply that the holdings are, therefore, suboptimal.

The application of this method to real estate portfolios is not without its critics. Lee and Stevenson (2000) identify that Modern Portfolio Theory (MPT) has two serious defects: inter-temporal instability of the portfolio weights; and sharp deterioration in performance of the optimal portfolios outside the sample period used to estimate asset mean returns. An additional complication is data limitations in the property market (Hoesli and MacGregor, 2000) and illiquidity of property (Fraser, 1993). This causes major concerns when realigning or re-balancing the assets, and can be referred to as corner solutions (Black and Litterman, 1992). There is also the omission of costs in the calculations (Hoesli and MacGregor, 2000). Statistically MPT is optimal, but when the relative liquidity of each individual property is included, the results would be unacceptable (Jorion, 1985).

MPT is computational and data intensive, and led to the development of the CAPM (Hoesli and MacGregor, 2000). This has three major distinctions over MPT: risk-free

investments, notional market portfolios, and the assumed existence of efficient markets (Dubben and Sayce, 1991). The CAPM model examines the risk premium of an asset and the trade-off between risk and return. It allows for the evaluation of an investment relative to the market. For a full analysis of this model, see Dubben and Sayce (1991).

Proper understanding and use of MPT and CAPM is important concerning property (Dubben and Sayce, 1991). First, risk and diversification are prime considerations of portfolio investment. Fund managers identify properties with specific and systematic (market) risks. All investments are subject to systematic risks, though some are more affected by general market movements. Dubben and Sayce (1991) identify the specific risks attached to individual property as income flow, future outgoings, capital value, opportunity risk, timing risk, and the holding period. Fraser (1993) extended this list by adding the risks associated with the illiquidity and heterogeneous nature of property.

Changes to the investment characteristics of an investment can alter its risk profile. When such changes result in the risk profile becoming unacceptably high (matched against the portfolio structure) then the fund manager will dispose of it. The assigning of a lease is one example where the investment characteristics of the property may be altered. The original lessee can be a good covenant, reflected in the intrinsic value of the property. In re-assigning the lease to a less established business, the covenant strength could lower, which in turn could devalue the property asset. Consequently, the relative risk increases and may encourage the portfolio manager to dispose of the property. Intelligent asset management of the property will try to avoid such a change by ensuring that the original lease is drafted to provide guarantees against alienation reducing the covenant.

The amount of specific risk a fund manager is prepared to accept is directly related to the investment strategy they adopt and their return objectives. A timing strategy implies that investors will aim to remove the portfolio's specific risks by tracking the market, and typically involve buying and holding investments. Larger property funds are able to implement this strategy more effectively than smaller funds. An active management strategy places greater emphasis on property selection and asset management. Brown (1996) found that the inefficiencies of the property market in Hong Kong enabled investors to make abnormal returns by adopting either a market timing or property selection strategy. However, Lee *et al.* (2003) found that listed property trusts who adopted a property selection strategy outperformed passive buy-and-hold strategies through market timing ability.

With various studies indicating the relationship between portfolio size, diversification, and risk, Byrne and Lee (2003) inform that portfolio size is negatively related to specific risk, but positively related to systematic risk. This result indeed contradicts MPT, as it specifies that only specific risk is affected by portfolio size, explaining the lack of association between size and portfolio variance. Larger funds are more likely to diversify internationally to reduce the market risk.

The second consideration is that most assets are held in mixed portfolios, and it is essential to appreciate the decisions that prompt acquisitions and disposals of investments, within and outwith sectors. A full understanding of these decision-making processes includes knowledge of the information utilised by investors and understanding how they interpret it. The availability of market data and the use of research in portfolio management decision making are on the increase. Dedicated research teams are necessary to provide fund managers with up-to-date

analysis of market data and to interpret this vast array of information. They also provide forecasting services to provide as much knowledge as possible of future market behaviour (forecasting) As the property market is linked to the business market through investment and development, it is widely acknowledged that some degree of forecasting can be made which will increase the knowledge of the fund manager and help in the acquisition and disposal of real estate within the portfolio.

Many fund management companies utilise information given to them by actuaries. They present the risk analysis of the current portfolio. Lee and Stevenson (2000) looked at real estate portfolio construction and estimation risk, and developed a strategy for the misgivings of MPT as a basis for forming real estate portfolio construction. They note that risk attached to each property is stated in *ex-ante* terms. As past performance is not a sign of future gain, using this may not accurately reflect future risk (Blundell *et al.*, 2005).

