Have property funds performed?

A ULI Europe Policy & Practice Committee report

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Contents

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Introduction

Following the 2010 ULI/PFR Report "Have Property Funds Performed?"[1], the follow-on study has been sponsored by APG, AREA, CPPIB and GIC.

In June 2012, ULI held a Funds Symposium at AREA Property Partners in London to review the 2012 results with leading Fund Managers, Investors and Academics. This document is an executive summary of the research presented by ULI Academic Fellow, Professor Andrew Baum, and of the roundtable discussion afterwards. All quotations are anonymous.

Summary

The 2010 ULI/PFR Report "Have Property Funds Performed?" found disappointing performance across unlisted property funds of all types over the 2003-2009 period, characterised by negative alpha and excessively high betas. It was not clear, however, whether the damage was being done by leverage or by poor or high risk property selection. In the 2012 study we have been able to separate these effects, with more primary fund data available over a longer period (2001-2011).

The key questions addressed in this research are:

- Have core funds delivered? How well have they tracked the direct property index? Have they out-performed?
- Have value-added and opportunity funds delivered higher returns?
- How much of the relative performance can be explained by leverage? How much by property risk? How much by skill?

In summary, the impact of leverage – especially in the 2008-9 period – was so punitive that the return delivered by any good work being done by managers was likely to have been obliterated. This affected opportunity funds in particular, despite some evidence of highly positive alphas being achieved by a group of opportunity fund managers and (with the leverage impact corrected for) across the value-added sample.

Results for the core funds sample were more encouraging than reported in the first study with a market beta of close to 1, indicating that the property risk is similar to that of the benchmark, and a lower tracking error of around 1.5-2%. However, core funds on average under-performed the market by -0.72% p.a. (negative alpha), which can be partly explained by the impact of leverage. It is a concern that core funds under-performed the benchmark during each of the past three years.

Value-added and opportunity funds were found to have delivered higher returns during a rising market (2001-2006) but significantly under-performed core funds during the period of poor market returns (2007-2011). Over the whole analysis period (2001-2011), value-added funds delivered the highest returns. On a risk-adjusted basis, opportunity funds ranked last in all three time periods, with core and value-added funds delivering similar risk-adjusted returns.

The analysis showed that as expected value-added funds took on higher property risk than core funds with a market beta of 1.30, while opportunity funds had the highest property risk exposure with a market beta of 2.05. A single beta model which combines the impact of property risk and leverage identified significant under-performance in all three fund styles. However, when leverage is included as a separate variable in a two beta model, the level of under/over-performance becomes statistically insignificant in the core and opportunity fund sample, suggesting that on average fund managers neither added nor destroyed value and that it is the use of debt that has driven the significant levels of under-performance. In the value-added sample there is evidence that on average fund managers have added value, but again leverage has had a negative impact on returns.

When individual fund alphas are analysed, it is the opportunity fund sample that produced the highest significant positive alphas net of the leverage effect, with some managers able to deliver value at the asset level in excess of 40% p.a.

[1] Urban Land Institute/Property Funds Research (2010): Have Property Funds Performed? London, Urban Land Institute

1. Background

Since the mid 1990s there has been significant growth in the aggregate size and number of global property funds, largely fuelled by the investment of significant capital from institutional investors plus the ready availability of debt. These funds fall into three broad types: the 'core' universe, the 'value-added' universe and the 'opportunity' universe.

As was also the case in the private equity market[2], this rapid growth saw fund managers launching new funds and raising more capital before they were able to show clear evidence that their funds had provided historic out-performance against market benchmarks or had achieved their set 'absolute' performance objectives. This is a significant problem for investors – and also for the better managers. Clearly, some fund management houses have been rewarded with performance fees which they may or may not have earned, damaging the reputation of the industry as a whole.

In a more challenging, mature, and increasingly transparent market, this is unlikely to continue to be the case as it is increasingly possible to assemble performance records. Investors are becoming more assertive, and regulations/directives are playing an increasingly important role in the need for disclosure and accountability. The question of how manager performance is rewarded is therefore a key issue for the industry: for example, do performance-related fees adequately distinguish between risk taking (higher beta) and genuine skill/out-performance (alpha)?

The 2010 ULI/PFR Report "Have Property Funds Performed? found disappointing performance across unlisted property funds of all types over the 2003-2009 period, characterised by negative alpha and excessively high betas. It was not clear, however, whether the damage was being done by leverage or by poor or high risk property selection. Following the 2010 Report, AREA with GIC, APG and CPPIB sponsored a repeat study. In this 2012 study we have been able to separate these effects, with more primary fund data available over a longer period (2001-2011).

The 2012 research aims to address some of the following issues.

