

## Working Papers in Real Estate & Planning 09/09

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**Means, Motive and Opportunity? Disentangling Client  
Influence on Performance Measurement Appraisals**

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## **Abstract**

*This paper investigates the extent to which clients were able to influence performance measurement appraisals during the downturn in commercial property markets that began in the UK during the second half of 2007. The sharp change in market sentiment produced speculation that different client categories were attempting to influence their appraisers in different ways. In particular, it was recognised that the requirement for open-ended funds to meet redemptions gave them strong incentives to ensure that their asset values were marked down to market. Using data supplied by Investment Property Databank, we demonstrate that, indeed, unlisted open ended funds experienced sharper drops in capital values than other fund types in the second half of 2007, after the market turning point. These differences are statistically significant and cannot simply be explained by differences in portfolio composition. Client influence on appraisal forms one possible explanation of the results observed: the different pressures on fund managers resulting in different appraisal outcomes.*

## **Means, Motive and Opportunity? Disentangling Client Influence on Performance Measurement Appraisals**

### **Introduction**

Due to the low liquidity of commercial real estate, appraisals are required in order to mark assets to market. As a result, the appraisals play a key element in financial reporting, lending decisions, performance measurement and transactions. Appraisals often provide a metric to measure financial ratios, fund managers' bonuses and security in lending decisions. Consequently, clients can have clear incentives to influence them. Existing research on the ability of clients to influence the outcome of the property appraisal process has tended to indicate that clients are able to use a number of sources of influence to alter appraisal outcomes. However, it has had little to say on whether influence is likely to be pervasive or involve isolated instances.

The sharp market downturn commencing in the second half of 2007 provides an opportunity to measure the extent to which clients are able to influence appraisal outcomes. During this period, anecdotal reports suggested that it was recognised by market participants that different types of client may have had different motivations to attempt to influence appraisals. Contemporary reports from practitioner conference debates in both the UK and Europe (see for example, IPE Real Estate, 2009 and EG Capital, 2008) comment on concerns with appraisals in the downturn. In particular, the issue of loan-to-value (LTV) covenants for banks and the speed with which appraisers mark-to-market for open ended property unit trusts have been highlighted.

The main dilemma for appraisers in this period was that, as trading became thinner, there were few indicators of pricing levels from asset sales and it was thus considered difficult to quantify the extent of market falls. Open-ended unlisted real estate funds (particularly unit trusts with a NAV-based redemption rule) had incentives to ensure that the appraisals of their commercial property assets accurately reflected current market levels. On the other hand, closed-ended unlisted funds, institutional investors and REITs/property companies, who do not have similar pressures to meet investor redemptions, were reported (albeit anecdotally) to be much more resistant to downward adjustment in appraisals without strong supporting evidence from transactions. Decreases in appraisal figures for assets providing security for loans may result in a breach of LTV covenants. However, this paper concentrates on the performance measurement valuation issues caused by the downturn.

In order to shed some light on the ability of clients to influence the outcome of their appraisals, we examine appraisal-based capital values for different types of UK real estate investor in the falling market of 2007 and 2008. Using data supplied by Investment Property Databank, we demonstrate that, indeed, unlisted open ended funds experienced sharper drops in value than other fund types in the second half of 2007, after the market turning point. These differences cannot simply be explained by differences in portfolio composition and are consistent with differences in valuation processes employed by different fund types. Client influence on valuation forms one possible explanation of the differences observed.

The remainder of the paper is organised as follows: we begin with an overview of client influence studies in real estate and then discuss the valuation process. Next, the market context for the study – the turn in the market from mid-2007 - is set out. We then conduct empirical tests on a dataset of UK returns provided by Investment Property Databank to seek any evidence of client influence. Finally, conclusions are drawn.

## **Background and Context**

### *Client Influence: A Definition*

Whilst there have been a number of studies investigating the ability of clients to influence appraisal outcomes, an accepted definition has not emerged. In the literature, the terms ‘feedback’, ‘pressure’ and ‘influence’ tend to be used interchangeably. Implicit in most analyses is that client influence involves client manipulation of the appraisal production process with the aim of systematically biasing appraisal outcomes. Bias can be both positive and negative. Whilst most studies have focussed on clients’ attempts to ‘ramp’ appraisals above the appraisers’ ‘uninfluenced’ estimates of Market Value, clients may, in some circumstances have incentives to pressure appraisers to reduce appraisals below their ‘uninfluenced’ estimates. This has been the main theme of much of the research conducted to date on client influence.

However, influence can also be tacit or covert. The outcomes of professional services may be affected by the professional’s perception of the preferences or requirements of the client so that they over-identify with those interests and may become advocates rather than independent “scorekeepers”. For instance, Cloyd and Spilker (1999) found that tax advisors, although required by professional standards and statute to produce accurate assessments, tended to overemphasise evidence supporting their clients’ position. In the real estate context, Gallimore and Wolverton (2000) point that appraisers’ estimates of Market Value may be biased by the anticipated (adverse) reaction of their client. A similar point is made in relation

to valuers acting as expert witnesses by Crosby *et al.* (1998). Further, clients can influence the client more covertly by providing information, such as an agreed transaction price, that may influence the appraiser.

Client influence on appraisal outcomes may also result from concern with quality assurance. In this respect, clients may assist the appraiser by providing information about the asset or the market about which the appraiser may be unaware. Further, clients may also monitor the appraiser to ensure that sufficient effort is being applied. It is also common for expert clients to check appraisals for errors or omissions. While the overt goal of this type of client intervention is to improve the quality of the appraisal rather than to bias it, there may be implicit biases introduced.