3. Behavioural finance and property investment decision making

One of the basic assumptions of neo-classical economics is that people have rational preferences among outcomes that can be identified and associated with value. Individuals maximize utility and firms maximize profits, and people act independently based on full and relevant information (Mullainathan and Thaler, 2000; Weintraub, 1992). In terms of behaviour, neo-classical economists are in a sense “anti-behavioural” (Mullainathan and Thaler, 2000), and traditional financial theorists have strongly defended the use of MPT, CAPM and the EMH model. They acknowledge that observed market anomalies do occasionally arise, not because of behavioural issues, but because of mis-specified asset models or the use of poor quality data. They argue that the over- and under-reaction of asset prices are chance events that are likely to be observed when a sufficient number of empirical tests are performed on such a complex, dynamic system.

Behaviourists reject these explanations. They stress that the anomalies are not random as they demonstrate consistencies and trends, and argue that mainstream investment theories fail to adequately explain the fundamentals of financial market behaviour. From these shortcomings of neo-classical economics has grown increasingly interest in how humans interpret and utilise information to make investment decisions, although most of the literature to date have concentrated on identifying behavioural attributes in the decision-making process that are likely to have a systematic effect on how financial markets function (Olsen, 1998).

Shefrin (2002) identifies the three main themes of behavioural economics and finance as:

- (1) *Heuristic-driven bias*. People often make decisions based on approximate rules of thumb, not strictly rational analysis. In practice, there may be good reasons for adopting a heuristic decision process, particularly when time available for decision making is limited. There is even evidence to suggest that many human decision-making heuristics are inherent within the human psyche but the fact remains that heuristic decision processes may result in poorer decision outcomes.
- (2) *Frame dependence*. The way a problem or decision is presented to the decision maker will affect their action.

- (3) *Market inefficiencies*. There are explanations for observed market outcomes that are contrary to rational expectations and market efficiency. These include mis-pricing, non-rational decision making, and return anomalies. Herding, overconfidence and investor sentiment are just some of the behavioural traits found in the stock market that demonstrate that investors are capable of substantial and systematic reasoning errors when making investment decisions (Mullainathan and Thaler, 2000).

Grinblatt and Keloharju (2000), review the “behavioural finance” literature review, and find that each investment type and class have differing criteria as to why investors, or fund managers, decide to sell the investment. This ties in with the concluding work covered by Crosby and McAllister (2004). This work focuses on the Finish stock market, which is obviously different to the real estate fund market in the UK. Nevertheless, the information provided identifies that foreign investors are momentum investors, and may offer an explanation for the increasing occurrence of price bubbles in real estate markets as they have become more open to international investment flows.

Barber and Odean (1999) highlight two common mistakes investors make: excessive trading and the tendency to disproportionately hold on to losing investments while selling winners. Using a dataset from a discount brokerage, the study looks at individual investors over a period from 1987 to 1993 and produces informative results but it is important to note that individual private investors are not as technically aware as fund managers when it comes to decisions to buy, hold, or sell assets. A difference highlighted by the classification of investors into sophisticated (financial institutions) and the un-sophisticated (households) by Grinblatt and Keloharju (2000). Another important distinction is that Barber and Odean base their study on share dealing which has obvious differences to property but the basic premises are arguably similar.

A number of the biases that fall within the three categories specified by Shefin have also been found to be present in the property market in valuation, lending and rent review processes (Diaz, 1999; Black *et al.*, 2003). In the field of valuation representative heuristic, availability heuristic, and positivity heuristics, anchoring and adjustment heuristic, and recency anchoring have been found present (Diaz *et al.*, 2002). These studies suggest that property decision-makers are subject to biases and may be prone to behave in a manner inconsistent with neoclassical assumptions. There has also been a gradual accumulation of studies in investment behaviour, although most of this work concentrates on the stock market.

French and French (1997) also analyse the modelling process that goes into decision theory as part of real estate investment. They cover articles that other researchers have cited, such as the basis of decision theory along the lines of philosophy and ethics (Bacharach and Hurley, 1991; McClennan, 1990), and the mathematics of decisions (French, 1986). In addition to the economics work relating to ideal rational choice behaviour (Bacharach and Hurley, 1991; Hahn and Hollis, 1979), they analyse the factors of risk on the decision-making process. This theorised paper can be used to prove that judgement should be based on the differing approaches of normative and descriptive models. They argue that non-financial factors may influence an investor’s risk perceptions. Factors such as different risk attitudes, experience, ethical values, heuristics and other cognitive biases that investors may have may alter the shape of

their preference curves from that assumed under the mean-variance criterion of Markowitz (1952). In a later study, French and Gabriell (2005) suggest that this explains the gap between the normative prediction of these empirical investment models and actual outcomes.

Dinenis and Scott (1993) take a different perspective on suboptimal property investment decisions. They argue that property is not the only asset in the portfolio, and is considered along side other types of assets and investor preferences for each asset class. Like Holbrook (1976) before them, they note that asset allocation decisions made by fund managers are constrained by the need to ensure that the value of their portfolio is sufficient to meet their discounted future obligations to the members of the pension fund. When these actuarial restrictions are built into their theoretical model and empirically tested they find that fund management investment decisions are “consistent with axioms of rational decision-making” (Dinenis and Scott, 1993, p. 293).

