

Uncovering Private Real Estate Fees

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Abstract

Although fees in the private investment market are important for both investors and fund manager, the topic is hardly researched in the finance literature. The lack of transparency and the fact that it might hurt the business of fund managers doesn't help. Nevertheless, there is a need for more transparency and understanding. This paper examines fee structures and the total fee load for private real estate funds on an ex-ante basis. Fee structures as agreed between investors and fund manager and documented in placing documents are used to analyse the total fee load per fund. The average total fee load for private real estate funds is 2.5% and is clearly lower than private equity funds. Value Add and Opportunistic funds do not seem to charge different fees. Core funds, however, have significantly lower fees. Finally, leverage, catch-up fee and whether the fund invests in a developing economy are features that have a strong impact on the total fee load. By controlling the amount of leverage and avoiding catch-ups, investors can substantially reduce fees and therefore improve their returns.

The Inconvenient Truth about Fees

One of the most important topics for investors in the private investment market is also one of the least researched subjects: Fees. There is hardly any public information and only limited research available and there seems to be no standardisation. On the other hand, the impact of fees on the net performance of investors can be substantial. For that reason investors like to argue about fees and should always try to lower them. Managers on the other hand need to charge fees to compensate for their time and effort and to make a profit. Nevertheless, it should be reasonable to expect more insight in what would be a fair amount of fees for each type of investment vehicle. This would be in line with the most recent trend in regulations to improve transparency and to protect consumers.

Phalippou (2009) was one of the first in targeting fees and providing better insights. He showed that the average private equity fund effectively charges 7% fee per annum and concluded that investors are fooled, as the compensation contracts are opaque and show lower fees at first sight. In a previous paper with Gottschalg (2007), he showed that the fee load was slightly less, but that after fees private equity underperformed S&P 500. Most of the other literature focuses on the relationship between the investor and the manager, the agent. The theory around this relationship is called the agency theory and the importance of it was shown by Eisenhardt (1989). Interestingly, Gompers and Lerner (1999) showed that there is no relationship between incentive compensation and performance, while this would normally be the reason to introduce performance fees. On top of that, Robinson and Sensoy (2011) couldn't find a relation between manager compensation and ownership and the funds' cash flow performance. Discussion and researching fees is therefore still a relevant topic, somewhat that needs more understanding.

Besides the fund's management and performance fee, there is another incentive for managers found. Chung et al. (2010) showed that there is a reward stemming from the effect of current (good) performance on the ability to raise larger funds in the future. Explicit fee structures of private equity funds, therefore, understate the actual incentive for the general partner. In a later paper, Chung et al. (2011) explained that indirect pay for performance from future fundraising is of the same order of magnitude as direct pay for performance from carried interest. Capozza and Seguin (2000) showed

that misalignment of the external manager resulted in underperformance of externally managed real estate investment trusts (REITs) compared with their internally managed counterparts. They concluded that the right incentive structure is very important for the performance of REITs. As a result and due to their superior ability to resolve conflicts of interests between REIT management and shareholders, Ambrose and Linneman (2001) argued that internally-advised REITs will dominate the externally-advised REITs.

Finally, Andonov, Eichholtz and Kok (2012) analysed a database with pension fund allocations and costs. They showed that larger pension funds are more likely to invest in real estate internally, have lower costs and higher returns. Moreover, US pension funds' investment costs are twice as high as those of foreign peers, while returns are lower.

As a consequence of the global financial crisis we are in a low economic growth environment, and hence returns are expected to be modest. In this kind of low return environment every small return enhancement can make a difference. Institutional investors are therefore keen on reducing costs to add value and fees are an important part of that.

This paper will analyse the fee structure and fee load for private real estate funds. These funds have several features which make them particularly attractive for an empirical study. First, most of these funds are closed-ended with a specific finite lifetime, typically seven to ten years. Compensations are agreed upon beforehand and therefore fixed and rarely being renegotiated during the lifetime. Second, it is very uncommon that managers are being removed. This removal is rather difficult and expensive and is really done as a last resort. Third, unlike private equity, there is hardly any literature available on private real estate fund fees, making it a welcome subject. Finally, focussing on one industry, real estate, creates better comparability between different funds and therefore results will provide stronger meaning for the industry.