In addition, the client can affect appraisal outcomes inadvertently. Decisions relating to choice of valuer, provision of information (e.g. transaction price), detailed instructions etc may impinge on the appraisal outcome without any explicit intention on the part of the client. Since, as discussed below, the appraisal outcome will be a function of the information available to the appraiser and how individual appraisers process this information, consequences of inadvertent client impacts will be unintended and produce noisy effects on appraisal outcomes.

### *The Supply of Appraisal Services*

The structure of appraisal sector in the UK may be a significant variable in terms of the ability of appraisers to resist client pressure. Large firms, in particular, may be in a better position to resist client pressure due to their information resources, reduced dependence on individual clients and ability to inflict reputational damage. However, in the UK there has been some concern at the consolidation of appraisal services delivery into a small number of large service providers. Baum *et al* (2000) found that the market for performance measurement appraisal in the UK had experienced substantial consolidation. Economies of scale and competition had reduced the ability of many smaller firms to compete for high volume, high frequency, low fee periodic appraisal work. At this time the Investment Property Databank (IPD) aimed to have no more than 25% of the valuations undertaken by a single firm – this objective was later breached by the merger of CB Hillier Parker and Insignia (Richard Ellis).

It was reported to the Carsberg Committee that, as at December 2000, 65% (by capital value) of the property covered by the IPD annual index was valued by the top five valuation firms. For the monthly index (as at November 2001), 80% of properties were valued by the top five

firms, with 62% being appraised by the top three valuation firms alone. These concentrations are now approximately 54% and 69% for the top three and top five firms respectively in the annual and quarterly indices (as at December 2008) and 66% and 75% for the top three and top five in the monthly index (as at May 2009).

Carsberg, concerned with this concentration, recommended that the RICS sponsored a regular analysis of the Investment Property Databank to monitor the movements of valuations undertaken by the five largest firms in the index for any differences. This recommendation was taken on by the five largest firms; ATISREAL, CB Richard Ellis Ltd, DTZ, Jones Lang LaSalle and Knight Frank, in collaboration with IPD. These major firms are therefore made aware of how their valuations “perform” relative to their peers. Two studies have so far been undertaken in 2004 and 2008 (IPD, 2008). The IPD press release on the June 2008 study - which would have included the first part of the downturn in 2007 – comments:

*“The contributions of each of the five largest firms, which together make up over 80% of the valuations in the IPD Monthly Index, were analysed across ten segments of the market and found to display high levels of synchronisation with respect to capital movements and the major yield drivers of those movements. Further, this synchronisation has improved markedly over the past 18 months”*

This apparently close relationship between the appraisals of the major firms suggests that differences in capital returns between owners should not be due to potential concentrations of client type in individual firms.

### *Appraisal Formation*

In order to understand how appraisals can be influenced by clients, it is useful to appreciate first the process by which appraisals are formed. Whilst there are a range of different categories of appraisal, the key events in the appraisal process are typically instruction, information collection, appraisal calculation, client consultation and delivery. Clients can, and sometimes do, use the opportunity to influence appraisals at a number of points in this chronology. This can range from ‘opinion shopping’ prior to formal instruction (prevalent in the property lending sector, see Crosby *et al*, 2004) to selective information provision to coercion at meetings to discuss draft appraisals. Baum *et al* (2000) in the UK and Levy and Schuck (1999) in New Zealand both found that draft valuation meetings were normal in the performance measurement valuation process. In the UK, this led to the RICS producing guidance within their mandatory Practice Statements (Red Book) concerning the recording of the outcomes of these meetings, including any changes to valuations (RICS, 2008, PS 6.11, commentary note 2).

At one level, the appraisal production task can be modelled as a set of ‘textbook’ routines or procedures that become institutionalised through professional guidance, education and training. For appraisers, having identified the objective, the appraisal task essentially involves information collection, information processing and output generation. Indeed, there is a body of research that investigates how appraisers deviate from normative models due to an heuristic bias (see Diaz, 1990). In the UK, many of these appraisal functions have been transformed by ICT and the associated adoption of specialist appraisal software and growth of market information services. However, it is also important to recognize that there is a range of categories of appraisal that have different purposes, contractual requirements, frequencies and remuneration structures. For instance, even within periodic appraisals, McAllister *et al* (2004) found that the end-of-year appraisal required more information collection, site visits etc. compared to ‘standard’ monthly appraisals.

In terms of technical calculation, appraisal production involves the processing of a bundle of factual and market-derived information. Key factual issues related to location, physical characteristics, lease terms and rents paid. For leased commercial assets, estimates are required concerning of tenant quality, capitalization rates, Market Rents and costs. Increasingly this information is processed using specialist valuation software packages. In real estate appraisal models for income generating assets, asset value represents the discounted sum all future net incomes. *Assuming constant growth*, the value (V) can be expressed as:

$$V = \sum_{t=0}^T \frac{(R_t - C_t)(1 + g)^t}{(1 + i)^t} \quad (1)$$

where  $V$  is the current capital value,  $R_t$  is rental income,  $C_t$  is the periodic costs of owning the asset (management, vacancy, refurbishment etc - so that  $R_t - C_t =$  Net Operating Income),  $g$  is a constant growth rate,  $i$  is the target rate of return (composed of the risk-free rate of return plus a risk premium), and  $t$  is the life of the asset. Since freehold ownership is unlimited, this can be taken as a perpetuity and approximates to

$$V = \frac{NOI}{i - g} \quad (2)$$

where  $i - g$  is a capitalization rate. So:

$$V = \frac{NOI}{CAPRATE} \quad (3)$$

When used in practice, capitalization rates are usually estimated from analysis of transactions involving the sale of comparable assets rather than by estimating target rates of return and constant growth rates. Although this approach is linked to the discounted cash flow method, it is fundamentally a comparison method. Due to the lease structures in the UK, the rent paid and future uplifts tend to be calculated separately so that

$$V = \text{RentPaid} \left( \frac{1 - (1 + \text{caprate})^{-n}}{\text{caprate}} \right) + \text{Market Rent} \left( \frac{1}{\text{caprate}} \right) (1 + \text{caprate})^{-n}$$

where  $n$  is the period for which the rent paid is fixed. There are a number of variations of this approach that can produce different valuations. However, common to all conventional appraisal methods is that the key variables that need to be estimated are the Market Rent and capitalization rate. These tend to be obtained from analysis of transactions involving comparable properties. Due to the characteristics of commercial real estate markets, there is inherent uncertainty in their estimation.

The quality and quantity of information on transactions involving comparable properties are central to inherent uncertainty in real estate appraisals. This uncertainty is important since it provides scope for different interpretations of market information. Quan and Quigley (1991) formally outlined this point arguing that observed transaction prices can be interpreted as being equal to unobservable true prices plus some market-wide and idiosyncratic transaction noise. Assuming a single comparable, current capitalisation rates can be expressed as a function of

$$CR_t = CRcomp_{t-1} + MM_{t,t-1} + ecomp_{t-1} + e_t \quad (4)$$

Where  $CR_t$  is the current estimate of capitalisation rate,  $CRcomp_{t-1}$  is the capitalisation rate generated by a comparable,  $MM_{t,t-1}$  is market movement since the transaction involving the comparable,  $ecomp_{t-1}$  is idiosyncratic noise in  $CRcomp_{t-1}$  and  $e_t$  is a random error term. Appraisers have to extract the relevant price signal from the "noisy" transaction prices involving comparables. This produces three main problems for an appraiser.

First, due to intrinsic timing issues, the reliability of a market price signal decays in proportion to the quantity of exogenous market movements. Second, price signals from observed transaction prices contain deviations from 'true' price levels due to individual characteristics of assets, buyers and sellers. Whilst the first problem is innate, the second may be mitigated in deep markets by rich information flows. However, thin trading in commercial real estate markets results in poor information flows. Finally, the heterogeneity of

commercial property assets requires further appraiser subjectivity in interpreting price signals generated by unique assets.

In essence, there is scope for a range of interpretations by market participants of a pricing signal. This is because, relative to the asset being appraised, the prior transaction took place in different market conditions, involved a different asset and was generated by the interaction of unique buyers and sellers. These factors contribute to appraisal uncertainty and appraisal variation<sup>1</sup> and, most significantly in this context, provide a valid basis for appraisals to be contested.

### *Previous Research*

Clearly, given the ethical, reputational, tort and even criminal issues raised by client influence on appraisals, conducting empirical research on this sensitive topic is fraught with methodological issues concerning the reliability of findings. Although there have been a number of studies of client influence in several countries, there have been very few studies that measure linkages between observed client pressure and observed appraisal outcomes. Studies have been based upon postal questionnaires, semi-structured interviews or experimental work focussing on appraisers' experiences of client pressure or on their responses to hypothetical scenarios.

In one of the earliest empirical studies in the US, Smolen and Hambleton (1997), found that over 80% of respondents to a postal questionnaire believed that *other* appraisers would respond to client pressure to change appraisals. Yu (2002) found a similar result in a questionnaire survey of appraisers in Singapore. 41% of residential and commercial appraisers responding to a postal questionnaire in the US posing hypothetical client pressure to revise a valuation said that they would move their appraisal (see Kinnard, Lenk and Worzala, 1997 and Worzala, Lenk and Kinnard, 1998<sup>2</sup>). Focussing on valuations for loan purposes, in studies of UK and US appraisers again based on postal questionnaires, Gallimore and Wolverton investigated whether appraisers reframed the valuation task in response to client feedback as to validate sale price rather than to estimate Market Value (see Wolverton and Gallimore, 1999 and Gallimore and Wolverton, 2000). Whilst they found mixed results according to whether respondents were residential or commercial appraisers, overall they found little evidence of systematic reframing. Presenting different scenarios to mortgage

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<sup>1</sup> i.e. disagreement between appraisers.

<sup>2</sup> Their study found that client size relative to firm turnover was a significant factor influencing the decision to change the appraisal.

valuers, Hansz (2004) found that higher appraisals were provided by appraisers supplied with information suggesting that their appraisal would have implications for repeat business from the client. Building upon the types of study conducted above, researchers in Nigeria have found similar evidence of client influence in this market (see Amidu, Aluko and Hansz, 2008, Amidu and Aluko, 2007). However, given the sensitivities of this topic noted above, it is likely that such studies are biased towards underestimating the extent of client influence.

Perhaps more revealing have been in-depth personal interviews with appraisers. For instance, focussing on loan related valuations, in their questionnaire survey of appraisers in the UK, Crosby *et al* (2004) found that, whilst appraisers acknowledged pressure from borrowers and brokers, they reported that were able to resist such pressure so that there was no effect on appraisal outcomes. However, research using in-depth interviews with appraisers involved in appraisals for performance measurement has found some clients do exert overt pressure to change valuations but also provide information to appraisers that is 'favourable' (see McAllister *et al.*, 2004; Levy and Schuck, 1999; and Levy and Schuck 2005). Baum *et al.* (2000) found that appraisers acknowledged that, following meetings to discuss drafts of the appraisals, a proportion of appraisals were changed and that most of the changes produced increases. However, it is difficult to quantify the effects of client influence. As researchers have also found, appraisers can develop strategies to resist client pressure. More fundamentally, in an interview situation, it is possible that appraisers may anchor on atypical or one-off, incidents.