Adair *et al.* (1994) provides a behavioural analysis of major investment institutions in the City of London. The research conducted 30 interviews to yield opinion based results on topics ranging from sector performance, to market knowledge and trends in investment. The long-term returns and low levels of long-term risk are the main reasons for investing in direct property but they surprisingly find that the percentage share of property in institutional portfolios remained low despite these associated benefits. The paper goes on to suggest that investment decisions are biased towards the markets they are more familiar with and hold good-quality data.

Fisher *et al.* (2004) is a good example of the differences in information available in different markets. In the UK, information availability produces a skewed set of results, biased towards the prime property sector in the south east of England. This point is confirmed by Henneberry and Roberts (2006), who analyse the use of benchmarking in UK investment decision making. They find acquisition and disposal decisions appear to be sub-optimal but can be explained by the heavily reliance of fund manager on benchmarks that are calculated from sample portfolios that are not geographically or sectorally diversified.

In contrast to Fisher *et al.* (2004), Gallimore and Gray (2002) examine investors' sentiment in terms of decision-making. As stated previously, the lack of information in the real estate market coupled with the inefficiency of the market (Baum *et al.*, 1996; Hutchison and Nanthakumaran, 2000) created problems with rational decision-making when knowledge is lacking. The researchers surveyed a sample of 984 members of IPF, with a response rate of 39 per cent. This provided them with enough information to analyse investment decision making within UK property, and conclude that investment decision-makers strongly gauge personal market information and insight whilst also utilising “hard” market information to decide upon their means of decision. An important perspective in this study is that Gallimore and Gray suggest that the reliance on sentiment may be greater during periods when property values are rapidly rising or falling as data on performance quickly dates. From the fund management and portfolio-wide perspectives, the need to be able to make judgments on property, not only based on market information, but also on the judgement or sentiment (Gallimore and Gray, 2002) may be a necessary part of the disposal process.

Farrell (1998) examines Japanese direct investment in property over the period 1985-1994. This paper not only deals with the motivations in real estate investment in Japan but also considers the involvement of international investment and

organisations. The evidence presented in this paper only goes as far as identifying that Japanese institutional investors use international real estate for diversification purposes. What was apparent was the herd behaviour of investment, an observed trait that can also be linked to the study by Adair *et al.* (1994).

4. Research methods

The field research comprised of an online questionnaire that was sent to a representative sample of fund managers identified from the *UK Investors Property Investors Directory* (Property Data, 2004), and by directly contacting companies asking for contact details and the willingness to undertake in the survey. The decision to use an online questionnaire was made in an attempt to increase the response rate and produce a more rounded study. Using these methods contact was made with 164 fund managers with 54 responses returned. This constitutes a 33 per cent return.

The purpose of the questionnaire was to find the underlying reasons for disposal and investment holding patterns. A review of the literature identified the topic areas to be probed and the questions to be asked. The effectiveness of the questionnaire was tested using a pilot study and follow-up telephone interviews with a fund manager and an investment agent. This was a necessary pre-requisite given the complexity of online survey design, and helped to further test the style of the questionnaire and wording of questions for the target audience. This proved useful in identifying areas where questions may have been overlooked.

5. Main findings

5.1 Composition of responding funds and investment behaviour

The majority of managers contacted managed portfolios that were property only “real estate” funds, compared to 11 per cent that managed mixed-asset portfolios. Of the 11 per cent, the average percentage of real estate is 28 per cent with the minimum being 1 per cent, and the maximum 75 per cent. If these are placed in terms of the complete study, the average is 82.56 per cent of assets, with a 1 per cent to 100 per cent “swing” on the real estate holdings.

The typical fund size in terms of capital value is greater than £500 million. 57 per cent (31 respondents) manage a portfolio of this value. Only 2 respondents manage a portfolio with a value of less than £50 million. The portfolios of 51 out of 54 respondents (94.4 per cent) hold the majority of their properties as UK holdings. European and international investment accounts for 29.3 per cent of the portfolios with ten out of the 53 respondents having investment in the UK and abroad. Only 5.56 per cent have property holdings in UK, Europe, and the rest of the world in the same portfolio. Only three portfolios have holdings in Europe, with no UK property holdings. Not one single manager holds property internationally without either holding UK or European property. Unsurprisingly, it is the larger funds (> £250 million) that are more likely to have non-domestic holdings.

The number of individual properties held in a portfolio varies from 6 to 680 assets with the overall average number of properties being 94[1]. There is a high positive correlation between the number of assets in the portfolio and the number of assets disposed in 2005, although there is wide variation in behaviour (66.2 per cent variance). The linkage between these two variables appears obvious but there is the danger that the relative illiquidity of property prevents fund managements from achieving a high

continuous turnover of real estate in short periods of time. Crosby and McAllister (2004) found that most commercial transactions take around six months to complete. This severely constrains the number of times an individual property can be sold within any single year, thereby linking the number of annual disposals within a portfolio directly to its size. Recent reports suggest that investors are increasingly attracted to auctions as the speed of the transfer is significantly quicker (Cruise, 2006).