- Have core funds delivered? How well have they tracked the direct property index? Have they out-performed?
- Have value-added and opportunity funds delivered higher returns?
- How much of the relative performance can be explained by leverage? How much by property risk? How much by skill?

[2] Morris, P. (2010): Private Equity, Public Loss, London, CSFI

2. What are the characteristics of the investment styles?

Funds are differentiated by risk type. Some industry participants have distinguished funds by using four styles - core, core-plus, value-added and opportunity. For simplicity, this research follows the INREV and Property Funds Research (PFR) standard of three styles: core, value-added and opportunity.

- Core funds are low-risk funds with no or low gearing, often open-ended, and should arguably aim to closely replicate returns of an index of direct real estate within a tightly defined geography. Core-plus funds are included in this style and invest in similar assets to core funds, but adopt a more active management style.
- Value-added funds have some potential for value-enhancement through re-letting empty space, refurbishment work, or other active asset management activity.
- Opportunity funds are higher risk, higher target return funds with high levels of gearing, driven by a bottom-up deal-by-deal approach within a broadly defined geography.

Figure 1 illustrates where the various fund styles are positioned along the risk/return profile of the security market line.

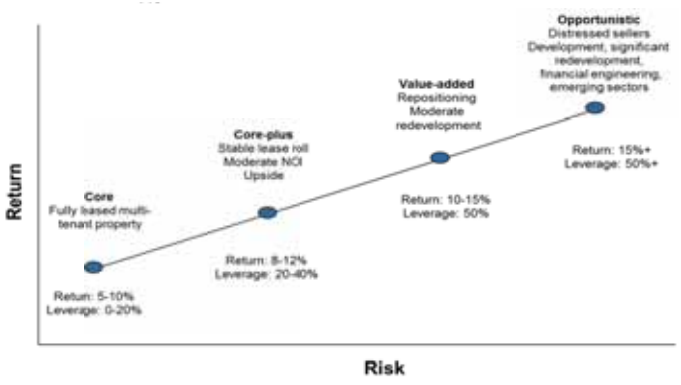


Figure 1: Fund investment style characteristics
Source: CBRE Investors; Baum and Hartzell[3]

Core funds may be distinguished from value-added and opportunity funds by (i) risk appetite and (ii) their often-expressed objective to deliver returns relative to a market benchmark, especially in the UK and other developed markets with good, well-accepted benchmarks. However, although various bodies try to do so, it is difficult to prescribe a fund style by reference to hard criteria. As a result, the style ascribed to a fund will more often than not be defined by the fund manager, and this can lead to inconsistency in the classification of funds. This research adopts the INREV (in full) definitions for fund styles.

[3] Baum, A., and Hartzell, D. (2012): Global Property Investment, Wiley Blackwell

The new INREV style guidelines classify funds by reference to four variables, (i) maximum leverage, (ii) development exposure, (iii) duration indicator (income distribution), and (iv) non-income producing assets. The relative defining boundaries for each variable are detailed in table 1 and these boundaries were used where the relevant information was available.

Table 1: INREV fund style classification

	Core	Core*	Value added	Opportunity
Target of Non-income producing investments (%GAV)	≤15%		>15 to ≤40%	>40%
Target of (re)development exposure (%GAV)	≤5%		>5% to ≤25%	>25%
Target return derived from income	≤60%		N/A	N/A
Maximum loan-to-value (%GAV)	≤40%	>40%	>40% to ≤60%	>60%

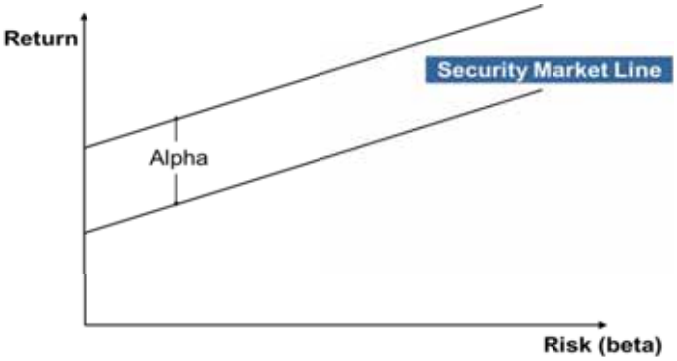
Source: INREV, 2012
*Please note that the INREV fund classification allows for core funds to have greater than 40% maximum loan-to-value if it satisfies the additional three criteria.

3. How can funds out-perform? The role of alpha and beta

When analysing the performance of a fund, a key issue that needs to be addressed is whether fund returns have been driven through risk-taking activities (beta) or manager skill (alpha). This is illustrated in figure 2, where alpha represents out-performance of the market (represented by the security market line) given the level of associated risk.