Whilst McAllister *et al* (2004) simply asked appraisers to estimate the amount of appraisals that were amended following a meeting with the client to discuss the draft figures, the interviewee estimates were essentially 'ballpark' figures. For US office assets, Graff and Webb (1997) inferred client influence from findings of persistence in patterns of performance. They identified persistent low long-term returns in office submarkets which featured "frenzied acquisitions" explaining it in terms of agency costs (Graff and Webb, 1997, 30). It was argued that such persistence was due to incentives (bonuses, fee structures) for fund managers to acquire assets and to overbid for assets in a highly competitive market. In turn, appraisers were incentivised to reflect this mispricing in their *early* periodic valuations until eventually realistic pricing emerged producing poor performance.

Using interviews of both appraisers and clients, Baum *et al* (2000) found that appraisers were willing to admit pressures from clients who stood to gain from bonuses based on outperforming benchmarks. They suggested these clients would use the draft valuation meeting to attempt to push appraisals higher. However, pressure to reduce appraisals was

also reported in particular circumstances. For instance, fund managers taking over new funds might pressure valuers to reduce the initial valuation, to provide a low baseline for future performance measurement. Again, funds managers intending to sell properties might wish to ensure that they did not have to sell at below the latest appraisal.

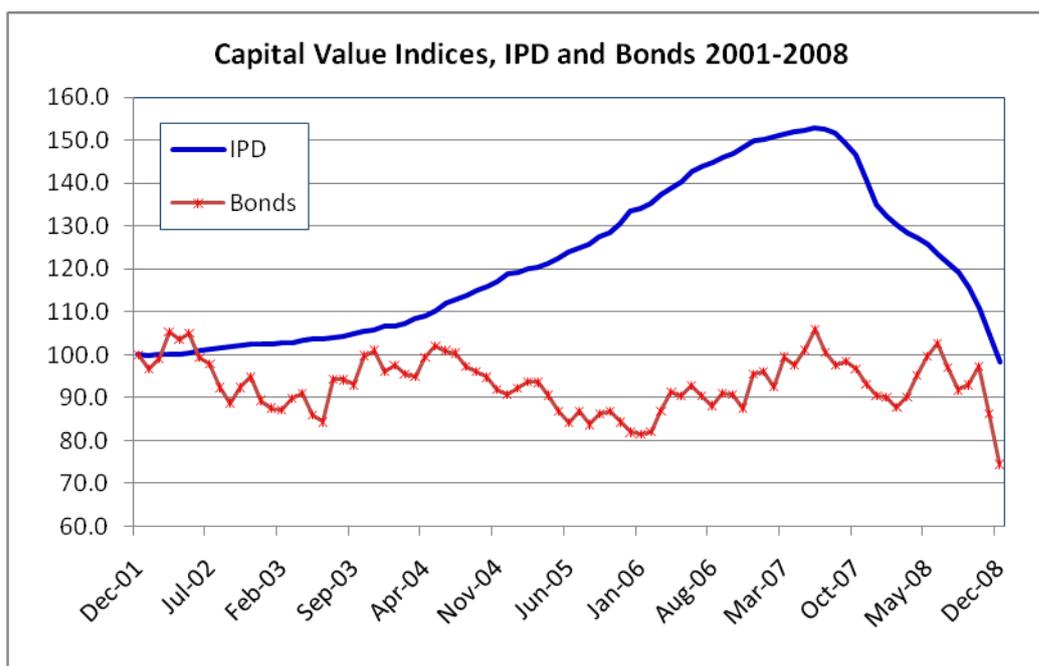
### *The Market Context*

The UK commercial real estate market experienced a major boom and slump in the 2000s. Between February 2002 and June 2007, the IPD UK monthly capital value index rose for 65 consecutive months. Over that period, capital values increased by 53% - 8.2% per annum in nominal terms, 4.7% in real terms. Capital values began falling in July 2007; as at May 2009, they had fallen for 23 consecutive months. Capital values fell some 12% in the second half of 2007 and by a third from their peak to the end of 2008. At December 2008, the UK IPD monthly capital value index stood at a lower level than at March 2000. In general, there seems to be a consensus within the industry that the appraisal profession in the UK have managed to perform well in the difficult conditions associated with rapid market falls. The tone of much of the commentary is summed up by IPD's Head of Systems and Information Analysis, Ian Cullen who has commented

*“In the most unstable and unprecedented market circumstances for very many years, UK valuers have demonstrated their ability to respond speedily to exceptional changes in sentiment despite the thinness of the evidence available to them.” (IPD, 2008)”*

The rapid turnaround in market trajectory inevitably caused problems for property investors and fund managers. However, the problems vary across client types. Open ended funds face particular problems – particularly unit trusts with defined redemption policies based on the last published net asset value (NAV). For funds without strong cash reserves, redemptions could only be made through asset sales – implying selling property into a falling market. Furthermore, given evidence that appraisals tend to lag the market, the prior NAV might not have fully adjusted for value falls. Faced with such problems, funds could attempt to freeze redemptions (although many were not allowed to do so because of their regulatory status), they could increase bid-ask spreads, or seek to raise new capital – an avenue not available to them in the falling UK market.. They thus had strong incentives to “encourage” their appraisers to mark values down as hard as possible, to overcome any lagging effects, to ensure that NAV-based unit prices were as low as possible. Many also increased the frequency of calculation of NAV to fortnightly – which would force appraisers to use non-transactional data to adjust prior valuations.