The paper is structured as follows: Chapter 1 will provide a description of the database and the most common parts of a fee structure. In chapter 2 the model will be explained how the fee structures will be analysed. Chapter 3 will present the results on the average fee load for private real estate fund and

these results will be split by different fund types and between management and performance fees. In the next section these average fee loads will be analysed. For this a regression model will be used to explain these fee loads by a number of characteristics and to show the main drivers of fees. In chapter 5 a simulation model is applied to examine the impact of a volatile market on the fee load and drivers. Finally some conclusions are drawn.

1. The Basics of Private Real Estate Fund Fees

For this paper, a hitherto unexplored investor's database is obtained containing hundreds of private real estate placing documents, including the terms and conditions of each fund. Some similar databases have been used to analyse the private equity markets. Metrick and Yasuda (2010) used these investor contracts for their research and found that two-thirds of expected revenue comes from fixed-revenue components that are not sensitive to performance. Litvak (2009) studied venture capital compensation based on partnership agreements. One of her conclusions was that compensation is often more complex and manipulable than it could have been. More complex fee structures, however, predict lower total compensation. Again, both studies focused on private equity and the database used in this paper is a specific private equity investment type, real estate.

Most of the funds in the database were raising capital between 2005 and 2013 and cover a wide spectrum of styles, property types and geographies and most funds are closed-end. All of these funds were offered to institutional investors as an investment product, but it is unknown whether each of these funds was eventually launched. Other information that is unavailable is the actual fee structure and levels after negotiations and the actual performance. Nevertheless, this database provides a very good overview of what is available in the market and what kind of fees are set by fund managers.

Table 1 provides an overview of the database, showing the different type of funds.

Table 1: Descriptive statistics private real estate fund database

Descriptive statistics private real estate funds							
Style	#	Leverage	#	Structure	#	# countries	#
Core	125	LTV <= 40%	117	Closed end	365	Single country	340
Value Add	152	40% < LTV <= 65%	277	Open end	69	Multi country	100
Opportunistic	163	LTV > 65%	46	JV	6		
Region	#	Sector	#	Year	#	Catch Up	#
Mature Americas	92	Office	75	2012	42	Yes	138
Developing Americas	11	Retail	65	2011	56	No	302
Mature Europe	158	Residential	63	2010	48		
Developing Europe	15	Industrial	37	2009	64		
Mature Asia	60	Mixed	178	2008	80		
Developing Asia	58	Debt	9	2007	50		
Mature Pacific	16	Other	13	2006	36		
Mixed Asia Pacific	27			≤2005	64		
Other	3						

Unlike private equity, private real estate fee structures are not relatively standardised, but rather complex. There is a wide variation of fee structures, even by style. Typically there are three different styles for private real estate, namely Core, Value Add and Opportunistic. These styles are related to the type of activities done within the fund and therefore to the risk taken. Core is the least risky type where the fund mainly invests in income producing investments, uses low leverage, has no or very low development exposure and generate a high proportion of return through income (Source: INREV¹). A Value Add fund may invest in any property type and deliver returns from a balance of income return and capital appreciation. The fund may allocate part of its investments in development. Typically it will also invest in forms of active management, such as active leasing risk, repositioning or redevelopment to generate returns through adding value to the property. The fund will use moderate leverage. An Opportunistic fund is the most risky style and typically uses high leverage, has a high exposure to development or other forms of active asset management, and will deliver returns primarily in the form of capital appreciation. The fund may invest in any markets or sectors, and may be highly focused on individual markets or property types. The database consists of 135 Core, 157 Value Add and 167 Opportunistic funds. The average fund has an equity size of almost half a billion euro and

¹ INREV is the European association for investors in non-listed real estate vehicles

combined with a 50% leverage it is targeting to invest a billion euro of real estate. Core funds tend to be somewhat larger, while using less leverage.

Usually, Core funds require less active management and should therefore charge lower fees. Value Add and Opportunistic fund are focused on active management and should charge higher fees and as risk and expected returns are higher for Opportunistic funds, these funds should be most expensive.

Table 2 shows all type of fees, which are most often used and what the average per type of fee is.

These averages are comparable to the averages available in several private real estate industry management fee studies by INREV, ANREV² and PREA³.