The typical transaction price in 2005 was between £1 million and £10 million. The difference between the average purchase price and the sale price is evident with 48 per cent of purchases involving exchange prices over £10 million but only 26 per cent of sales. Although, no research was carried out to quantify the initial capital that was invested, it is possible to conclude that the difference between the average purchase and sale prices is due to the small lot size of the retail units being disposed compared to the larger size of office space now in demand by fund managers. This is supported by the finding that 59 per cent of disposals were in the retail sector, while Table I shows that the average transactions price for unit shops purchased in 2005 was below the average price for offices. Table I also reveals that the average transaction price was £23.7 million, and that most transactions were made in the UK office, industrial, retail sectors.

5.2 Investment holding patterns

As mentioned previously, Gardner and Matysiak (2005) and Fisher and Young (2000) have shown that the holding period of real estate has been falling over the past few decades. Fisher and Young (2000) put this at 11.1 years whilst Gardner and Matysiak (2005) set this between 50.1 months to 81.3 months.

This study found that the average holding period was 62.61 months. By comparison, the last property sold in the respondents' portfolios had been held for an average of 80.37 months. The minimum holding period was three months and the maximum was 648 months, or 54 years. These findings concur with the work by Gardner and Matysiak (2005), and support the conclusions that the pressure to perform well is encouraging fund managers to increase their activity in managing funds and take a short-term perspective for investments. Over 58 per cent of the fund managers claim to adopt an active or pro-active management strategy, a finding that implies a greater focus on buying and selling properties to exploit short periods of mis-pricing

Sector	Total value (£m)	Number	Average (£m)
Central London office	15,908	345	46.110
Rest of UK office	7,068	571	12.378
Shopping centre	7,693	131	58.726
Retail warehouse	4,633	173	26.783
Unit shops	5,286	483	10.943
Industrial	4,814	447	10.770
Leisure	4,788	132	36.273
Other	8,175	176	46.448
Total	58,365	2,458	23.745

Table I.
Transactions in the UK
for 2005

Source: Adapted from Property Data (2006)

and generate short-term performance (net of transaction costs). This in turn leads to a greater turnover of direct property assets, and greater potential for excessive trading.

With high return expectations, fund investments tend to be in assets where the manager can actively increase value in a short time and then resell the asset. Holding periods for typical assets tend to be two to four years based on the research by McGuirk (2002). Meanwhile the study by Gardner and Matysiak (2005) covers all office investment property, and they find that holding periods for pension and life funds have the longest average (median) holding period of 75 months and 68 months, respectively whereas the general holding period for most investors ranges between 50.1 months and 81.3 months. The longer exit strategy for institutionally held assets confirms the view that these investors take a long-term outlook to owning and managing direct property. This differs to the outlook of the property unit trusts, opportunity funds and property companies, who aim to trade profitably by moving assets on and repeating the process. Collett *et al.* (2003) and Fisher and Young (2000) conclude that actual holding periods are dependent on the property type, market conditions and transaction costs.

Figure 1 presents a detailed breakdown of sector disposal patterns and reveals that the typical disposal was in the retail sector (59.3 per cent). Although this includes shopping centres, shop units, and retail warehousing, the majority of retail disposals (61 per cent) were standard units. The least common type of property disposed of in the sample was residential at 1.9 per cent[2].

Table II shows that institutions tended to move out of the shopping centres and unit shop sectors in 2005. However, demand for warehousing in the retail sector remained strong with a net investment (purchases minus sales) of £1.2 billion. There was also substantial net investment in industrials and offices. Hindsight implies that these disposal and acquisition decisions appear rationale as annual total returns for offices and industrials in the year that followed hit 23 per cent and 17.7 per cent, respectively while retail achieved returns of only 15.2 per cent. Yet, the difference between income returns was not significantly large as the annual average rental return on retail was only 0.4 per cent below offices. Over-confidence in the office sectors and herding out of retail towards offices may explain the 17.2 per cent rise in office capital values while retail only achieved 10.2 per cent on average (IPD, 2007).