As many fund managers receive a performance fee for the returns achieved by their funds, it should be important for investors to ascertain whether fund managers have received these fees for returns generated by risk taking (with the investors' money), or whether they have been rewarded for their skill by consistently delivering higher returns taking account of risk (risk-adjusted return).

Figure 2: Alpha and beta



Source: Baum, 2009[4]

Fund managers can exercise skill (alpha) when structuring their funds, both from top-down portfolio structure, and from property or stock decisions. Fund structure, largely defined by leverage and fee structure, also has an impact[5].

Fund structuring skill requires some provable excellence in arranging the debt that is put in place. Out-performance at the portfolio structure level is delivered by managers who, all things being equal, allocate relatively more to out-performing sectors or geographies. This implies that the manager has a forecasting capability which is the source of their out-performance.

Out-performance at the stock level is derived from ongoing asset management activities, including property management and buying and selling properties at good prices can also generate stock alpha. Managers who are able to purchase assets at discounts, recognise latent value not reflected in valuations, negotiate attractive prices and execute more complex deals and face less competitive pricing will, all things being equal, out-perform risk-adjusted benchmarks.

[4] Baum, A. (2009): Commercial Real Estate Investment, a Strategic Approach, Elsevier

[5] Baum, A., and Farrelly, K (2009): Sources of Alpha and Beta in Property Funds, Journal of European Real Estate Research

Property investment risk (beta), like alpha, can also be broadly separated into fund, portfolio and stock beta. Fund beta arises from the amount of leverage employed. Portfolio beta arises from allocations to more volatile sectors, such as CBD office markets in domestic mandates; exposure to more risky geographies, such as emerging markets, are a source of additional beta.

Stock level beta can be confusing as it is based on a continuum of asset level risk ranging from low beta ground rent investments, to higher beta assets with leasing risk and high vacancy, to high beta speculative developments.

In this research, we attempt to isolate and measure alpha and beta effects across the three different fund samples, following the above classification.

4. Data and method

Improvements have been made to the research methodology and data used in the 2010 analysis. The time period covered has been expanded to cover the years 2001 to 2011 (effectively the longest period available for which sufficient funds have been in existence). This time period provides a data sample in real estate markets for which returns have been both very high and very low, providing an insight into how the different investment styles behaved during different periods of the market cycle.

The core fund data was made up of the IPD pooled fund indices with PFR collecting primary data on value-added and opportunity funds. The total fund sample was 169, with 70 core funds, 38 value-added funds and 61 opportunity funds. The sample is predominatly UK and European focused funds. The analysis was conducted on net of fee annual total returns. The sample includes funds that target a variety of sectors including diversified, residential, retail, office and industrial. Direct property return data was sourced from the IPD multi-national index and the indexes of the constitutent countries/regions. The IPD direct market returns for each fund style have been weighted to reflect the underlying investment universe that the fund sample invests in so that the underlying IPD market returns are different for for each style.

This report uses panel data regression analysis to explain the performance of real estate funds by reference to two variables, market return and debt. With panel data each observation has two dimensions (i) cross-sectional (i.e. the individual fund) and (ii) time (i.e. year). Therefore, the regression analysis is run using individual fund observations and calculates a sample alpha and beta co-efficient that best represents the sample. This means that for a sample of 20 funds covering a 10 year period, the co-efficient is based on 200 observations rather than just 10 observations as would be the case in our previous study. Another benefit is that panel data is more robust at dealing with unbalanced data sets (i.e. the number and time periods of observations for each fund are not the same).

This study uses two regression models to analyse the impact of market return and debt on fund returns. Firstly, a single beta model will be used to reveal the return expected from a fund given the market return. This is formally expressed as follows:

$$y = a + b_1x_1$$

Where:

y = fund total return
a = alpha (level of over/under performance)
b_1 = direct market beta co-efficient (relative risk)
x_1 = total return on the direct market

Another advantage of panel data over a basic regression is that explanatory variables that influence fund returns (outside those incorporated in the model) will come through in the alpha co-efficient. A relatively crude single beta model may allow more spill over of return effects into the alpha estimate because property risk and leverage effects may not get fully reflected in the beta.

To deal with this issue, and to test the relative impacts of property risk and leverage, we have added gearing as a separate variable in a two beta model that reveals the return expected from a typical fund given its leverage and the market return. This is formally expressed as follows:

$$y = a + b_1x_1 + b_2x_2$$

Where:

y = fund total return
a = alpha (level of over/under performance)
b_1 = direct market beta co-efficient (relative risk)
x_1 = total return on the direct market
b_2 = leverage beta co-efficient (sensitivity to gearing)
x_2 = fund debt as a % of GAV

5. Results: risk, alpha and beta

This section will detail the results of both single beta and two-beta analyses for core, value-added and opportunity fund samples.