Table 2: Summary fee statistics private real estate fund database

	Core		Value Add		Opportunistic		Total	
Number of funds	135		157		167		459	
Average size (in € mio)	716		369		434		495	
Median size (in € mio)	400		284		322		366	
Average leverage	38%		57%		53%		50%	
Fund Management Fees								
# of fund changing fee after commitment period	53		92		109		254	
During commitment period								
	#	Average	#	Average	#	Average	#	Average
Fee on GAV	41	0,58%	30	0,67%	10	0,79%	81	0,64%
Fee on NAV	23	0,91%	12	1,26%	6	0,97%	41	1,02%
Fee on Commitment	17	1,10%	77	1,18%	125	1,54%	219	1,38%
Fee on Invested Equity	18	1,04%	42	1,10%	27	1,18%	87	1,12%
During holding period								
	#	Average	#	Average	#	Average	#	Average
Fee on GAV	55	0,58%	48	0,69%	14	0,75%	117	0,64%
Fee on NAV	44	0,89%	18	1,29%	9	1,28%	71	1,04%
Fee on Commitment	3	0,96%	12	1,18%	36	1,46%	51	1,36%
Fee on Invested Equity	30	1,18%	85	1,39%	110	1,60%	225	1,48%
Fee on GOI	6	5,74%	6	4,63%	11	4,44%	24	4,83%
Fee on NOI	13	3,83%	8	3,34%	5	2,85%	27	3,50%
Active Management Fees								
# of fund using	#	Average	#	Average	#	Average	#	Average
Acquisition Fee	39	0,74%	52	0,87%	31	0,85%	122	0,82%
Disposition Fee	22	0,66%	31	0,83%	20	0,94%	73	0,81%
Set-up Fee	13	0,83%	10	0,95%	10	0,90%	33	0,89%
Financing Fee	5	0,29%	4	0,44%	1	1,75%	10	0,50%

² ANREV is the Asian association for investors in non-listed real estate vehicles

³ PREA is the Pension Real Estate Association

Performance Fee Features	Core	Value Add	Opportunistic	Total
Charging performance fee	64%	95%	99%	87%
1 st Hurdle	9,1%	9,8%	10,4%	9,9%
Carried interest	19%	20%	21%	20%
2 nd Hurdle	12,4%	14,9%	15,1%	14,8%
3 rd Hurdle	12,8%	19,9%	19,8%	19,3%
Catch up	3%	25%	62%	32%
Catch up split	56%	57%	61%	60%

In general, there are three types of fees, namely fund management, active management and performance fees. Fund management fees are paid to a fund's manager for their fund management services to the fund. It generally cover services such as managing the fund level structure, arrangement of financing, fund administration, fund reporting, and investor relations and it is paid quarterly or annually. Approximately 55% of all funds apply different fees during the investment or commitment period (generally the first 3 years) compared with during the holding period. Fund management fees can be based on gross asset value (GAV, the value of the underlying real estate portfolio), net asset value (NAV or equity), commitment (the amount for which the investor has committed himself to invest), invested equity (the amount the investor has actually invested in the fund), gross operating income (GOI) and net operating income (NOI). Except from management fees charged on income, fund management fee tend to be higher when risk style increases. Most popular are management fees based on GAV and on commitments during investment period and on invested equity during holding period.

The active management fee is paid for certain activities a manager needs to do to execute the strategy of the fund and these fees are typically paid only once. Around 36% of all funds charge at least one active management fee and the most common fees⁴ are:

- Acquisition fee, 82 basis points on average and used by 27% of all funds. This fee is charged to a fund on the acquisition of assets. Acquisition fees are not typically charged in the case where a property developer / operator contributes assets to a fund. Unfortunately, it is not

⁴ Definitions are from INREV

always clear whether costs for external advisors (i.e. property agents) are charged to the fund or paid by the manager based on the acquisition fee.