Portfolios in the sample on average disposed of 8.26 properties a year, with the minimum being 0 and the maximum being 75. When the volume of disposal

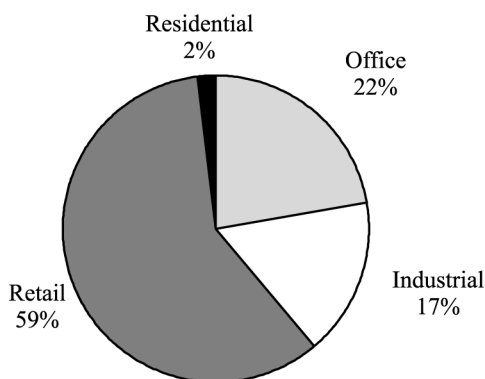


Figure 1.
Most recent disposal by
sector

Table II.
Institutional investment
by sectors in the UK

Sector	Net investment by sector (£m)				
	2001	2002	2003	2004	2005
Central London office	- 708	- 508	- 2,360	- 107	438
Rest of UK office	617	- 317	- 758	- 87	1,146
Shopping centre	- 671	- 231	8	1,547	- 1,018
Retail warehouse	759	949	498	723	1,229
Unit shops	- 344	- 152	- 270	- 164	- 4
Industrial	203	724	57	999	1,291
Leisure	44	7	65	277	162
Other	- 272	100	- 129	685	- 331
Total	- 373	573	- 2,888	3,873	2,913

Source: Property Data (2006)

transactions was examined over the period Q1-2005 to Q1-2006, the results showed greater investment activity towards the end of 2005 and into 2006. By analysing the disposals in terms of differing sectors, the results (Figure 2) show that retail and industrial units were the most frequently traded at that point in time, whereas the office sector was most active in the first quarter of 2006, with steady disposals over periods Q1-Q3 2005 and a slight drop in disposals in Q4 2005. In Q4 2005, it can be seen that there is a 20 per cent difference between the volume of retail and industrial sales. This equates to 10.6 properties. The difference between the number of retail and office properties sold in the same period (Q4 2005) is 25.97. This relates to more than half of portfolios.

The location of the last property sold is also important. Henneberry and Roberts (2006) identify that the majority of institutional investment is undertaken in the south east of England. The results in Figure 3 show that this is definitely the case. The majority of disposals of property were based in southern England (SW, SE, and Midlands). This equates to 73 per cent of portfolio transactions. The rest of the disposed properties were based (in rank order) in Scotland, north east England, Europe, and, finally, north west England. The purchasers were either located in the UK (85 per

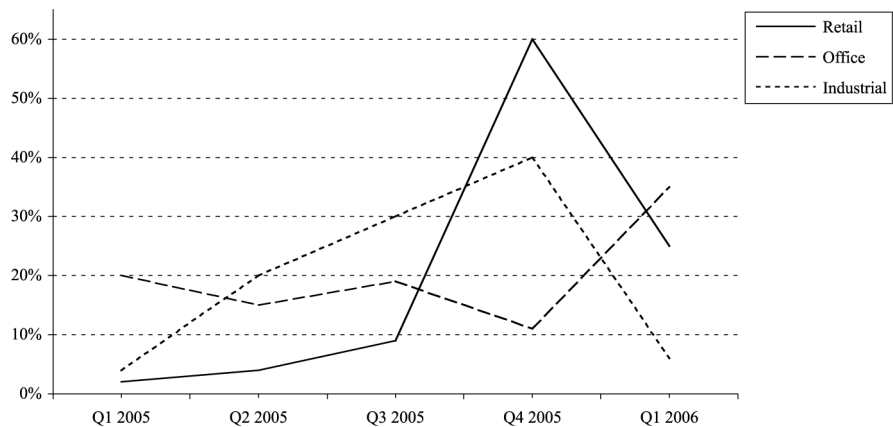


Figure 2.
Most recent transaction by
period and sector

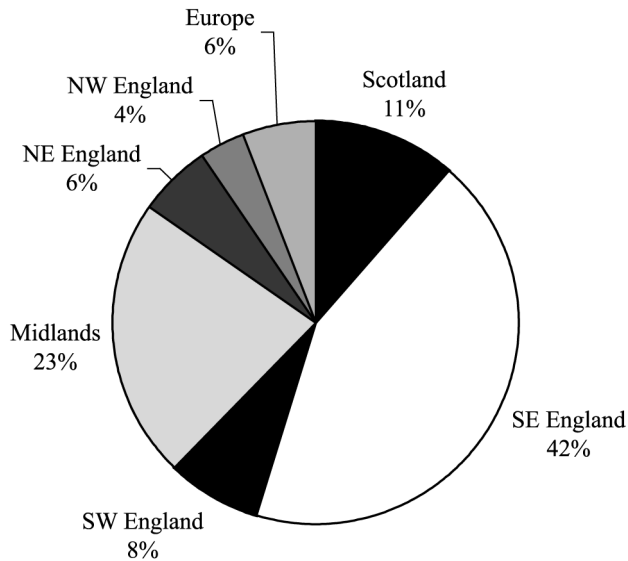


Figure 3.
Location of most recent
disposed

cent) or Europe (15 per cent). Not one of the last sales made by these portfolios was to buyers outside of these zones.