Core funds

Figure 3: Annual core fund total return

Source: IPD, PFR, 2012

Figure 3 shows the average annual fund return against the average annual market return. The core fund returns appear encouraging, in that the average annual fund returns seemingly track the underlying direct market index. However, a worrying trend is that core funds have under-performed the market in the past three years (2009-2011). One reason for this could be the result of core funds selling in distressed markets and buying over-priced prime products at the peak of the market, particularly as the sample has a high number of open-ended funds that would have been under pressure to spend high inflows of money in 2009 and 2010.

Table 2: Core funds regression results

	Alpha	β_1	β_2*	t-stat (α)	t-stat (β_1)	t-stat (β_2)	R^2
Single beta	-0.72	0.98	-	-2.02	34.19	-	72%
Two beta	-0.07	0.95	-0.11	-0.15	29.15	-3.66	72%

Source: PFR, IPD, 2012

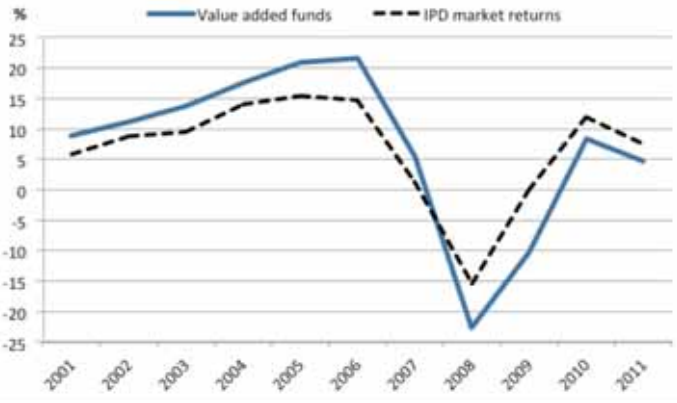
The results of the single beta regression analysis indicates that on average core funds have under-performed by -0.72% p.a., producing a significantly negative alpha, but with a highly significant market beta of 0.98, suggesting that the core funds on average exhibit nearly identical market risk to the benchmark. Given that many of the funds in the core fund sample contribute data to the IPD index this could well explain the close relationship in market returns.

When the gearing effect is separated out in the two-beta model, the market beta falls slightly to 0.95 and gearing is found to have had a negative impact on returns. A gearing beta of -0.11 indicates that, on average, every 10% of debt in a fund (where debt is expressed as % of GAV) has reduced fund returns by 1.1%. Interestingly, the core fund alpha becomes statistically insignificant at the 95% level, suggesting that managers on average neither add nor destroy value once the impact of gearing has been taken into account. Hence it appears that leverage was the main source of under-performance over the period.

The negative gearing impact reflects the strong effect of debt in a falling market, in particular 2008/09.

Value-added funds

Figure 4: Value-added fund returns



Source: IPD, PFR, 2012

A visual comparison of the average annual fund returns against market returns shows that value-added funds out-performed the market from 2001-2007 but under-performed the market from 2008-2011. The range of relative returns against the direct market are wider than was evident in the core fund sample, which is as expected given that value-added funds should adopt a higher risk strategy.

Table 3: Value-added fund regression results

	Alpha	β_1	β_2*	t-stat (α)	t-stat (β_1)	t-stat (β_2)	R^2
Single beta	-2.88	1.35	-	-3.84	21.85	-	60%
Two beta	4.42	1.30	-0.20	3.13	21.21	-6.12	65%

Source: PFR, 2012

The single beta model indicates that value-added funds take on more risk than core funds at the asset level with a market beta of 1.35. The alpha suggests that value-added funds have under-performed on average by -2.88% p.a. (a significant negative alpha) on a risk-adjusted basis.

When gearing is included as a variable the market beta falls to 1.30, confirming that value-added funds take on more risk at the property level than core funds, and that gearing has again had a negative impact on annual returns with a leverage beta of -0.20. This means that every 10% of leverage reduces fund returns by 2.0% p.a., and is a higher rate than found in the core funds, suggesting that higher levels of debt have significantly added to the risk of the funds. Interestingly, the level of alpha now becomes positive (and significant) suggesting that managers have on average been able to add 4.42% p.a. to fund performance at the property level and that leverage is the source of all of the under-performance that is exposed in the single beta model.