- Disposition fee, 81 basis points on average and used by 16% of all funds. This fee is charged to a fund on the disposal of assets and is similar to the acquisition fee.
- Set-up fee, 89 basis points on average and used by 7% of all funds. Set-up fees are charged to cover all costs that relate directly to the structuring and establishment of a fund. These costs include, for example, legal fees, tax advisory fees, structuring fees and administration costs.
- Financing fee, sometimes referred to as debt arrangement fee, 50 basis points on average and used by 2% of all funds. A fee paid to the manager for its services for arranging debt for asset purchases or refinancing. This fee would be in addition to any arrangement fees paid to debt providers.

The last type of fee that can be charged to the investor is the performance fee. This fee is mostly back-ended and is typically structured as a percentage of all cash flows (carried interest) after the fund achieved a certain hurdle. The key terms used to structure the performance fee are hurdle rate, carried interest and catch up. The hurdle rate is the annualised percentage return beyond which the out-performance of net investor returns are shared with the fund manager. The hurdle rate can be stated relative to an absolute hurdle rate or to an index/benchmark. Within the database, the average first hurdle rate is 9.9% and is used by 87% of all funds. Up to the hurdle rate, no performance fee is payable and after the hurdle rate profits are split as per agreed in the fund documentation. This split is called the carried interest. A carried interest is equivalent to the share of a fund's profit that will accrue to the general partner. The final key term is the catch-up fee. Catch-up takes effect when an investor's return reach the defined hurdle rate, giving them an agreed level of preferred return. The fund manager then enters a catch-up period, in which he may receive an agreed percentage of the profits until the profit split determined by the carried interest agreement is reached. Basically this means that the manager will also be paid performance fee for any return until the hurdle rate, but only after achieving this rate. Finally, it happens that the manager will be paid performance fee relative to a benchmark.

Only 17 funds (3.7%) in the database use a relative benchmark. This type of fee is very difficult to model and therefore it is assumed that managers will not outperform the market. The impact of this assumption is rather low given the number of funds applying this. Nevertheless, it might slightly underestimate the performance fee.

2. Comparing Different Fee Structures - Model

In order to compare fees between all funds, using many different fee structures, one fee metric must be introduced. This fee metric will be the aggregation of all fees paid to the fund manager and will be called the Total Fee Load (TFL). To be able to determine this metric, a cash flow model has been developed in which all fees are included. Investors and fund managers in private real estate typically use cash flow models to determine the IRR for each of their investments. The TFL is calculated by taking the difference between the IRR after costs and before fees and the IRR after costs and fees. This reduction in IRR equals the TFL and is the loss of return due to fees paid to the manager. Once this metric is available for each fund, given a certain real estate market scenario, it can be analysed which funds are more expensive than others and why. Finally, by changing scenarios it is possible to create a better understanding of how sensitive fees are for different market circumstances.

For each fund the lifetime, length of the investment period and potential extension period is known. Still, a number of assumptions had to be made to build a cash flow model that is effective for all funds. These fund modelling assumptions are:

- Each fund's lifetime is known, but some open-end funds are infinite. For these funds the maximum lifetime is set at 12 year, after which the stake in the fund will be sold;
- Cash flow model is on a quarterly basis and investments are done linearly during the investment or commitment period at quarter end. For open end funds that don't have a commitment period, investments are done at the end of the first quarter;
- For closed end funds the divestments are done linearly during the last 2 years of the lifetime and during half of the potential extension period. This period is taken based on the experience that most funds are not liquidated before the end of the lifetime. In fact, most of the time it is

in the interest of the manager to continue the fund due to the management fee. Divestments for open end funds, on the other hand, are done linearly during the last 2 quarters of the lifetime at quarter end. Normally these funds are exited by selling shares and therefore divestment period can be relatively short;

- 100% of all net income is paid as dividend to the investor;
- The percentage of development is 0% for Core, 20% for Value Add and 60% for Opportunity funds. These numbers are based on research done by INREV⁵;
- Value Add funds tend to promise more additional value by reducing vacancies and redevelopment activities. Most of this is targeting to achieve higher rental growth. For this reason it is assumed that Value Add funds generate 1.5% more rental growth compared with Core funds. This number is rather arbitrarily chosen, but will generate a net IRR in line with what Value Add funds are promising investors;
- Opportunity funds are aimed at providing more value growth, by for instance developing assets and buying distressed assets. For this reason it is assumed that these funds generate 20% additional value growth compared with Core funds. Again this number is rather arbitrarily chosen, but will generate a net IRR in line with what Opportunistic funds are promising investors;
- A cash sweep is triggered when the net asset value becomes negative. In reality this will happen much sooner, but this assumption is made for simplicity and because LTV covenants are unknown for some funds. This assumption might underestimate the distress during poor market scenarios.