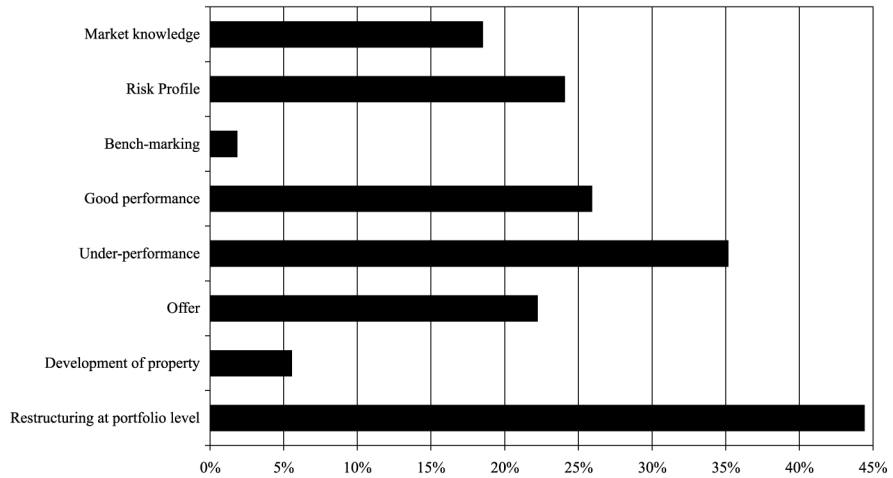
As purchasers, private investors appear to have dominated the market with 24.1 per cent made by a property company and 16.6 per cent made by single investors. The least common investors were insurance and asset management companies with zero purchases while charitable trusts and serviced office providers were the next least common, both representing only 1.9 per cent of the purchases.

5.3 Factors that determine disposal decisions and rationality of behaviour

Fisher *et al.* (2004) explain that the probability of an investment grade commercial property sale occurring is significantly related to at least three basic factors: market conditions, ownership characteristics and property characteristics. These factors link with the findings of Phyr and Cooper (1982) who identify the general reasons for “voluntary” disposition as optimizing of property life cycles and portfolio adjustment. These asset sales may be made because financial analyses indicate that it is time to convert amortised equity build-up into cash. Analysis may also demonstrate that taxes are having a negative effect on profitability, or that a neighbourhood may be changing, either for the better or for the worse. An owner may have “milked” a property because of financial difficulties, only to find that overcoming the conditions of deferred maintenance are beyond his/her resources. Realisation of a gain or loss may be necessary in order to adjust the portfolio and to reinvest in another opportunity. Such opportunities may arise due to unsolicited offers.

The principle aim of this study was to examine the decisions made by fund managers regarding the reasons for disposal. Drawing on the research conducted, it can be seen that the main reason for disposal of an investment is the desire to re-structure portfolios (presented in Figure 4). This matches with normative strategic and tactical portfolio decision making, and supports the observations made by Crosby

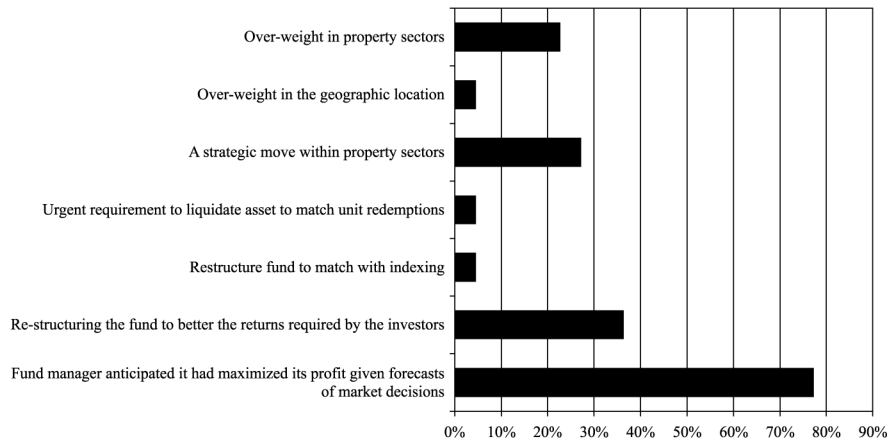
Figure 4.
The decision factors in terms of disposal



and McAllister (2004) and Henneberry and Roberts (2006). Although, Crosby and McAllister found that the selection of which individual property to sell is related to how ready it is for sale, and whether or not there are any factors to inhibit the sale.

Of the respondents, 90.5 per cent said that the reason they declared for their most recent disposal was typical of their disposal decisions. When further investigation into the factors driving the reasons to restructure the portfolio was made (summarised in Figure 5) it is clear that the decision to restructure the portfolio was typically driven by forecasts that predicted that the property had maximised its profits (77 per cent). The restructuring of portfolios to target better returns (36 per cent) and to strategically allocate assets across property sectors (27 per cent) were identified as the next two reasons. Over-weighting in geographic regions, the need to liquidate assets and restructuring to match indexing appear to be the least likely reasons that determine when a portfolio was restructured.

