Holding periods and investment performance: Analysing UK office returns 1983-2003

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Abstract

Drawing on a unique database of office properties constructed for Gerald Eve by IPD, this paper examines the holding periods of individual office properties sold between 1983 and 2003. It quantifies the holding periods of sold properties and examines the relationship between the holding period and investment performance.

Across the range of holding periods, excess returns (performance relative to the market) are evenly distributed. There are as many winners as there are losers. The distribution of excess returns over different holding periods is widely spread with the risk of under-performance greater over short holding periods. Over the longer term, excess performance is confined to a narrow range and individual returns are more likely to perform in line with the market as a whole.

Key words: *holding periods; real estate investment; office sector; investment performance.*

1. Introduction

An understanding of performance over different holding periods in assessing property as an investment asset is important. The consideration of holding periods allows investors to profile cash flows over different time horizons and to choose an appropriate benchmark discount rate. Knowledge of holding periods also becomes important when considering the composition of mixed-asset portfolio structures. Portfolio structures based on Markowitz efficient allocations require knowledge of an asset's variance and asset co-variances structures, measures of which should be consistent with investment horizons. These will differ depending on investment objectives and, by employing unrealistic (short) horizons, a (mis)allocation across asset categories could be severely biased. An understanding of what constitutes an appropriate holding period will define the length of period over which the variance and co-variances measures are required.

An understanding of holding periods can help investors address such questions as:

- Is it possible to time the market and outperform benchmarks?
- Should sector weightings be adjusted?
- What are the risks in trading now?
- Has the property delivered all the performance it can?
- How long does it take to recover transaction costs?
- What holding periods should be assumed in purchase appraisals?

In this paper we look at the holding periods of institutional property investments for the office sector. The number of published studies in this area is limited largely due to limitations on the availability of individual property data. In the UK this has become less of an issue as the Investment Property Databank (IPD) now have a considerable back history of performance statistics, thereby enabling research to be undertaken. Our analysis is based on actual transactions prices, that is, purchase and sales prices, net of costs. This database has been used in the present study to provide profiles of holding periods and performance for the office sector over the period 1983-2003. We also look how investor type, lot size, year of sale and regional markets have affected holding periods and investment performance.

2. Literature review

Previously reported results of property investment performance in the UK, typically in portfolio application studies, work at highly aggregated levels for example, at sector (use-type) or spatially aggregated levels such as region or town/city level. In this study we report findings at the *individual* property level. Two previous studies of particular note at the individual property level are those undertaken by Collett, Lizieri and Ward (2003) for the UK and by Fisher and Young (2000) for the US.

An analysis of performance based on actual transactions prices is likely to provide a more accurate assessment of property performance, in both absolute terms and in relative terms against other asset classes. Published property performance figures, which are largely reliant on valuations, will be subject to a so-called 'smoothing bias' that may lead to unreliable estimates of return and volatility. There is an extensive literature looking into the consequences of smoothing, for example, Geltner (1991), Geltner (1993), Brown & Matysiak (1998), Brown & Matysiak (2000) and Geltner et al (2003). It is also well understood that the use of valuation measures understates the volatility of property that can lead to erroneous inferences of risk-adjusted performance measures, showing property to have high risk-adjusted returns. Using transactions prices avoids these issues.

The length of an 'appropriate' holding period is an important consideration when evaluating property investment. It may be that the liability profile defines the holding period. Furthermore, the holding period provides a reference point for a suitable benchmark interest rate with a given maturity date. For real estate the holding period is typically believed to be longer that that for other asset categories due to such factors as illiquidity, transaction costs and 'the institutional characteristics of real estate as an investment asset' (Collett et al, 2003).

In the literature, there is little in the way of formal evidence regarding holding periods. In a US study, Farragher and Kleiman (1996) analyse survey data and report that investment holding periods vary widely. Nineteen per cent of insurance companies, REIT, and pension fund respondents indicated they used a holding period of five years or less and 8% reported using seven years. As for longer-term holding periods, 70% reported using a 10-year holding period and 3% a 15 year holding period. The average period reported by Collet et al (2003) in the UK was eight years.

Fisher and Young (2000) report results on an analysisi of US property data. They employ the National Council of Real Estate Investment Fiduciaries (NCREIF) database over the period 1980-1998, which consisted of some 2,200 sales. Results are reported for absolute return profiles over different holding periods and they find a 'trumpet-shaped' pattern, where the longer the holding period the more similar are individual average returns, being in the range 10%-12%. In this study, we look at returns *relative* to the IPD market benchmark and find a similar excess return pattern. The convergence in returns is accounted for by the reduction in the impact of unsystematic risk factors over time. In the Fisher and Young study the impact of specific factors is very pronounced over short holding periods where there is considerable skew towards low or negative returns. Fisher and Young are unable to account for 'the impetus for a sale', noting that this is an 'open series of questions worthy of further study'. However, they conjecture that properties that have a poor prospects of achieving anticipated return expectations are likey to be sold and the capital redeployed. As always in investment decisions, opportunity cost becomes the prime consideration.

Fisher and Young (2000) in profiling earlier research on holding periods note that interest in this question has 'ebbed and flowed…commensurate with the federal income tax environment'. However, as there are no tax implications for depreciation in holding property, the tax factor was unlikely to have been a consideration for holding periods in their data.

Collet et al (2003) employ the Cox proportional hazards regression model, where the probability of a sale after a number of years after the year of purchase is obtained. This framework can incorporate explanatory variables that can lead to an understanding of what factors condition sales. Using data provided by the Investment Property Databank, their analysis covers some 5,700 properties and extends over the period 1981-1998. Collet et al (2003) note that holding periods are typically longer than 'claimed' by investors, exhibiting differences between property types and over time. The median holding period at the end of their analysis period is seven years. Holding periods had fallen from twelve years in the early 1980s to eight years in the late 1990s. They also note that given the high transactions costs involved in property dealings, property is unlikely to be held for short periods as the costs are effectively amortised over a longer period compared with other asset categories.

What has conditioned the various holding periods? The types of factors associated with the length of actual holding periods include property type, market conditions, and transaction costs,according to Collett et all (2003) and Fisher and Young (2000).