Furthermore, some market scenario assumptions have been made:

- Rental growth is set equal to inflation and is 2%. For emerging markets rental growth and inflation are increased by 2% as these markets tend to generate higher economic growth and therefore rental growth;
- Interest rate is 4.5% as long as leverage is less than or equal to 50%. When leverage is between 50 and 60%, interest rate is increased by 50 basis points, between 60 and 70% it is

⁵ Fuerst, F and G. Matysiak, "Testing and Validating the INREV Fund Styles Framework", *Report for INREV*, 2010.

increased by 150 bps, between 70-80% it is increased by 300 bps and finally when between 80-90% interest rate is increased by 600 bps. These spreads are more or less in line with the relation between interest rate and leverage found by Spek and Hoorenman (2011).

Furthermore, they are in line with observations in today's market;

- The net initial yield is 5.5%, which is in line with current US cap rate based on NCREIF data;
- The average vacancy is 5%. This figure might be on the low side given the current market conditions, but most new institutional funds are targeting the better end of the market and relatively new product.

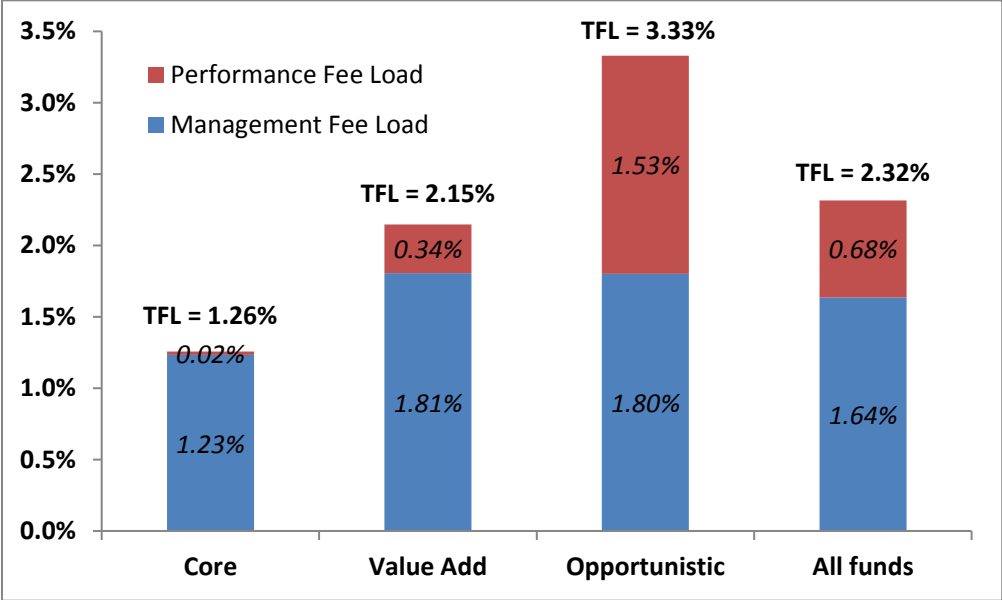
The use of IRR for the analysis might cause some problems. Sometimes there are multiple IRRs possible and sometimes the IRR cannot be calculated. In addition, Altshuler and Schneiderman (2011) highlighted the consequences of using IRR based instead of preferred return based performance fees. They proved that in some instances, IRR based incentive fees are much higher than preferred return based incentive fees. These instances are investments where capital and profit is returned before the last capital is being called and where an interim promote is paid as well. Nevertheless, it is important to use the IRR as a metric, as it is the most important metric used by investors to evaluate private fund performance and the metric used by managers to determine their performance fee.