Opportunity funds

Figure 5: Opportunity fund returns

Source: PFR, IPD, 2012

The opportunity fund returns show characteristics that we would expect of funds that adopt higher risk strategies than the core and value-added fund samples. In particular, in years of abnormal market returns (i.e. 2005/06 and 2008/09) the relative returns are significantly higher/lower than in the core and value-added funds. This reflects the relative risks of the fund styles with opportunity funds investing in higher risk assets and using high levels of debt to increase risk.

Table 4: Opportunity fund regression results

	Alpha	β_1	β_2*	t-stat (α)	t-stat (β_1)	t-stat (β_2)	R^2
Single beta	-10.29	2.11	-	-5.68	14.09	-	59%
Two beta	2.05	2.05	-0.22	0.29	11.27	-2.00	45%

Source: PFR, 2012

The single beta model shows a significant market beta of 2.11, considerably higher than the 0.98 of core funds and 1.35 of value-added funds. Significantly, the analysis is showing that opportunity funds have under-performed by 10.29% p.a. (a significant and very large negative alpha) on a risk-adjusted basis. This is a far higher number than one would expect to find.

When leverage is incorporated in the model the market beta falls slightly and gearing has again had a negative impact, reducing returns by 2.2% for every 10% of leverage in the fund (taking off 13.2% p.a. for a 60% leveraged fund!). Interestingly, the alpha becomes statistically insignificant, suggesting that on a risk-adjusted basis opportunity funds have on average neither added nor destroyed value at the property level. These results strongly suggest that the significantly high level of under-performance has been the result of leverage.

6. Results: fund returns

A time-series of annual returns was constructed using the average annual total return for each style group. This was then used in a risk and return analysis for each fund style over three periods, as follows: (1) the whole analysis period (2001-2011); (2) a period of positive direct market returns (2001-2006); and (3) a period of predominantly negative market returns (2007-2011).

Table 5 shows the relative time-weighted rates of return (TWRR). A simple comparison shows that low risk core funds ranked last during the period of positive direct market returns (2001-2006) and best in years of poor market returns (2007-2011). Conversely, opportunity funds ranked highest during 2001-2006 but significantly under-performed both core and value-added funds during 2007-2011.

Table 5: Time-weighted rate of return

TWRR	2001-2011	2001-2006	2007-2011
Core	5.93	12.49	-1.43
Value-added	6.37	15.53	-3.67
Opportunity	4.14	17.68	-10.06

Source: PFR, 2012

Over the whole analysis period, opportunity funds under-performed both value-added and core funds with value-added ranked first. This is almost certainly explained by the enormous and asymmetric impact of high levels of debt utilised in these funds in 2008 and 2009.

Using standard deviation as a measure of risk, opportunity funds exhibited the highest level of risk in all three analysis periods. Interestingly, the spread between opportunity and value-added fund styles is substantially wider than that of value-added against core funds.

Table 6: Risk by fund style

Std.Dev	2001-2011	2001-2006	2007-2011
Core	9.99	4.28	10.06
Value-added	13.31	5.22	13.23
Opportunity	22.72	7.34	28.74

Source: PFR, 2012

Periods of positive market returns produced lower levels of volatility in all three fund styles but the spread of returns only significantly increased in the opportunity fund sample in years of poor returns (2007-2011).

To examine which fund style delivered the highest risk-adjusted returns, two measures have been used. First, the co-efficient of variation (TWRR divided by the standard deviation) is shown in table 7. Second, the tracking error relative to the direct market benchmark is shown in table 8.

Table 7: Risk-adjusted returns

CV	2001-2011	2001-2006	2007-2011
Core	0.59	2.92	-0.14
Value-added	0.48	2.97	-0.28
Opportunity	0.18	2.41	-0.35

Source: PFR, 2012

On a risk-adjusted basis opportunity funds ranked last in all three analysis periods, with core and value-added funds compensating investors at similar rates per unit of risk in all by the 2007-2011 period.

Table 8: Tracking errors

Tracking error	2001-2011	2001-2006	2007-2011
Core	1.56	0.52	1.78
Value-added	5.62	1.66	5.41
Opportunity	14.13	3.55	18.20

Source: PFR, 2012

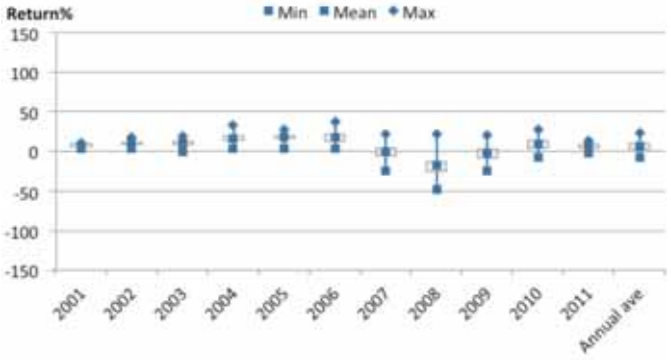
A comparison of tracking errors shows that there is a significant difference in the risk of opportunity funds and the risk of core and value-added funds. For core and value-added funds there is little difference between the tracking errors during periods of predominantly negative returns (2007-2011) compared to the whole analysis period (2001-2011), whereas the tracking error in the opportunity fund sample significantly increased during 2007-2011. Where direct market returns were positive (2001-2006) the tracking error significantly reduces for all three fund styles.