Collet et al (2003) also suggest that properties are unlikely to be sold when a loss on purchase results.

3. Data

To understand holding periods, investors need to be able to analyse the characteristics of individual properties. We have been uniquely able to achieve this through close consultation and assistance from IPD. In accordance with our detailed specification, IPD has created a database on our behalf, which remains within IPD's strict confidentiality rules.

We were able to analyse the records of over 5,000 offices purchased between 1983 and 2003. At the time of writing, we are extending this research to cover both retail and industrial properties up to and including the year 2004, extending the database to over 20,000 properties, including offices. This full release is scheduled for November 2005.

The database only contains properties which had actually been purchased, restricting our study to properties actively traded and eliminating any 'legacy' properties retained in portfolios which may have distorted our results.

We also eliminated the following properties from our study:

- properties with an incomplete data series over the holding period
- properties held for six months or less and not representative of 'ordinary' transactions
- 'extreme' properties in the 1st and 99th percentiles of the raw sample, which may have been affected by incomplete data or illogical chain-linked measures

This left us with a clean database of 4,773 properties to analyse. Of these, 2,976 had been sold whilst 1,797 were retained in the databank. We were also able to combine property records held in both the December and March valued IPD databases, enabling us to capture investor types valuing to alternative year-ends.

The database is separated into descriptive (spot) and performance (chain-linked) measures, which had to be constructed in slightly different ways. Descriptive measures include capital values, valuation type, net investment and monthly status (used to define development properties), initial yields and equivalent yields. Performance measures include total return, capital growth, income return, rental value growth, yield impact and income growth. We also have details on the regional market, property type and investor type for each property record.

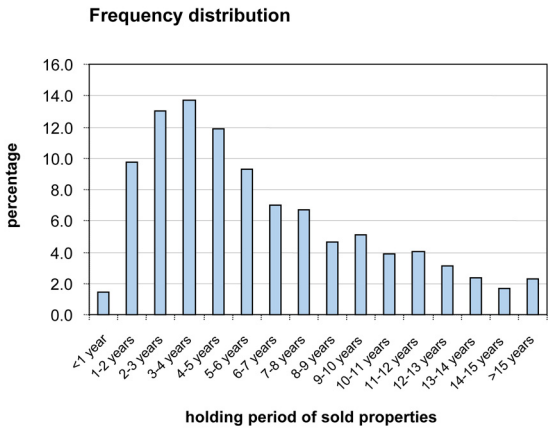
For the purposes of this paper, we will refer throughout to sold properties, being properties with full achieved prices at both purchase and sale over the period of analysis. Holding periods are distorted by the portion of properties which are retained in the portfolio throughout the period of analysis and some of these properties may have been held for a long period of time perhaps as 'crown jewels', 'trophy buildings' or un-saleable assets. We will address this in our forthcoming research, but this paper refers purely to properties bought and sold. Furthermore, our focus is primarily on total rates of return.

4. Holding periods profiles

4.1 Range of holding periods of sold properties

The two Figures below summarise the range of holding periods for sold properties over the period of analysis. The main features we can take from this are:

The median holding period of the entire sample is 60 months compared with the mean of 72 months. The standard deviation of the full sample is 46 months. We are able, therefore, to use the five-year boundary to roughly distinguish between short- and long-term holds.



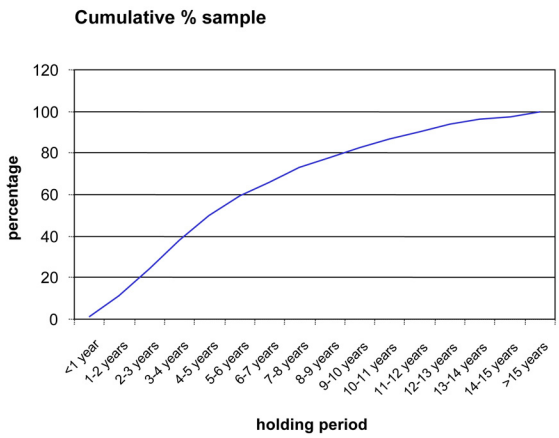


Table 1 shows the distribution of sales used in the analysis. The largest number of properties, 408 (13.7%), were sold after being held for between 3-4 years followed by 388 (13.0%) properties held between 2-3 years, shorter than may have commonly been assumed and certainly shorter than most valuation models would incorporate.

Table 1: Distribution of sales

	<1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	>15
Observations	44	291	388	408	353	277	208	200	139	152	116	120	92	70	49	69
% Total	1.5	9.8	13.0	13.7	11.9	9.3	7.0	6.7	4.7	5.1	3.9	4.0	3.1	2.4	1.6	2.3
% Cumulative	1.5	11.3	24.3	38.0	49.9	59.2	66.2	72.9	77.6	82.7	86.6	90.6	93.7	96.0	97.7	100.0

By the end of year seven, almost two-thirds of all purchases had been sold, with a gradually declining proportion of properties sold in each year thereafter.

A small proportion of properties were sold after being held for more than fifteen years with a higher proportion of properties held for such a long period retained within portfolios.

4.2 Range of holding periods of sold properties by year of sale

We next look at the distribution of these holding periods in greater detail and look to see if there is any relevance for the year of sale. This allows us to establish whether holding periods have changed over the period of analysis, and, whether or not the distribution of holding periods by year of sale is in some way affected by the market conditions of the time

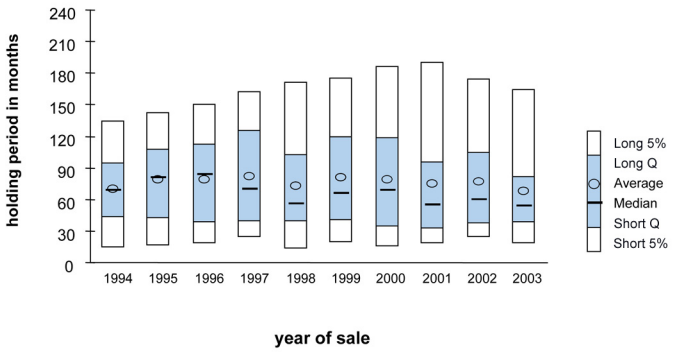
Table 2 shows the distribution of holding periods over the period 1994-2003. There are a number of points to note. The median in recent years has settled at or below 60 months and with the notable exception of 1998, which had a significantly lower median than had been recorded in previous years. High median holding periods are recorded for 1995 and 1996, being 81 months and 84 months respectively.