3. The Average Fee for Private Real Estate Funds

As an investor it is important to understand the total fee that needs to be paid to the fund manager. The difficulty is that there is no real market average to compare this information with. Based on the database and modelling shown in the previous chapters, it is however possible to determine the average total fee load per fund and establish a market average. Figure 1 presents the average TFL by style and for all funds and includes the split between management and performance fee. It is clear that the management fee is the biggest proportion of the TFL, approximately 70%, which is very much in line with what Metrick and Yasuda (2010) found for private equity. For Opportunistic fund, however, the total fee leakage is almost split equally. The average TFL is 2.32%, which is much lower than the average fee for private equity according to several studies. Furthermore, it is noticeable that the TFL,

or even the management fee load, is significantly higher than the average management fees as shown in table 2. There are a number of reasons, namely fees on commitments, leverage and the aggregation of multiple fees. Even if the fee on commitment looks relative low, on net asset value the fee is a lot higher. When assuming that investments are done equally in time, fees on commitments can more or less be doubled to calculate the fee on net asset value. Furthermore, costs charged in the first years of an IRR calculation impact an IRR more negatively than when charged in a later stage of the fund. In addition, leverage will multiply fees on GAV, NOI, GOI and some of the active management fees. The final reason is that the TFL is a combination of multiple fees and also includes the active management fees, like acquisition and disposition fees. These fees should obviously not be ignored by investors, as the impact is significant. As long as fund managers do not report on the total expense ratio (TER) or TFL and investors are not able to fully understand the fee structure and/or how to calculate the TER and TFL, investors are fooled by these appearingly low management fees.

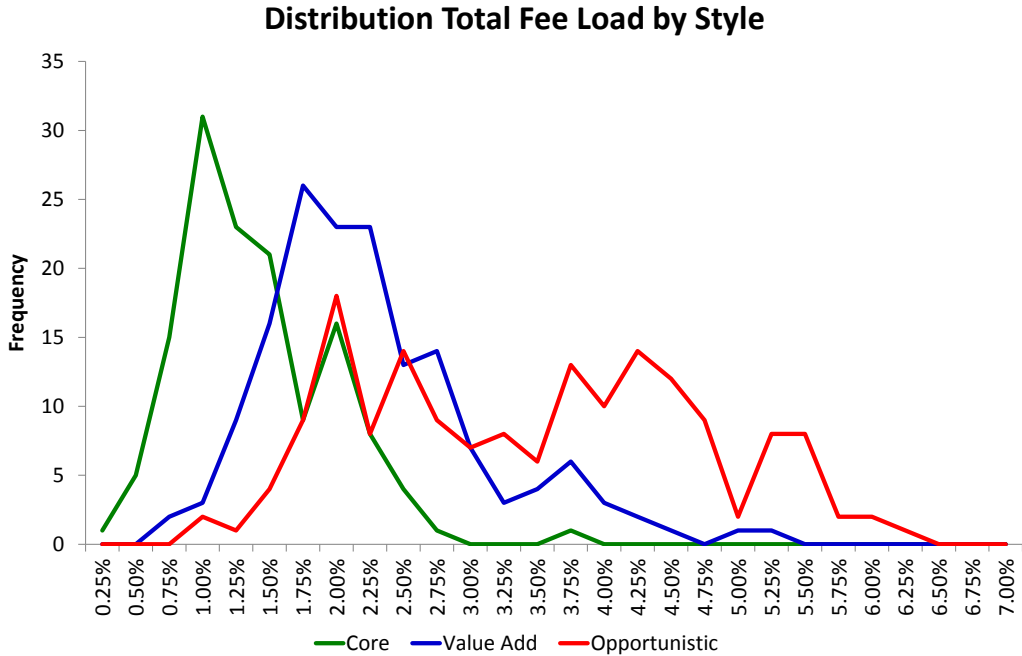
Figure 1: Total Fee Load (TFL) per style and split between management and performance fee



Within the different styles, deviation exists among funds. Although the average TFL for Core funds is 1.26, it varies a lot as shown in figure 2. Both Core and Value Add funds seem to have some sort of

lognormal distribution, but the average IRR among Opportunistic funds is just very wide spread and doesn't seem to follow that pattern.

Figure 2: Distribution of the Total Fee Load (TFL) by style



Besides the distribution, also the variation between certain segments is substantial. In table 3 the TFL is presented for different segments. This overview provides some clear indications of which type of fund is more expensive than others. Residential funds, for instance, seem to be most expensive while industrial and debt funds look relatively cheap. Funds investing in multiple countries appear to have higher fee loads than single country focused funds. This seems right, as managing a portfolio in more than one country is considerably more difficult, complex and requires more time. The additional management cost of this looks to be approx. 35 basis points.