**Figure 1, The UK Commercial Real Estate Cycle**



Source: authors, IPD, ONS.

Unlisted closed end funds and property companies faced different pressures. For property companies, the widespread belief that NAV is a factor determining equity prices provided an incentive to seek to maintain capital values at higher levels. For closed-ended funds that were highly geared, sharply falling capital values created risk of breaching LTV covenants, again creating an incentive to encourage less bearish valuations. Finally, fund managers and asset managers whose remuneration included a performance component – the beating of an absolute or relative benchmark target – again had incentives to encourage higher, rather than lower, valuations.

The nature of client pressure, therefore, differed across fund types. At the same time, valuers were faced with much greater uncertainty since, as a consequence of the falling markets, transaction volumes fell markedly. The number of property transactions recorded on the IPD databank fell by 28% from 2006 to 2007, and by a further 13% from 2007 to 2008. Both property sales and acquisitions in 2007 were, as a percentage of total properties in the databank, at levels last seen in the early 1990s. While overall transaction volumes were still comparatively high compared to many European markets, within individual sub-markets, there would have been limited comparable evidence and some concern about the open market nature of individual transactions. This uncertainty might be hypothesised to create greater scope for client influence over individual valuations.

**Figure 2: Transaction Volumes, UK Commercial Real Estate**



Source: authors, IPD

This market environment presents an opportunity to test for client influence effects based on market evidence rather than on interviews, surveys or artificial experiments. Given that there are different client incentives, there might be discernible differences in capital value shifts between fund types. In particular, we might expect to see open ended funds exhibit larger and earlier falls in capital values than other fund types as the market turns. The next section examines this possibility empirically.

### **Empirical Analysis**

Investment Property Databank provided quarterly performance data broken out by fund type, running to September 2008. Due to standard confidentiality constraints, we only have aggregated fund level data, with no information on individual funds or individual property. We focus here on the turn in the market in the second half of 2007, examining the fall in the third quarter of 2007, the second half of 2007 and the fall from peak capital values to September 2008. If there are client effects related to the unit redemption value, the expectation would be that open ended funds will exhibit larger and faster falls in capital values than other fund types. Aggregate analysis at fund level provides some initial support for such a proposition. As Table 1 shows, capital values for open ended funds fell by over 13% in the second half of 2007, 222bp more than the overall movement of funds in the IPD databank. While open ended fund value falls are more muted, relative to other fund types, in the first half of 2008, the fall to September 2008 from the peak value in June 2007 is 25.4% - a greater fall than any other fund type. Property companies have the lowest fall in values from peak to Q3 2008, while closed end funds had the lowest fall in the second half of 2007.

While these results are not inconsistent with a hypothesis of client influence, they by no means constitute proof. First, given the aggregated nature of the data, it is not possible to test whether the differences are statistically significant with any robustness. Second, there are a number of other possible explanations for the difference. Firstly, given the concentration of appraisal service providers, it is possible that certain types of client may be over-represented in particular firms. However, it is notable that the IPD valuation correlation study has not picked up any differences in client base. It is likely that findings will not be biased by differences in concentrations of clients in specific valuation firms. Secondly, the portfolios held by open ended funds may differ from those held by other funds, in terms of sector, geographical distribution, size or quality of building or other attributes that might influence the aggregate return. For example, at Q3 2007, by comparison to insurance companies and pension funds, open ended funds were over-weight in offices and under-weight in retail. Were offices to underperform relative to retail, then the larger falls in value exhibited by open ended funds could simply be a compositional effect. In fact, retail property experienced greater falls in value than office property in the second half of 2007, so this sector level weighting cannot explain the differences observed.

**Table 1 Capital Returns By Client Category**

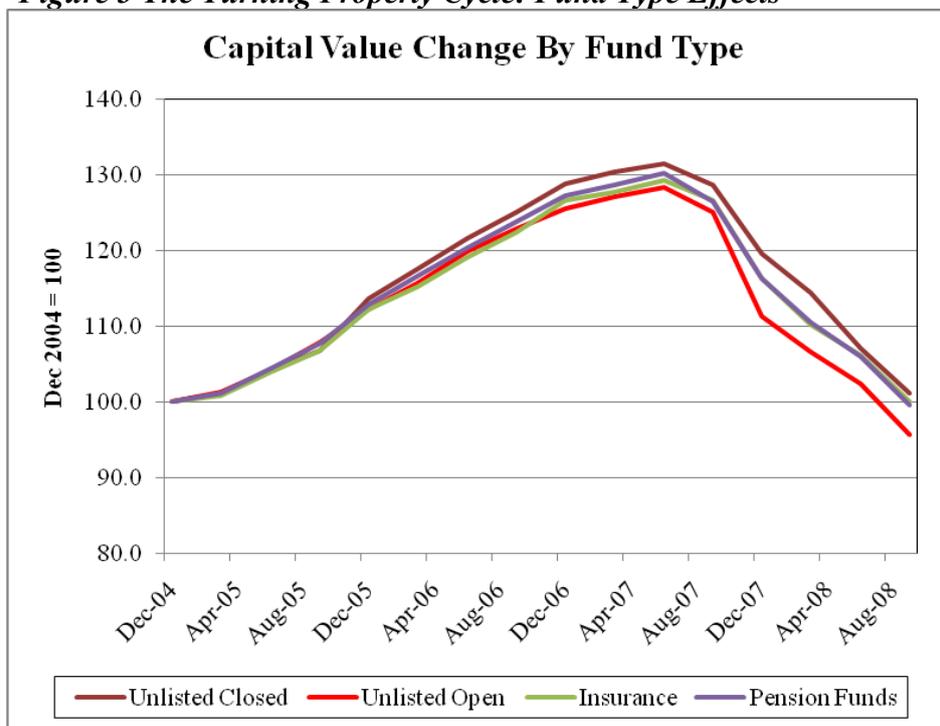
<i>Fund Type</i>	<i>Fall H2 2007</i>	<i>Fall H1 2008</i>	<i>Fall from Peak</i>
Closed Ended Funds	-9.03%	<b>-10.50%</b>	-23.07%
Open Ended Funds	<b>-13.25%</b>	-7.95%	<b>-25.43%</b>
Pension Funds	-9.95%	-8.70%	-22.50%
Insurance Companies	-10.66%	-8.82%	-23.54%
Property Companies	-10.31%	-7.40%	-21.68%
<b>All Funds</b>	<b>-11.03%</b>	<b>-8.86%</b>	<b>-23.84%</b>