Table 2: Percentile range of holding periods by year of sale

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Long 1%	139	152	160	172	186	193	206	215	208	220
Long 5%	134	142	150	162	171	175	186	190	174	164
Long 25%	95	108	113	125	103	120	118.5	96	105	82
Median	69	81	84	69.5	56	66	69	55	60	53.5
Short 25%	43	42	38	39	39	40	33.5	32	37	37.5
Short 5%	14	16	18	24	13	19	15	18	24	18
Short 1%	10	10	10	14	10	13	11	12	16	10
Mean	69.7	78.4	79.1	81.8	72.5	81.1	78.5	74.4	76.6	68.1
Std. Dev.	35.6	40.5	42.6	47.0	47.1	50.0	52.6	53.5	49.0	46.3

A significant proportion of properties, usually at least 25% of disposals in any single year, have been held for a period of three years or less, demonstrating a substantial degree of active management. There was a significantly shorter median and 75th percentile holding period for sales in 2003, suggesting a strong liquid market.

The following Figures provide a visual summary of the sales profiles.



As expected, average holding periods exceed median holding periods in the later years of the study, distorted by the longer time horizon properties can be held over. This is why the median holding period should be considered as the appropriate average. The standard deviation is fairly stable at approximately four years for each year of sale.

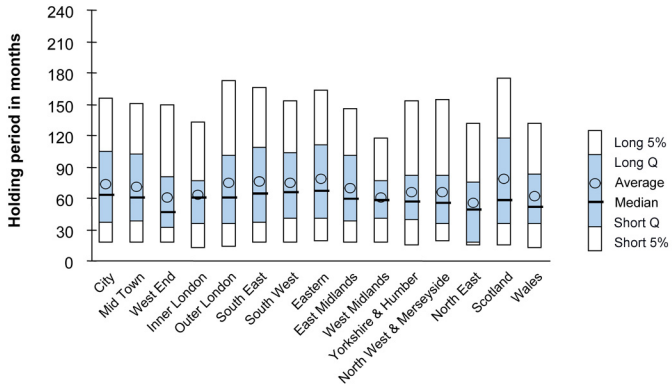
4.3 Range of holding periods of sold properties by region

We drilled down into the regional markets in order to assess whether investors were likely to hold investments for a greater length of time in certain markets, or alternatively, trade in and out of liquid markets at a greater rate. Table 3 shows the distribution of sales by regional location.

Table 3: Percentile range of holding periods by region

	City	Mid Town	West End	Inner London	Outer London	South East	South West	Eastern	East Mids	West Mids	Yorks & Humber	North West & Mersey	North East	Scot	Wales
Long 1%	200	198	175	177	217	194	184	205	185	170	213	200	155	215	167
Long 5%	156	151	149	133	172	166	153	163	145	118	153	154	132	175	132
Long 25%	105	101.5	81	76.5	101	108	104	111	101	76	81.5	82	75	117	83
Median	63	59.5	46	59.5	60	64	65	66	59	57	56	55.5	48	58	51
Short 25%	36	37	31	34	35	36	40	39	37	39	38	35	16	34	35
Short 5%	16	17	16	12	13	17	16	18	17	17	14	18	14	14	12
Short 1%	10	10	10	11	11	11	12	10	16	13	11	13	14	10	11
Mean	73.4	70.2	60.3	62.4	74.4	75.2	73.7	78.5	69.1	60.3	64.9	65.4	55.1	77.4	60.9
Std. Dev.	46.2	43.2	40.8	38.4	49.5	47.1	43.2	48.6	45.8	31.6	42.8	41.7	40.3	53.7	38.9

The following figure provides the visual profile.



This shows that again, in all markets, approximately 25% of all purchases are disposed of after being held for three years or less. In most markets with a reasonable sample size, the median hovers around the 60-month period.

A major exception was the West End market, which had a median holding period of 46 months, well above the comparable City and South East market figures of 63 and 64 months respectively. This was in marked contrast to the previous analysis of properties held at December 2003, where City Offices had been held for a median period of 46 months with West End offices held for 64 months, an almost perfect contrast between properties sold and held in the two major London markets. Further work will investigate whether it is the same type of investors who treat these markets so differently.

Other statistics to note indicate that almost 75% of inner London properties were sold after being held for just over six years and 25% of offices sold in the North East were being held for little more than a year. We need to consider the depth of the London, Southern, North West and Scottish markets which have by far, the largest availability of investment grade stock.

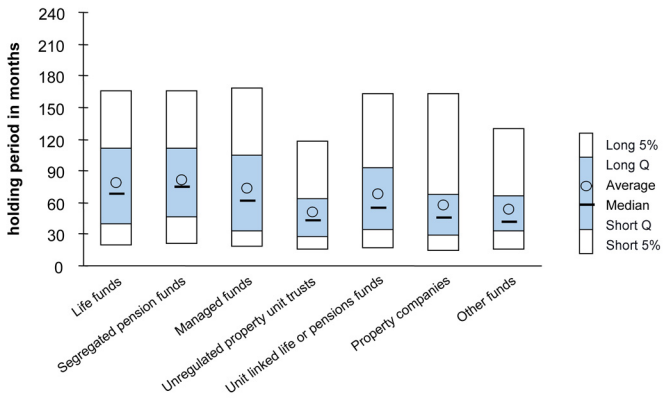
4.4 Range of holding periods of sold properties by fund type

The next stage of the analysis looked at the holding periods recorded by different types of investor to quantify the extent to which investors with different objectives and liabilities held assets over varying lengths of time.

Table 4 and the accompanying figure profile the results, which are fairly predictable. Segregated pension funds and life funds had the longest median holding periods of 75 months and 68 months respectively, reflecting the longer-term liability structures of such organisations. We would expect institutional funds to invest over the longer term, most likely working towards a core strategy and occasionally trading as and when opportunities arise. In contrast, Property Unit Trusts, opportunity funds and property companies aim to trade profitably, move assets on and repeat the process.