Figure 5.
Decisions to restructure at portfolio level



Of the respondents, 70.4 per cent had an in-house research department and made their decisions backed by forecasts. From this sub-sample, 14 of portfolio managers used other forms of market data and analysis provided by their in-house research team to help them make their decisions. This supports the findings by Gallimore and McAllister (2005) that property market forecasts are now integral to investment decisions relating to strategic and tactical asset selection and stock selection. The growth in the number of in-house research teams over the past few years may be due to the need to increase the confidence of fund managers on the reliability of the forecasts but there is the danger that fund managers are being overloaded with complex and detailed information in some markets that might encourage them to develop cognitive heuristic habits. This may reduce the time involved in disposal decisions but Diaz and Hansz (1997) highlight that these information processing short cuts have been known to produce judgemental bias in property markets.

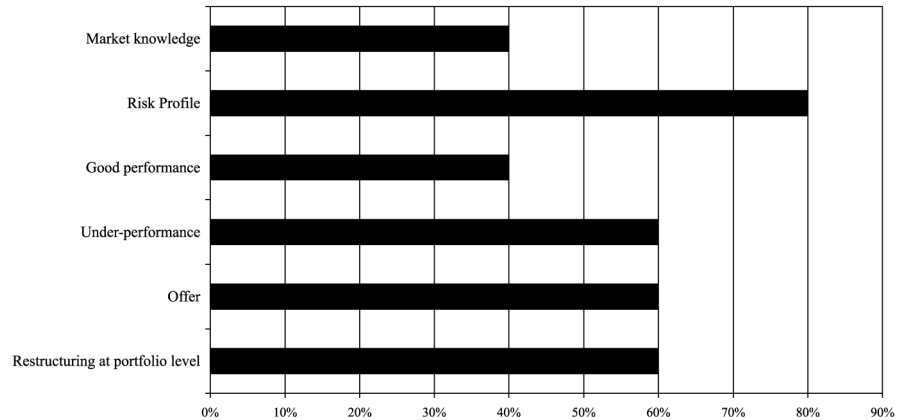
Restructuring of portfolios is not the sole reason for fund managers disposing of a property holding. As demonstrated in Figure 4, under-performance, risk profile and offers were significant factors driving the disposal decision. When these decisions were investigated further it was revealed that offer instigated disposals were mainly initiated because the fund manager was made an unsolicited offer for a specific property by a willing buyer. Only 10 per cent of offer initiated disposals were due to another fund offering to swap assets. It was also apparent that nearly 90 per cent of decisions to dispose of under-performing assets were due to the expected return of the individual asset being less than the target return, and not due to tactical decisions to take short bids on under-performing sectors or locations. These findings support Phyr and Coopers' (1982) work, and imply that disposal decisions are driven by property-specific factors. This conclusion is further supported by the finding that risk profile disposals were more likely to be induced due to the specific risks attached to an individual property being too great[3].

Occasionally, good performers were sold. This amounts to 22.6 per cent of the sales but usually occurred when the property was fully let and expected to achieve a good price in the open market or because it had achieved its performance goals earlier than expected but on the whole fund managers behaved rationally by cutting losers while running with winners. They appeared not to be loss averse as suggested by Gallimore *et al.* (2000).

Surprisingly, "end of the fund life", and "outside control" were not identified as factors driving disposal decisions. Henneberry and Roberts (2006) identify through interviews in their study that management can play a role in the decision of fund managers. These reasons were also evident in the interviews carried out during the "pilot study" phase but surprisingly not identified as important in the main survey. This was developed from the arguments put forward by Holbrook (1976). The main point is that, especially in mixed-asset funds, the manager is constrained by the limits imposed by management and actuaries. As a majority of portfolios in this sample (89 per cent) were property-only funds, it may explain why management control did not rate high as a factor driving the disposal of assets.

Yet, only 49 of the respondents identified restructuring as the main reason for disposal. For the remaining 9 per cent of respondents (summarised in Figure 6) the most common reason for disposal was risk profile. This sub-group then ranked under-performance, offer and restructuring equally.

Figure 6.
Decisions of remaining
9 per cent of respondents



5.4 Information and investment decision-making processes

The quantity and quality of market information available can affect the decision-making process of investors. The study reveals that fund managers utilise information from a variety of sources that are linked together to provide the fund manager with as complete a picture as possible of the market and the assets within their control. This pulling together of data is very important given the inefficiency of the property market and the general lack of information. The fact that approximately 70 per cent of respondents have in-house research departments demonstrates the complexity of the market and the special skills required to analyse the data. These dedicated research teams, containing acquisition and disposal analysts, are necessary to provide fund managers with up-to-date reports of market data and reduce the tendency for fund managers to take short cuts when collecting and interpreting this data.