Table 3: Average and standard deviation of the Total Fee Load (TFL) per segment in %.

Segment	Average TFL	Standard Deviation	Segment	Average TFL	Standard Deviation
Property Type			Vintage year		
Residential	2.69	1.37	≤ 2005	1.66	1.27
Mixed	2.57	1.35	2006	2.28	1.11
Other	2.24	0.60	2007	2.61	1.35
Office	2.02	1.07	2008	2.85	1.36
Retail	2.01	1.19	2009	2.45	1.28
Industrial	1.73	1.00	2010	1.83	0.96
Debt	1.69	0.54	2011	2.23	0.99
			≥2012	2.44	1.32
Country diversification			Catch Up Clause		
Multi Country	2.59	1.54	Catch Up	3.38	1.28
Single Country	2.24	1.28	No Catch Up	1.82	1.03
Size in equity			Structure		
≤ 250 million	2.42	1.44	Closed end	2.57	1.25
>250 and ≤ 500	2.30	1.27	Open end	1.11	0.38
>500 and ≤ 1,000	2.33	1.36	JV	1.11	0.64
>1,000 million	1.98	1.40			

One of the most common phenomenon in the investment industry is the size effect and this also seems to exist in the private real estate fee market. Larger funds appear to have lower fee loads than the smaller ones. Especially those funds exceeding € 1 billion in equity look as if fees are lower and the difference can be as much as 44 basis points with the smallest funds. TFL does not seem to be stable over time. Based on the results shown, old funds and funds launched just after the crisis are relatively cheap, while funds launched during the peak of the market, 2007 and 2008, are most expensive. The most apparent fee booster based on these segments, is the catch up clause. When a catch up is included in the fee terms of the fund, the TFL is increased by over 150 basis points. When investors can negotiate this clause to be excluded, expenses will drop significantly. Finally, closed end funds look more expensive than open end and JV structures. Part of this can obviously be explained by the fact that most Value Add and Opportunistic funds are closed end funds, while open end and JV structures are mostly Core vehicles.

Although these segmentations already provide some guidance in explaining TFL, it is not the complete story, as of these some segments do seem to overlap. The difference between closed and open end

structures, for instance, might also be explained by the investment style. For this reason it is necessary to control for these effects, which will be done in the next section.

4. Explaining the Private Real Estate Total Fee Load

The total fee load has been calculated and based on that it is possible to explain the TFL. To analyse the fee load a regression model has been used. Initially all of the known characteristics were included in the regression. Based on the results a number of insignificant characteristics were removed from the model and the resulting model is shown in formula 1.

$$\begin{aligned} TFL_i = & \alpha + \beta_1 \cdot Net\ IRR_i + \beta_2 \cdot Leverage_i + \beta_3 \cdot Size_i + \beta_4 \cdot Core_i + \beta_5 \cdot Value\ Add_i \\ & + \beta_6 \cdot MultiCountry_i + \beta_7 \cdot Developing_i + \beta_8 \cdot Industrial_i + \beta_9 \\ & \cdot Residential_i + \beta_{10} \cdot 2007\&2008_i + \beta_{11} \cdot CatchUp_i + \varepsilon_i \end{aligned} \quad (1)$$

Structure was excluded from the analysis, because of multicollinearity. The correlation with styles was too high and the R-squared didn't improve when it was included. This model has not only been used to estimate the impact of different characteristics of the non-listed real estate funds on the TFL, but also on the management fee load as well as the performance fee load. The results of these regressions are shown in table 3.

Table 4: Regression results on the total fee load (TFL), management fee load (MFL) and performance fee load (PFL), based on a flat market (flat rental growth and net initial yields).