Table 4: Percentile range of holding periods by fund type

	Life Funds	Segregated pension funds	Managed funds	Unregulated property unit trusts	Unit linked life or pensions funds	Property companies	Other funds
Long 1%	203	203.5	197	169	204	198	155
Long 5%	166	165.5	169	118	163	163	130
Long 25%	112	111	105	63	93	68	66
Median	68	74.5	61	43	55	45	41
Short 25%	39	45	32	26	33	28	32
Short 5%	18	20.5	17	14	16	13	15
Short 1%	12	10	13	10	10	10	10
Mean	78.0	81.3	73.4	50.1	68.1	57.4	53.0
Std. Dev.	47.8	45.4	47.7	33.2	45.2	42.3	33.4



Property companies and Unregulated Property Unit Trusts (UPUTs), which could generically be referred to as traders, recorded median holding periods of 45 and 43 months respectively, buying and selling over half of their purchases in less than four years.

All investors turned-over a significant percentage of purchases in the first few years, with UPUT's churning over a quarter in just over two years with property companies close behind.

5. Holding periods investment performance analysis

So far, we have described the characteristics of how long individual office properties have been held, and analysed them against various criteria including year of sale, region and investor type. Whilst this may prove interesting in itself (and certainly has implications for valuations), of more interest are the following questions:

- whether investors can obtain good returns by selling at the appropriate time, that is, can they time the market?
- have investors maximised the return they can obtain from an individual asset?
- do investors, in fact, sell at the wrong time and lose money?

For this analysis, we need to calculate equivalent performance measures for all assets covered by the study.

Over the full period of analysis from 1983 to 2003, a property could have been bought in any of the 252 months and may have been held for any time between 1 and 252 months (we have stipulated a minimum of 6 months for this study). Raw performance measures have been indexed to calculate returns over the life-time an asset had been held by an investor. This indexed value was divided by the derived holding period to give a comparable holding period measure of average annual return for each property. This was undertaken at IPD in accordance with its confidentiality constraints.

$$\left(IndexedValue\text{^}\left(\frac{1}{HP} \right) - 1 \right) * 100$$

5.1 Holding period performance measures

The following figure displays the percentile ranges for total returns achieved over the derived holding periods.

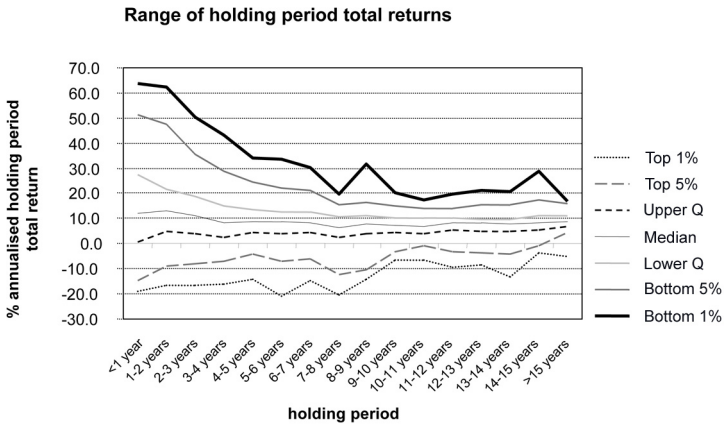


Table 5: Distribution of total returns

	<1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	>15
Top 1%	63.6	62.6	50.5	43.0	33.9	33.9	30.5	19.8	31.9	20.0	17.4	19.8	21.0	20.7	28.6	17.0
Top 5%	51.3	47.7	35.5	28.8	24.6	22.0	21.2	15.6	16.5	15.1	13.8	14.1	15.3	15.3	17.4	15.8
Top 25%	27.5	21.6	18.8	14.9	13.5	12.4	12.8	10.5	11.0	10.3	10.2	10.3	9.8	10.0	11.0	11.1
Median	11.9	13.1	11.3	8.1	8.5	8.7	8.4	6.6	7.7	7.4	6.8	8.1	8.2	7.7	8.2	8.9
Bottom 25%	0.5	4.8	3.8	2.7	4.4	3.9	4.4	2.5	3.8	4.7	4.0	5.3	4.9	4.7	5.6	6.8
Bottom 5%	-14.5	-8.7	-7.9	-7.0	-4.1	-7.2	-6.0	-12.2	-10.3	-3.0	-0.9	-3.3	-3.9	-4.1	-0.6	4.4
Bottom 1%	-19.1	-16.7	-16.7	-15.9	-14.3	-20.9	-14.8	-20.6	-14.4	-6.7	-6.7	-9.5	-8.2	-13.4	-3.9	-5.3
Mean	14.2	14.8	12.2	9.6	9.2	8.4	8.3	5.2	7.2	7.1	6.8	7.5	7.3	6.8	8.3	8.9
Std. Dev.	19.9	15.9	13.0	11.4	8.7	9.4	8.4	8.2	8.4	5.6	5.0	5.1	4.9	5.9	5.6	3.6

Table 5 shows the actual figures. It is seen that there is a higher median of total returns for properties traded within the first three years of purchase, recording double-digit returns in each instance.

Over the longer holding periods, annualised total returns hover around 8%, although there continues to be a significant upside with the top quartile recording over 10% in all but one instance (holding periods of 12-13 years). As expected, the standard deviation of total returns averages around 5.0% for periods of greater than 10 years, much lower than the figures recorded for early trading.

There is a far greater range of investment returns for properties traded in the early years, namely a significant upside which is accompanied by a higher chance of losing a greater amount of money in those initial years. However, the bottom quartile figure is fairly stable over the period of analysis and records a positive return. This suggests that over the longer term, and considering we have seen the downturns of the early 1990's, investors have not actually lost money holding offices. Whether they have earned enough to justify holding them is another question.