*Source: Authors, IPD.*

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**Figure 3 The Turning Property Cycle: Fund Type Effects**



Sources: IPD, authors.

To directly analyse portfolio composition effects, incorporating both sector and geographical impacts, the fund data was analysed using the IPD Portfolio Analysis Service (PAS) categories<sup>3</sup>. These provide eleven segments arranged by sector and geography (for example City of London offices, industrial property in the South East, retail warehouses). We used the PAS quarterly returns and the market capital weight in each fund type to estimate a hypothetical return series for each type of fund – the returns that would apply if there were no differences in valuation movement across fund type. The hypothetical capital return for a fund type *i* at time *t* is given by:

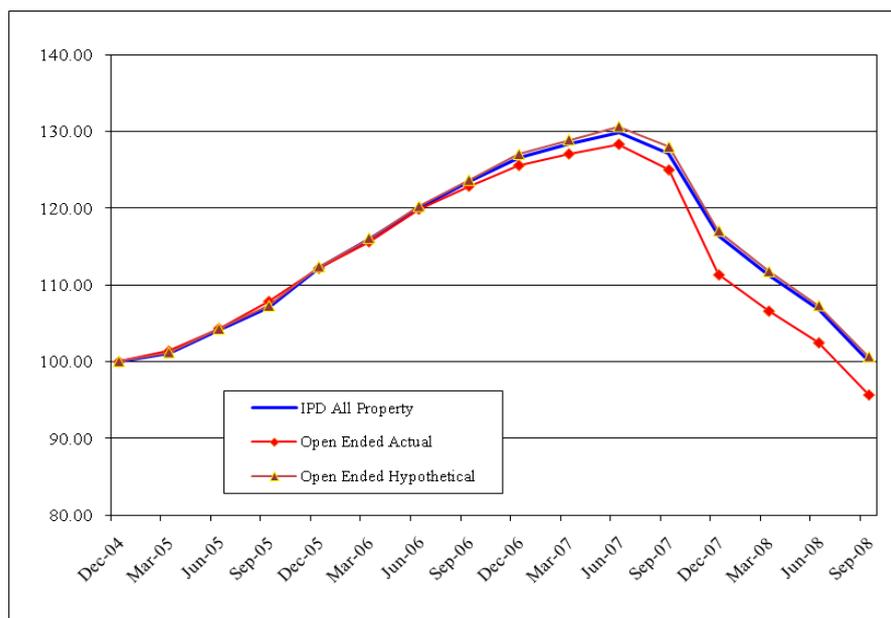
$$\tilde{R}_{it} = \sum_{k=i}^{11} w_{ikt} R_{kt}$$

<sup>3</sup> See Devaney and Lizieri (2005) for an analysis of the homogeneity of PAS categories. Clearly there is considerable individual property variation within each segment. However, there may be sufficient aggregation here to reduce the impacts of such noise.

where  $w_{ikt}$  is the weight of capital for fund type  $I$  in PAS segment  $k$  at time  $t$  and  $R_{kt}$  is the capital growth for PAS segment  $k$  at time  $t$ . This provides a more sensitive benchmark for analysis of differential valuation effects. Owing to the masking of results by IPD for confidentiality reasons, only three fund types can be analysed at this level of detail; open ended funds, pension funds and insurance companies.