Nine out of the 54 respondents answered that the quality and quantity of available market knowledge drove the decision to select a particular property for disposal. Around 44 per cent of these fund managers claimed that market knowledge revealed that the property was difficult to manage while 11 per cent found they decided to sell because they lacked knowledge in that sector. Surprisingly, 44.4 per cent of responses revealed that market knowledge was utilised in the disposal decision because the fund had appointed a new manager who wanted to concentrate their time and resources elsewhere. This suggests that personal preferences do in fact creep into the investment decision process.

Phyrr and Cooper (1982) add benchmarking to the list of reasons that investors dispose of real estate. The study found that 47.5 per cent of funds benchmark against IPD indices. This is substantially higher than the 20 per cent estimated by Cullen (2004) and this rise could be linked to the increase of herd behaviour in investment markets. No fund index tracked but 79.6 per cent of the sample was required to outperform some sort of index target. Jackson and Orr (2007) concur with this finding. They found 70.6 per cent of their sample fund managers had a return objective where all or a set proportion of stock held by the fund had to outperform one of the index

series compiled by IPD[4]. This benchmark indices used included the HSBC/APUT Pooled Property Fund Indices.

These statistics would alarm Henneberry and Roberts (2006), who argue that the use of targets related to benchmark indices, and the reward and penalty systems within fund management companies create the conditions conducive for over prudent decision making, which in turn causes funds to under-perform their potential.

The information used by fund managers to select a property for disposal must be consistent and reliable for rational economics to be prevalent. In sub-markets where less information is available, then there will be even greater tendency for investors to use personal judgement, over-react to current information and rely more on information gathered through personal contacts when making investment disposal decisions.

The fund manager will utilise information from indices which are valuation based but studies (for example, Black *et al.*, 2003) have shown that property valuers are subject to cognitive short cuts. Heuristics such as representative, availability, and anchoring and adjustment can lead to systematic errors where valuations are not good proxies for market prices. Forecasts are also based on valuations that are arguably subject to biases and errors; compound the heuristics and biases attached to input data and contribute to sub-optimal investments decisions. There is also the issue raised by Brown (1996) who questions the use of forecasts by active fund managers to achieve abnormal returns when everyone in the market is reacting in a similar manner to similar forecasts.

6. Conclusions and recommendations

This study is concerned with analysing the decision-making process of fund managers in terms of their property disposals decisions. A review of the research into property holding periods published over the past few years revealed that holding periods have dropped. The study found that within the sample of data collected, holding periods across sectors are continuing to drop. There are various reasons for this that agree with recent research findings that holding periods are based on conditions such as property type, market conditions, transaction costs and the dominance of active investment strategies (Collett *et al.*, 2003; Fisher and Young, 2000). The fact that retail is the most common disposal in this study concurs with market expectations that the retail sector in the near future is not expected to perform as well as the industrial and office sectors.

The most common reason for disposal was the need to restructure portfolios as forecasts predicted that the property selected for disposal had maximised its return. The study also identifies the increasing reliance on research and market analysis, and that behaviour and decisions appear rational but irrational judgements and biases do in fact creep into the decision-making process. Valuation-based indices and forecasts increasingly form the basis of judgement decisions made by the portfolio managers when selecting properties for disposal, and heuristics and bias have been associated with these information sources. As not all information presented can be up-to-date or reliable, there is a need for fund managers to make so-called impersonal judgements when selecting disposals. Acknowledging this happens is the major difference between neo-classical economics and behavioural economics.

One key conclusion of this study is that property fund managers are not typically guilty of holding on to losers and selling winners. They will rationally sell

underperforming stock. Yet, they must take account of a great deal of information to decide what property to select for sale and when to sell it. The use of secondary information makes the decisions more difficult, with no conclusive decisions over-riding. Ultimately, these decisions are based on market data and indices that are in themselves biased towards specific sectors and geographical locations, in-house research, and personal judgement. This mix can generate a less than optimal behaviour. In this research we examined the causality of investment disposal decision making but further, more detailed, research is required to investigate and measure the exact extent these factors drive sub-optimal decisions.

Notes

1. This average represents the mean number of properties for 53 portfolios as one response was removed from the sample due to the manager stating that he answered this question on behalf of the entire company, and not an individual portfolio.
2. Only one respondent disposed of residential units in the study period but this is unsurprising given the small percentage of funds holding housing.
3. This represented over 80 per cent of the sample whereas only 18 per cent implied that market risk factors triggered the sale. This may be linked to the low representation of mixed-asset funds in the sample.
4. Of the funds, 11.8 per cent had a split return objective where a set percentage of the stock were required to track the benchmark and the remaining percentage were required to outperform the benchmark.

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