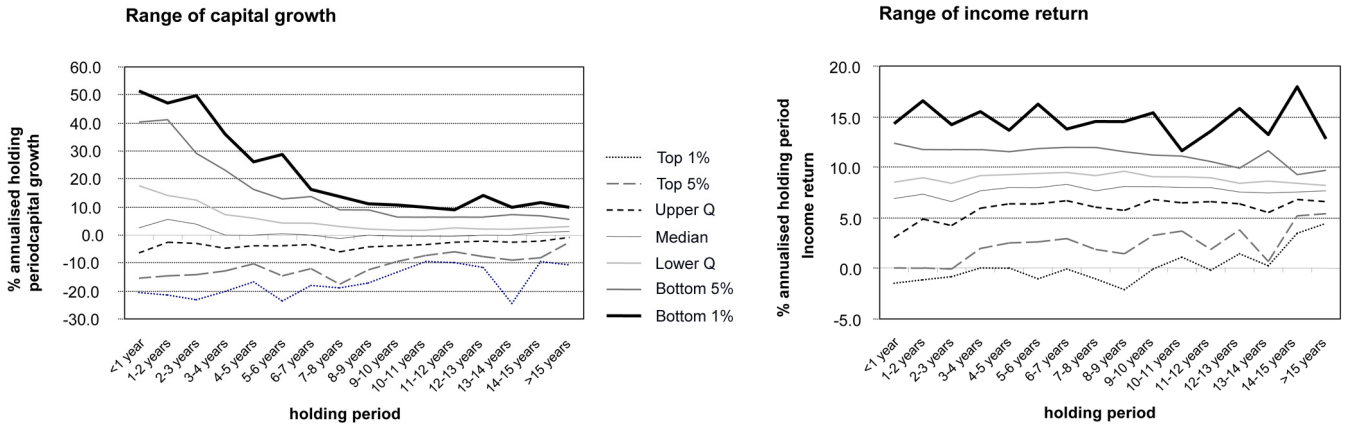
Total returns were decomposed into capital growth and income returns, shown in Tables 6 and 7. We can see that the range of total returns is dominated by capital growth, which recorded an almost identical pattern of performance by holding period with a greater range of performance for shorter holding periods.

Table 6: Distribution of capital returns

	<1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	>15
Top 1%	51.2	47.0	49.7	35.9	26.0	28.9	16.4	13.6	11.0	10.7	9.9	8.9	14.2	9.9	11.6	9.8
Top 5%	40.4	41.1	28.9	23.2	16.4	13.0	13.5	9.0	9.0	6.2	6.6	6.2	6.6	7.1	7.0	5.5
Top 25%	17.6	14.3	12.4	7.2	5.9	4.5	4.3	2.9	2.4	1.7	1.8	2.4	2.1	2.2	2.6	2.9
Median	2.6	5.5	3.7	0.2	0.1	0.5	-0.1	-1.3	0.0	-0.5	-0.6	-0.3	0.0	0.1	0.8	1.3
Bottom 25%	-6.4	-2.7	-3.1	-4.9	-3.9	-3.7	-3.4	-5.9	-4.2	-3.7	-3.2	-2.6	-2.3	-2.5	-2.2	-0.8
Bottom 5%	-15.6	-14.5	-14.2	-12.9	-10.2	-14.5	-12.0	-17.5	-12.2	-9.2	-7.1	-6.1	-7.7	-9.0	-7.9	-2.6
Bottom 1%	-20.6	-21.6	-23.1	-20.1	-16.8	-23.4	-18.2	-19.0	-17.2	-13.2	-9.5	-9.8	-11.5	-24.5	-9.4	-10.5
Mean	6.3	7.2	5.4	2.2	1.5	0.3	0.4	-2.1	-0.8	-1.0	-0.6	-0.1	-0.1	-0.6	0.3	1.3
Std. Dev.	17.6	15.3	13.0	11.2	8.4	8.5	7.9	7.4	6.1	4.6	4.1	3.9	4.3	5.3	4.2	2.9

Table 7: Distribution of income returns

	<1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	>15
Top 1%	14.3	16.5	14.2	15.5	13.7	16.2	13.8	14.5	14.5	15.4	11.7	13.5	15.8	13.3	17.9	12.8
Top 5%	12.4	11.8	11.7	11.7	11.5	11.9	11.9	11.9	11.6	11.2	11.1	10.5	10.0	11.7	9.3	9.6
Top 25%	8.6	8.9	8.5	9.2	9.3	9.4	9.4	9.1	9.6	9.1	9.0	9.0	8.5	8.6	8.4	8.2
Median	6.9	7.3	6.6	7.7	8.0	8.0	8.3	7.7	8.1	8.1	8.0	8.0	7.6	7.4	7.5	7.7
Bottom 25%	3.1	4.8	4.2	6.0	6.3	6.3	6.7	6.1	5.8	6.8	6.5	6.6	6.3	5.5	6.8	6.6
Bottom 5%	0.0	0.0	-0.1	2.0	2.5	2.6	2.9	1.9	1.4	3.2	3.7	1.8	3.8	0.6	5.2	5.4
Bottom 1%	-1.4	-1.1	-0.8	0.0	0.0	-1.1	-0.1	-1.0	-2.1	0.0	1.1	-0.2	1.4	0.3	3.4	4.4
Mean	6.1	6.7	6.2	7.5	7.7	7.8	8.0	7.5	7.5	7.8	7.7	7.5	7.4	7.0	7.7	7.6
Std. Dev.	3.9	3.5	3.6	3.0	2.7	2.9	2.6	2.8	3.0	2.5	2.1	2.6	2.0	2.8	2.1	1.5



We note that median capital growth is positive for properties held over the first few years, but then drops to just above, or even below zero over the longer term. Over the longer term, the top quartile of office performance records growth marginally above 2.0%. Office capital values, therefore, barely keep pace with inflation and therefore, performance is driven by the level of income return achieved. Further work will seek to establish whether prime office properties in liquid markets with significant depth are over-priced and, therefore, whether high yielding assets in peripheral markets may offer greater return prospects.