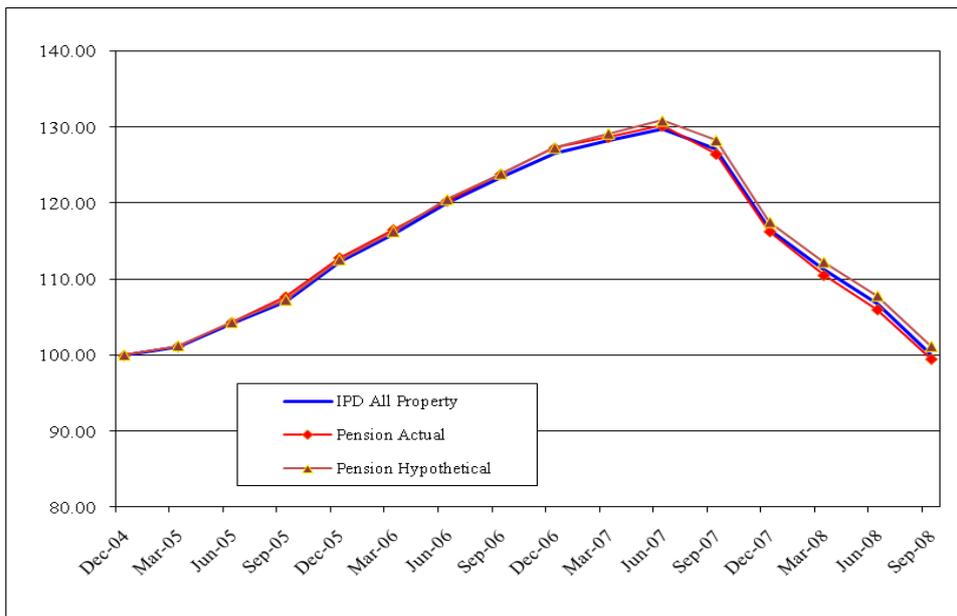
Figure 4 compares hypothetical benchmark and actual open ended fund capital values with the overall IPD capital growth between 2004 and 2008. The overall IPD and hypothetical benchmark indices track closely. However, the *actual* open ended fund performance index both peaks at a lower level and falls away more sharply. From the June 2007 turning point to Q3 2008, the hypothetical benchmark falls 22.9%, while the actual index falls 25.4%. This difference is economically significant: the market capitalisation of the actual index is some £630 million or 3.2% below the hypothetical benchmark capital value. By contrast, the insurance and pension fund actual capital values closely track their hypothetical benchmarks – and the overall market. Figure 5 shows the equivalent growth path for pension funds. Finally Figure 6 estimates “abnormal return” – the difference between hypothetical and actual capital growth by quarter – between Q3 2005 and Q3 2008. It is readily evident that the major downward relative adjustment in open ended fund capital values occurred in the fourth quarter of 2007, where capital value falls were some 2.5% greater than would have been expected given the sector and geographical composition of the portfolio.

**Figure 4: Actual and Hypothetical Benchmark Capital Values, Open Ended Funds**



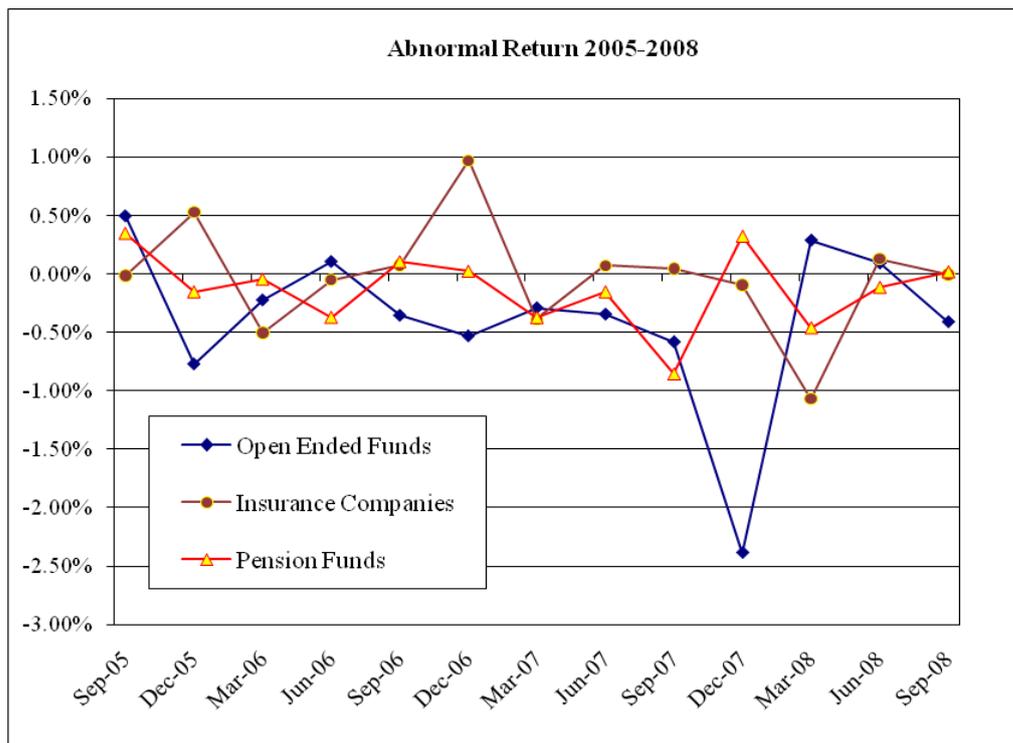
Source: authors, IPD.

**Figure 5: Actual and Hypothetical Benchmark Capital Values, Pension Funds**



Source: authors, IPD.

**Figure 6 “Abnormal Return”: Hypothetical Less Actual Capital Growth 2005-2008**



Source: authors, IPD

The PAS level analysis allows some further exploratory statistical testing. The value falls for individual PAS segments were compared across fund types. For each of the eleven PAS segments, the open ended funds experienced greater value falls than pension funds or insurance companies over the second half of 2007; for eight of the eleven PAS segments,

open ended funds experienced greater falls in value from the June 2007 peak to September 2008. In both cases, a standard chi squared test suggests that there is a statistically significant relationship between fund type and fall in value. For the second half of 2007,  $\chi^2 = 33.3$ ; for the fall to September 2008,  $\chi^2 = 28.9$ . Both are significant at the 0.001 level (the critical value for 4df is 18.46).