7. Selection risk

Selecting the right fund and fund manager is clearly critical to investors. As we can see from the spread of returns, there are considerable differences in the performance of funds not only from year to year but also across managers within each year.

As would be expected, the spread of core fund returns within each year is lower than that in value-added and opportunity funds. However, the spread of returns widens considerably during 2007-2009.

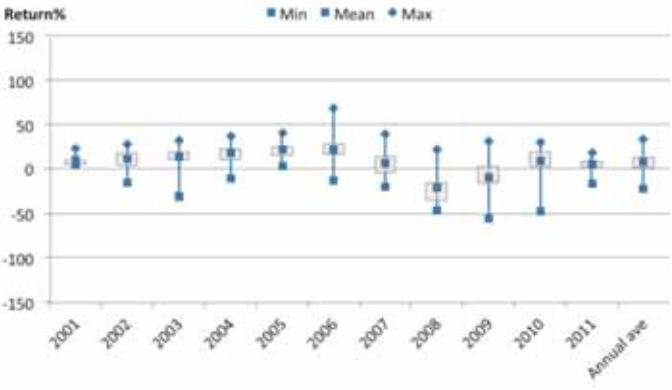
Figure 6: Core fund spread of returns



Source: IPD, PFR, 2012

The value-added fund sample has wider spreads than are found in the core fund sample but considerably narrower spreads than in the opportunity fund sample. This reinforces the trends that were evident in the regression and total return analyses where the difference in risk between value-added and opportunity is greater than the difference in risk between core and value-added funds.

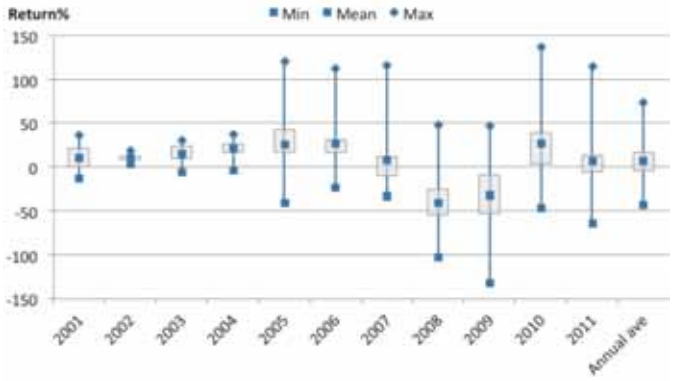
Figure 7: Value-added fund spread of returns



Source: IPD, PFR, 2012

Given the higher level of risk at the asset level and higher leverage employed, it is not surprising that opportunity funds have the widest spread of annual returns. This trend may also be a reflection of the different stages of the investment cycle that the different opportunity funds are in, reflecting a J-curve effect, and perhaps greater disparity in their valuation policies (see Section 8).

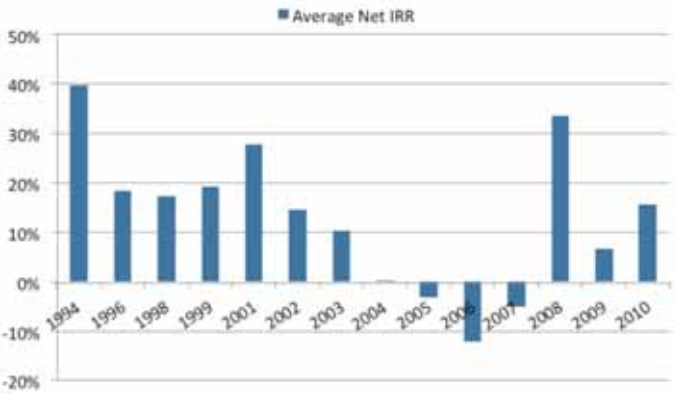
Figure 8: Opportunity fund spread of returns



Source: PFR, 2012

For closed-ended funds, vintage year is also important in determining the relative performance of a fund. Within the opportunity fund sample it is clear that some years have higher average (IRR) returns than others. Funds that were launched at the top of the cycle (2004-2007) have performed poorly compared to those that were launched at the bottom of the cycle (1994 and 2008). Therefore, a portfolio of fund investments clearly requires vintage year diversification to reduce risk. It is interesting to ask the question: should investors shoulder some of the blame for poor market performance through committing huge amounts of capital in what proved to be the top of the market? (See section 8 for a further discussion of this issue).