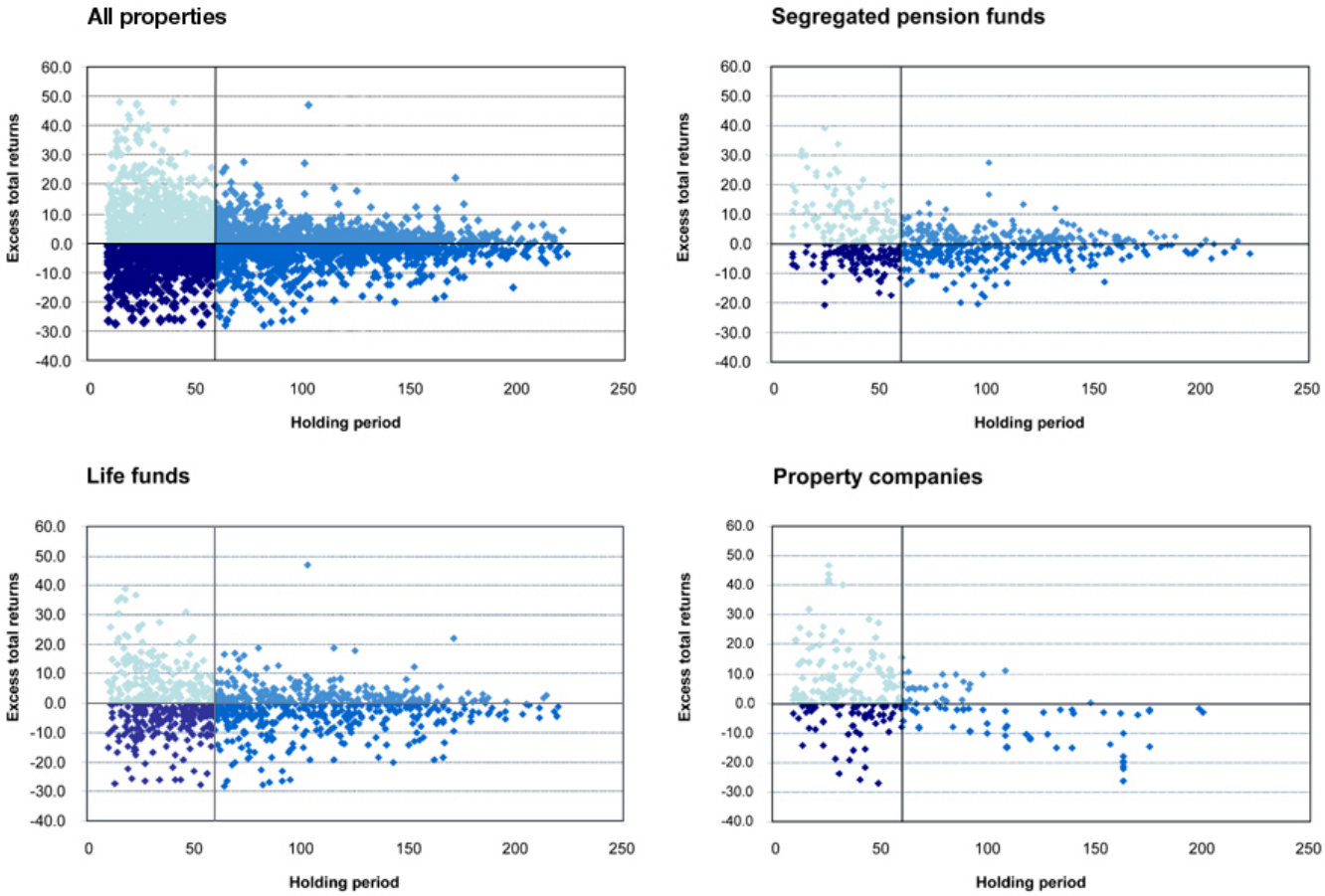
5.2 Excess holding period returns

The previous section described the investment performance of office properties over various periods. However, there was no allowance for the impact of the market cycle or relative performance. To gauge the investment performance of an asset it needs to be compared with an appropriate benchmark.

For the purposes of this paper, we have calculated the performance of all office properties within the IPD All-Fund December Universe, including transactions, developments and other actively managed properties, and calculated the performance of this benchmark over the matching holding period for each individual property (calculating the annualised figure over the relevant period). We subtract this figure from the annualised holding period return of the property, thereby calculating an excess return (or 'alpha') for each property. Positive returns indicate out-performance (or winners) and negative returns under-performance (or losers.)

5.3 Excess holding period returns by investor type

The range of individual excess returns is shown in the following four scatter diagrams. The profiles are for all sold assets and for three investor types; life funds, segregated pension funds and property companies.



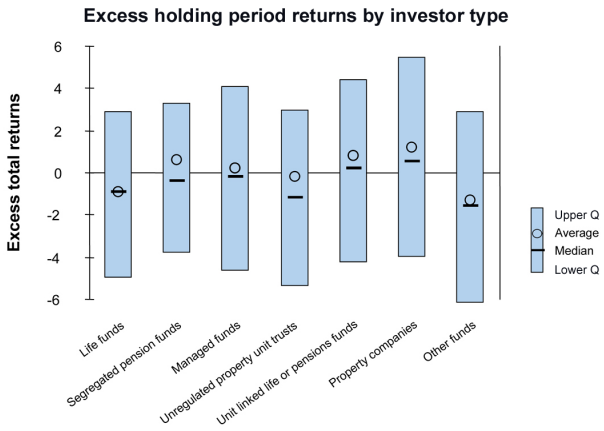
The resulting figures are visually striking. We can see that, by and large, excess returns are evenly distributed and there is as much chance, on average, of picking a loser as a winner.

Investors holding properties for shorter periods of less than five years are exposed to a much greater degree of risk, whereby the chance of making a substantial profit is balanced by the possibility of incurring a significant (relative) loss. Over a longer time-period, as has already been seen through the range of holding period total returns, volatility falls and performance is more closely aligned to the markets as alternate strong and weak performance tends to smooth-out performance.

The patterns between the three investor types presented in the scatter diagrams are significantly different and are summarised in Table 8 and displayed in the accompanying figure.