As a final test, the fall in capital values for fund-level PAS segments in the second half of 2007 was examined using a regression approach. There are 45 fund level PAS values – the 33 from the open ended funds, pension funds and insurance companies and a further 12 segments from property companies and unlisted closed end funds. The returns from these fund level segments are regressed on a set of characteristic or attribute variables.

$$R_{jkt} = C + \sum \lambda_i A_i + v_{jkt}$$

where  $R_{jkt}$  is the capital return in time period t for PAS type j and fund type k, C is a constant (reflecting overall market movement) and  $A_i$  is the  $i^{\text{th}}$  attribute variable reflecting a characteristic of that fund-type segment. If  $\lambda_i$  is significantly negative, it means that attribute i is associated with a stronger fall in capital values in time period t than would be expected in relation to the overall market and other characteristics. Thus, if open ended funds are associated with sharper falls in market, then one might anticipate a significant negative coefficient.

In addition to fund type, a number of other variables or attributes were tested. These included an estimated initial yield (the rent passing divided by the market capitalisation in December 2006) and mean property value (market capitalisation over number of properties at December 2006) which might act as a proxy for prime (class A) versus secondary property; the growth in value between December 2005 and June 2007, to test whether markets that had grown fastest also fell fastest; and a series of sector and segment dummies to capture property and location factors. The proxies for property quality did not explain variation across segments in capital value falls. Combinations of fund type, sector and segment enabled around half the variation in capital value falls: in all the models, the open ended fund attribute was statistically significantly different from zero and had a negative sign.

A parsimonious version of the regression model is shown in Table 2. Here, open ended funds and retail warehouses are seen to have a significant negative effect on capital growth while closed end funds and “other” property has a weak positive impact on capital growth, with around 50% of the variation in capital growth explained. The strong intercept reflects the high

correlation between segments, as all parts of the market declined across the second half of 2007. The model has been estimated using heteroscedasticity consistent standard errors and covariances; however the attribute nature of the explanatory variables and specification issues do raise some question about robustness. Nonetheless, the results support the idea that open ended fund values were marked down earlier and more sharply than other fund types as the market turned in the second half of 2007.

**Table 2 Regression Output**

<i>Dependent Variable: Capital Value Change, H2 2007</i>			
<i>Variable</i>	<i>Coefficient</i>	<i>T-Statistic</i>	<i>Probability</i>
Constant	-0.099	-29.88	0.000
Open Ended Fund	-0.027	-3.25	0.002
Closed Ended Fund	+0.021	+1.69	0.098
Retail Warehouse	-0.047	-7.59	0.000
“Other” Property Type	+0.045	+1.81	0.078
Adjusted R-Squared	50.4%		
Standard Error	0.025		
F Statistic	12.182	Prob (F)	0.000
<i>N Obs = 45, White robust standard errors and covariance</i>			

## Conclusions

The dramatic change in market sentiment commencing in the second half of 2007 produced speculation within the commercial real estate market that different clients were attempting to influence their appraisers in different ways. In particular, it was recognised that the requirement for open-ended funds to meet redemptions gave them strong incentives to ensure that their asset values were marked down to market. Echoing similar problems in illiquid derivatives and securities markets, appraisers were in a difficult position since the decline in transaction activity meant that they had little evidence of market pricing levels. Further it was suggested that clients without the same incentives to mark to market (and sometimes with counter-incentives) were resisting sharp downward adjustments to asset appraisals without a credible evidence base. This market environment provides an opportunity to investigate the extent to which clients could systematically bias appraisal outcomes.

There is a substantial literature on client influence on appraisals based mainly on experimental or survey research methods. In this paper we have attempted to analyse actual appraisal data rather than rely on these methods. The appraisal formation process is well documented and the opportunity for client influence is inherent in this process. From previous research, it seems clear that clients do have the motivation to influence the result and, in particular, the draft valuation meeting provides ample opportunity. Intrinsic uncertainty in appraisals provides the means. Improvements in the regulation of appraisals in the UK include protocols for recording the outcome of meetings to discuss draft appraisals. However, there is no research or information on whether these are effective in restricting the opportunity to influence. At the time of writing the RICS is consulting on more aggressive monitoring of appraisals and appraisers.

We have, given the limitations of the data imposed by the confidentiality arrangements with IPD, attempted to strip out any influences of any differences sectoral composition of portfolios of different client types. Having done this, we find that appraisal-based capital return of the open ended funds fell further than for other client types during the period June 2007 until December 2008. In the initial stages of the downturn from a lower peak and then maintains this differential through to the end of the analysis period in September 2008.

Before any adjustment for differences in portfolio structure, capital values for open ended funds fell by 2% more than the overall movement of funds in the IPD index. In the first half of 2008, open ended funds do not fall quicker than the valuations for other client types however, the fall to September 2008 from the peak value in June 2007 is 25.4% - a greater fall than any other fund type. These greater falls are mainly based on office values with retail and industrial showing greater similarity between different client groups.

After adjusting for differences between the portfolio structures, the results continue to show a difference for the open ended funds, the results indicate that the open ended funds were valued at 3.2% less than the “hypothetical” portfolio, while insurance companies and pension funds showed no difference to the hypothetical portfolio. Further exploratory tests indicated that the falls in capital values for open ended funds were statistically significantly greater than those of other fund types, even when corrected for portfolio composition effects, with the differences being most marked in the first half of 2007.

The UK valuation industry has received praise for the speed in which it has marked values downwards as the market turned. Nonetheless, open ended fund managers were arguing publicly, even in late 2008, that values still did not reflect or lagged “market reality”. It seems

likely that such funds would have made still more robust comments in draft valuation meetings. Our evidence is consistent with a model in which fund managers with different incentives to mark values down or to mute market falls were affecting valuation practice. The minutes of draft appraisal meetings might constitute a valuable source of evidence in this context, were they available. More robust statistical analysis would strengthen the results but would require either individual fund level or, better, individual property level data over the market cycle.

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