Figure 9: Opportunity fund IRRs by vintage year



Source: PFR, 2012

Another benefit of using panel data is that a regression equation is calculated for each individual fund. These results are pooled to provide a sample 'average' alpha and beta (the sample averages are the figures reported so far in this report). By examining the individual fund regressions it is possible to pull out the statistically significant alphas (at the 5% level) for individual funds. These are shown in tables 9 to 14.

Table 9: Significant core fund alphas single beta model

Style	Alpha	Probability
Core	7.05	0.020
Core	-8.46	0.031
Core	-9.34	0.020
Core	-12.13	0.004
Core	-18.10	0.002

Source: PFR, 2012

Table 10: Significant value-added fund alphas single beta model

Style	Alpha	Probability
Value-added	-13.98	0.006
Value-added	-14.41	0.002
Value-added	-14.59	0.002
Value-added	-26.49	0.000
Value-added	-24.84	0.000

Source: PFR, 2012

Table 11: Significant opportunity fund alphas single beta model

Style	Alpha	Probability
Opportunity	41.88	0.043
Opportunity	30.61	0.001
Opportunity	-10.84	0.022
Opportunity	-31.58	0.016
Opportunity	-35.08	0.038
Opportunity	-37.48	0.010
Opportunity	-41.22	0.014
Opportunity	-54.28	0.000
Opportunity	-56.45	0.000
Opportunity	-67.05	0.000

Source: PFR, 2012

Table 12: Significant core fund alphas two beta model

Style	Alpha	Probability
Core	14.55	0.062
Core	13.91	0.016
Core	12.88	0.011
Core	7.11	0.030
Core	-11.90	0.001

Source: PFR, 2012

Table 13: Significant value-added fund alphas two beta model

Style	Alpha	Probability
Value-added	30.62	0.000
Value-added	28.60	0.000
Value-added	28.07	0.000
Value-added	25.10	0.003
Value-added	24.67	0.000
Value-added	24.49	0.001
Value-added	24.33	0.001
Value-added	22.98	0.006
Value-added	22.70	0.001
Value-added	22.42	0.003
Value-added	20.14	0.012
Value-added	19.75	0.001
Value-added	18.96	0.002
Value-added	18.15	0.006
Value-added	17.44	0.039
Value-added	17.20	0.002
Value-added	16.47	0.008
Value-added	16.44	0.001
Value-added	16.16	0.024
Value-added	15.54	0.031

Source: PFR, 2012

Table 14: Significant opportunity fund alphas two beta model

Style	Alpha	Probability
Opportunity	76.15	0.033
Opportunity	74.14	0.022
Opportunity	60.43	0.028
Opportunity	56.17	0.022
Opportunity	55.99	0.026
Opportunity	54.21	0.000
Opportunity	51.94	0.029
Opportunity	45.66	0.015
Opportunity	43.01	0.032

Source: PFR, 2012

Analysis of the individual alphas again indicates that gearing has been the main driver of under-performance during the analysis period with a higher number and proportion of negative alphas for all three fund styles present in the single beta model. (There are a couple of high-performing opportunity funds, and one excellent core fund.) However, the two beta model indicates that some managers have been able to add value once the impact of gearing has been isolated. The opportunity fund sample provides the highest and lowest alphas in single beta model and the highest in the two beta model with some managers adding significant value at the asset level, with the highest alpha being 76%. Interestingly, the value-added fund sample has the highest proportion of significant individual positive alphas out of the three fund styles.

8. Conclusions

The key questions that this research aimed to address were:

- Have core funds delivered? How well have they tracked the direct property index? Have they out-performed?
- Have value-added and opportunity funds delivered higher returns?
- How much of the relative performance can be explained by leverage? How much by property risk? How much by skill?

The results for the core funds sample were more encouraging than as reported in the 2010 study, with a market beta of close to 1, indicating that the property risk is similar to that of the benchmark, and a tracking error of around 1.5-2%. However, core funds on average under-performed the market by -0.72% p.a., which can be partly explained by the impact of leverage. It is a concern that core funds under-performed the benchmark during each of the past three years.

Value-added and opportunity funds were found to have delivered higher returns during a rising market (2001-2006) but significantly under-performed core funds during the period of poor market returns (2007-2011). Over the whole analysis period (2001-2011), value-added funds delivered the highest returns. On a risk-adjusted basis, opportunity funds ranked last in all three time periods, with core and value-added funds delivering similar risk-adjusted returns.