Table 8: Winners & losers: investor types

	All properties	Life Funds	Segregated pension funds	Property companies
% short term winners	47.8	46.2	50.2	60.7
% short term losers	52.2	53.8	49.8	39.3
% sold within 60 months	50.9	43.1	38.2	71.8
% long term winners	45.6	42.2	45.2	27.8
% long term losers	54.4	57.8	54.8	72.2
% sold after 60 months	49.1	56.9	61.8	28.2



On average, short terms funds, namely unit linked funds and property companies outperform the benchmark. In other words, they select more individual winners than losers when they buy. UPUTs did not out-perform the benchmark.

Property companies especially proved particularly adept at selecting short-term winners – they sold almost 72% of purchases within five years and were able to pick winners for these short-term trades on more than 60% of occasions. However, properties sold after five years by property companies were the exact opposite with almost 72% recording negative excess returns.

Life funds under-performed over both the short and long-term whilst pension funds, perhaps surprisingly, were able to trade successfully over the short term but selected more losers than winners when selling after five years, where they sold almost 62% of all purchases.

In summary, we see a range of performance across investor types who, as shown earlier, hold property for different lengths of time as different investors have different objectives. Life and pension funds, ideally, would prefer to hit the north-easterly quadrant of the scatter diagram. On the other hand, short-term funds and property companies look to trade early and would like to be in the north-west quadrant. Investors should bear this in mind when acquiring an asset.

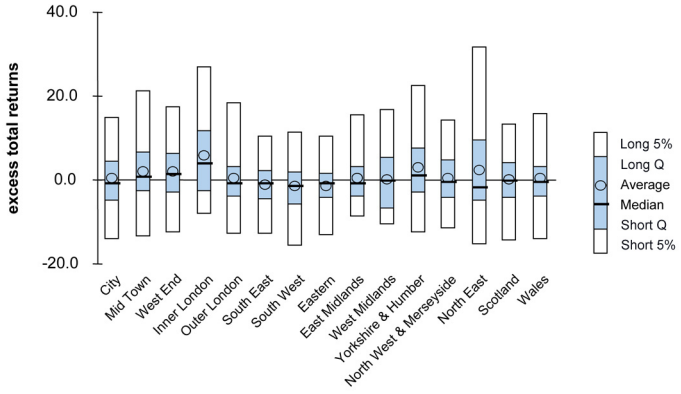
For all investor types, we see a greater range of performance for early trades. This emphasises the point that stock selection is crucial. Going forward, further research will aim to identify how assets perform throughout the holding period, in order to determine whether or not there is an optimal time to sell an asset and if so, establish how often investors get it right.

5.4 Excess holding period returns by region

The analysis looked at the range of excess holding period returns by regional markets, attempting to establish in which markets, on average, investors have been able to select winners or losers before selling. The results are shown in Table 9 and visually displayed in the accompanying figure.

Table 9: Percentile range of excess returns by region

	City	Mid Town	West End	Inner London	Outer London	South East	South West	East	East Mids	West Mids	Yorks & Humber	North West & Mersey	North East	Scotland	Wales
Long 1%	36.9	34.8	30.0	30.7	40.1	22.1	25.9	17.9	30.1	34.1	41.9	24.0	31.7	35.2	30.6
Long 5%	15.0	21.2	17.6	27.0	18.5	10.5	11.4	10.6	15.5	16.7	22.4	14.3	31.6	13.4	15.9
Long 25%	4.6	6.8	6.5	11.8	3.1	2.2	2.0	1.6	3.2	5.5	7.5	4.7	9.4	4.1	3.3
Median	-0.9	0.7	1.3	3.8	-0.8	-0.9	-1.5	-1.1	-0.8	-0.2	0.9	-0.6	-1.8	-0.3	-0.5
Short 25%	-5.2	-3.0	-3.2	-2.9	-4.2	-4.8	-6.1	-4.5	-4.0	-7.1	-3.2	-4.5	-5.2	-4.4	-4.0
Short 5%	-14.3	-13.7	-12.8	-8.4	-13.0	-12.9	-15.9	-13.3	-8.8	-10.7	-12.7	-11.8	-15.6	-14.7	-14.3
Short 1%	-23.6	-27.7	-21.7	-9.4	-18.8	-22.4	-22.9	-21.8	-15.4	-18.6	-20.0	-23.1	-16.9	-22.0	-19.1
Mean	0.2	2.0	1.8	5.6	0.4	-1.2	-1.7	-1.5	0.3	0.1	2.8	0.4	2.2	0.0	0.2
Std. Dev.	10.1	10.5	9.2	10.6	10.0	7.5	8.6	7.1	7.6	9.5	10.8	8.7	13.4	9.2	8.9



It is a major feature of the data that within two of the UK's most heavily researched and liquid office markets - the City of London and South East of England – total returns have, on average, under-performed the other markets.

Across all regional markets, there is a significant level of upside, with top quartiles delivering significant excess returns across the board. This is interesting in that for the London sub-markets investors, on average, select winners in the West End, Mid Town and Inner London markets whilst suffering in the City and Outer London markets.

To a certain extent, although the sample is dominated by the London and South East office markets, reflecting where institutional investors and property companies have placed their money, certain regional markets significantly out-perform others. The Yorkshire & Humber markets recording an excess return of 0.9% compared with the West Midlands equivalent of –0.6%.

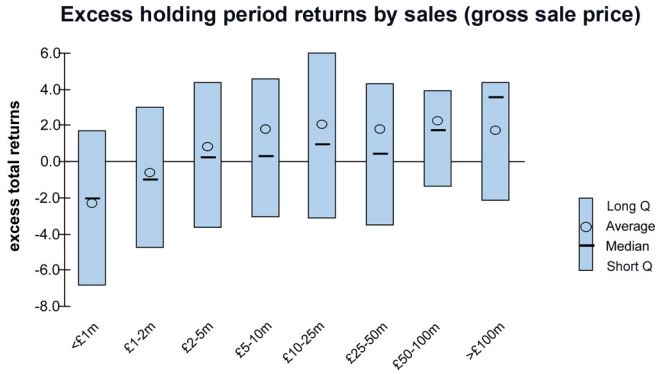
These numbers reflect the performance of regional markets over the period of analysis (strong income returns delivering the strongest performance), and so to understand the range of performance within a regional market, we would need to utilise the performance of that regional market as the benchmark and generate excess returns relative to that. (This was undertaken for the City of London office market, reported in Gerald Eve's initial *Holding Periods* release, March 2005, which is available on request.)