The panel data analysis showed that value-added funds have higher property risk than core funds with a market beta of 1.30, with opportunity funds having the highest property risk exposure with a market beta of 2.05. The single beta model resulted in significant negative under-performance in all three fund styles. However, when leverage is included as a variable in a two beta model, the level of under/over-performance becomes statistically insignificant in the core and opportunity fund sample, suggesting that on average fund managers neither add nor destroy value and that it is the use of debt that has driven the significant levels of under-performance. In the value-added sample there is some evidence that fund managers have added some value at the property level, but again leverage has had a negative impact on returns.

When individual fund alphas are analysed, it is the opportunity fund sample that produces the highest significant positive alphas in the two beta model, with some managers able to deliver value at the asset level in excess of 40% p.a.

Table 15: Single beta analysis

	Alpha	β_1	t-stat (α)	t-stat (β_1)	R^2
Core	-0.72	0.98	-2.02	34.19	72%
Value-added	-2.88	1.35	-3.84	21.85	60%
Opportunity	-10.29	2.11	-5.68	14.09	59%

Source: PFR, 2012

Table 16: Two beta analysis

	Alpha	β_1	β_2*	t-stat (α)	t-stat (β_1)	t-stat (β_2)	R^2
Core	-0.07	0.94	-0.11	-0.15	29.15	-3.65	72%
Value-added	4.42	1.30	-0.20	3.13	21.21	-6.18	64%
Opportunity	2.05	2.05	-0.22	0.29	11.27	-2.00	45%

Source: PFR, 2012

"Are we not seeing here something not necessarily to do with manager performance but to do with fund vintages? In that fundraising is more likely when there's momentum behind the markets therefore you are inevitably going in late in the cycle."

"You are adding value by management, but destroying value by financing"

"What you are showing here is that going later in the cycle with leverage is destroying value, but actually in this case at an asset level, as you would expect with a value-added strategy, the manager is doing his work. So there are two different things, it's not just the manager"

Symposium delegates

9. Discussion

This research is important, as it provides a rare basis for discussing the performance of real estate funds across all three fund investment styles. During the symposium, interesting issues were raised about this research and its implications for the fund market.

Firstly, are real estate fund returns best measured on an absolute or relative return basis? There are two schools of thought. One is that the use of benchmarks promotes 'herding' amongst fund managers, an unattractive value-destructive activity. The counter-proposition is that performance is driven primarily by the market, and managers should not take credit – or punishment – for delivering market-related returns, leveraged or not. To us, the significance of the property market betas across these research results clearly justifies the use of relative benchmarks.

For closed-ended funds, and in particular opportunity funds, the stage of the investment cycle can have a significant impact on annual total returns. The opportunity funds used in this sample included funds that are at different stages of their life, and have yet to exit from all investment positions. It could be argued that some of the funds that performed poorly during 2008/09 may yet recover, with managers adding value or simply realising latent value on asset realisation. It is a weakness of this research that we do not know enough about the valuation approach of the value-added and opportunity fund managers surveyed, and this is a weakness that we will remedy in a follow-up report.

The negative leverage impact found in this study is revealing. With the benefit of this analysis and other recent academic work focused on the asymmetric nature of property returns, it appears that the negative impact of debt during negative market returns far outweighs the positive impact of debt in rising markets (the 'Black leverage' effect). Therefore, debt cannot be viewed as a long term strategy for delivering returns in excess of core market returns. This places great importance on the manager's/investor's skill in calling markets. It also raises the question of whether investors had a realistic view concerning the level of risk required to deliver 'absolute' returns in mature markets over the latter period of the analysis.

Fund managers cannot be held solely accountable for entering the market at the top with leverage, as investors and allocators appeared willing to invest large amounts of capital in these strategies. Arguably, fund managers are employed as 'experts' in the real estate market and should have greater insight into the market, but a certain amount of the responsibility does lie with the often professional or professionally-advised investor.

"If you are an investor, you have a specific return requirement. You have an option to achieve that in an ungeared way as opposed to a geared way. If its 7% you have to assume that the ungeared way, everything else being equal, is less risky than the geared way. If your requirement is higher than 7%, then it's questionable whether you can get there via an ungeared route only"

"The timing of investment in real estate is particularly critical, as we see from vintage years. Making sure that the property strategy and financing strategy are aligned is very important"

"Why are we setting a hurdle at 10% when bond yields are at 1.5%?"

"It's a question of whose choice it is to invest, the manager or the investor."

Symposium delegates

Contributors

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  - > CBRE Global Investors
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  - > MGPA
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