5.5 Excess holding period returns by size

So far we have analysed the individual excess holding period returns by the type of investor who owns the asset or by regional market in which the asset is located. The final set of reported performance statistics is in respect of excess returns relative to lot size. Table 10 shows the figures and the accompanying figure displays the relative profile.

Table 10: Excess holding period returns by size (gross sale price)

	< £1m	£1-2m	£2-5m	£5-10m	£10-25m	£25-50m	£50-100m	>£100m
Long Q	1.7	3.0	4.4	4.6	6.0	4.3	3.9	4.4
Median	-2.1	-1.0	0.2	0.3	0.9	0.4	1.7	3.5
Short Q	-6.9	-4.8	-3.7	-3.1	-3.2	-3.6	-1.4	-2.2
Mean	-2.3	-0.7	0.8	1.8	2.0	1.8	2.2	1.7
Std. Dev.	9.1	8.5	8.7	8.7	9.6	9.3	7.0	3.2



The properties were grouped into the eight size bands and the inter-quartile ranges are shown.

The pattern is clear. 'Small' valued properties have significantly under-performed those valued at £2m and above. These smaller properties are indeed depressing the performance of the sector as a whole, as previously shown. However, investors have over the period bought and sold a great volume of these assets. Larger valued properties have performed particularly well, with those valued at between £50m and £100m recording a median excess return of 1.7% whilst those with a value greater than £100m recorded an equivalent figure of 3.5%.

However, all categories have displayed a significant downside with all bottom quartile ranges recording significant negative excess returns, emphasising, once again, the level of asset specific risk involved in property and that stock selection is the vital factor.

6. Vesting period

Finally, we introduce the concept the 'vesting period', which has applications normally associated with other asset classes. The rationale behind defining a vesting period is that after a property has been purchased unless it achieves a certain level of performance, investors would be locked into an irrecoverable loss and would not be inclined to sell the property. However, once the, however defined, threshold has been reached, the investor is, in theory, neutral on whether to retain or sell that asset. We could denote this as a minimum holding period.

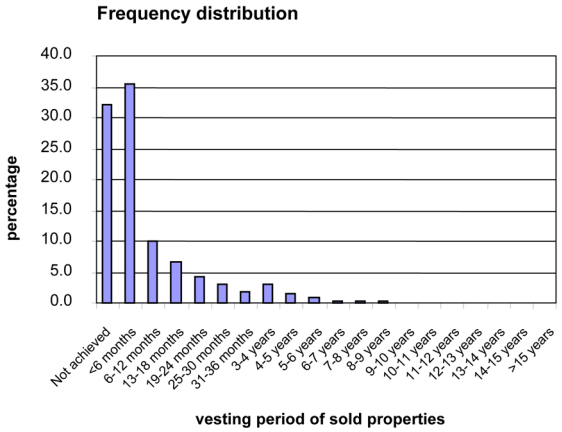
To calculate the vesting period, we have taken into account all of the transactions costs incurred at both purchase and disposal. Unless the property value exceeds the gross purchase price plus sales costs, the investor would be locked into a cash loss and would not sell, unless there was concern over incurring an even higher loss or there was a greater opportunity cost.

We have accounted for the return available in the market over the time the property was held and assume that the purchased property needs to perform in line with the market, or a predefined benchmark, in addition to recovering purchase and sales costs. Unless the purchased property achieves this benchmark growth, in addition to amortising costs, the investor could have achieved a superior return from merely holding existing assets (if, indeed, a property investor could genuinely hold the market!) Using a benchmark also introduces an element of risk and the time value of money into the calculation.

To calculate the benchmark, we grossed up the full purchase price by the market capital value growth as defined on a regional basis, before adding on 1.5% for sales costs. This benchmark was compared with the actual capital growth achieved by individual properties. Once the actual capital growth (adjusting for any capital expenditure) exceeded the benchmark growth, the vesting value had been reached and the vesting period, the length of time since purchase, could be calculated. If the vesting value was not reached, the property had either:

1. Not recovered all initial purchase costs
2. Would still make a loss with incurring sales costs

In this case, the investor could have achieved a higher return by not purchasing in the first place, that is, a buy and hold investment. Either way, the investor was locked into a loss. The following figure shows the distribution of vesting periods:



We see that in the case of almost one third of office purchases, the vesting value has not been achieved. This suggests that in many instances, investors selected the wrong assets and would have been better in 'buying' the market return-something that is increasingly an option with the growth of index derivatives.

The following should be noted. The high proportion of vesting values achieved in the immediate months of the holding period, with 35.4% achieved within six months and a cumulative 56.3% over the first two years of being held. This suggests that if the property is going to achieve the vesting period, it is likely to do it fairly soon after being purchased, that is, investors will know fairly early whether they have made a good investment.

The technique does not imply that all properties achieving the vesting value out-perform the market, however, it does imply that at some particular point over the holding period, an asset has achieved a level of performance which had recovered costs and performed in line with a pre-determined benchmark.

7. Conclusions and further work

The results presented in this paper provide initial analyses for a unique database of transacted office properties. The results bring out some interesting features on performance over different holding periods. The distribution of excess returns indicates that property specific risk is much in evidence in determining performance over short-holding periods and over the longer term there is a reversion towards performance in line with market averages. The lesson here is that, investors who hold properties which have recorded a strong performance over the first five years, may consider the possibility to take profits, as they are unlikely to sustain out-performance over the longer term. Groups of investors, particularly property companies, have proved adept in recording positive short-term excess returns.

When costs are taken into account and performance is not adequate to recover these, the investor will experience a loss with the implication that this was a bad purchase. Depending on the point of purchase in the market cycle, the vesting period, the minimum holding period, required to break even may not be achieved. Out of 2,972 office sales 957 did not achieve this benchmark level of performance.

Future work will be extended to include retail and industrial sectors in order to look at differences and similarities across property types. It will also look the relationship between holding periods, rates of return and property characteristics such as, for example, location, property type and property market conditions.

The performance of transacted properties needs to be put into an overall portfolio context. How have transactions impacted on overall performance? Ongoing work is addressing this question.

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