	TFL	MFL	PFL
Constant	0.26 (1.18)	2.31*** (9.45)	-0.93*** (-4.80)
Net IRR	8.12*** (4.54)	-5.27*** (-4.30)	11.63*** (9.45)
Leverage	0.31*** (5.93)	0.20*** (5.65)	0.11*** (3.07)
Log(Size)	---	-0.10*** (-3.02)	---
Core	-0.28** (-2.55)	-0.45*** (-6.06)	-0.22** (-1.98)
Value Add	---	---	-0.49*** (-5.99)
Multi Country	0.26*** (2.92)	0.19*** (3.00)	0.11* (1.71)
Developing economy	0.78*** (6.00)	0.51*** (5.68)	---
Industrial	-0.28** (2.04)	-0.22** (-2.33)	---
Residential	---	0.15* (1.91)	---
2007 & 2008	0.17** (1.98)	---	0.13** (2.09)
Catch Up	1.08*** (11.92)	---	0.96*** (13.54)
R ²	.61	.29	.66
Adjusted R ²	.60	.28	.65

There are a number of features that have a clear impact on the TFL. The most obvious one is perhaps the net IRR; the higher the return, the higher the TFL. More interesting is, however, that the MFL is declining when the IRR is increasing. This effect has to do with fees on invested equity and commitments. These types of fees are not growing when the net asset value is growing and are also stable in absolute terms when values are falling. Leverage is a clear fee booster. Both the MFL as well as the PFL are rising if leverage is increased. If leverage is 2, meaning gross asset value is twice as much as the equity stake, the TFL is increase by 31 basis points $((2-1) \times 0.31$, as the minimum leverage is 1). Two thirds of this effect is however included in the management fee load. Leverage, therefore, seems an easy way to increase income for fund managers. As input for the size the logarithm is used. Understandably, size is only significant for the MFL, as the bigger the fund, the lower the management fee necessary to perform fund management activities. Size has no effect on performance

fees. Maybe the most exceptional result is the impact of a catch up clause. If the manager introduces a catch up, the average TFL is increased by over 1%, which can obviously fully attributed to the performance fee.

The difference in style is visible based on these results. Core has a 28 basis points lower TFL than Value Add and Opportunistic funds. Value Add funds, however, do not seem to differ from Opportunistic funds. The performance related fees on the other hand are lower for Value Add funds. Funds which are investing in multiple countries or in developing economies are more expensive and this makes sense as costs and complexity is also higher. For bigger investors this might actually be a reason to focus on single country funds. Industrial funds on average are cheaper, as management is less intensive. Residential funds, however, seem to be somewhat more expensive based on the MFL. Although management is more intensive, the TFL is not significantly higher. Finally, funds marketed during the peak of the market (2007 and 2008) have a higher TFL on average, mainly driven by higher incentives fees, which were possible to obtain in these peak years.

All results are very plausible and the goodness of fit of the regression model is high, given the R^2 of over 60% for the TFL and PFL and almost 30% for the MFL. These results are, however, based on a very stable real estate market scenario, were rental growth and yield movements are the same for each year. This is very unlikely to happen in reality and therefore Monte Carlo simulation has been used to reflect reality.

5. Impact of Changing Markets on Total Fee Load

In real life markets are not stable or flat, but are always changing. Fund managers, however, are predominantly using IRR models assuming a flat market for their fund's placing documents. It is possible to estimate the impact of this and therefore a simulation has been done. Five market variables have been used to simulate the market. These variables are interest rate, inflation, vacancy, rental growth and net initial yield. As it is especially important to analyze the impact of the average fee load on certain characteristics under different market scenarios, it is enough to model each variable

relatively simplistic. Hence, all variables are assumed to be normally distributed with the following averages and standard deviations:

Table 5: Simulation input statistics, based on US market data.

Variable	Average	Standard deviation
Change in interest rate	0.0%	1.2%
Inflation	2.0%	1.3%
Change in vacancy rate	0.0%	1.3%
Rental growth	2.0%	4.2%
Change in initial yield	0.0%	0.5%

The three real estate statistics are based on NCREIF⁶ data and economic data is retrieved from Bloomberg. These statistics showed that the correlation between the rental growth and vacancy was significant and therefore a correlation coefficient of -0.45 between rental growth and the change in vacancy has been included. No other correlation was significant. Furthermore, interest rate, vacancy rate and the net initial yield cannot be negative and hence some minimum values have been set. The minimum value for the interest rate (real estate lending rate) is 2.5%, for the vacancy rate is 0% and for the net initial yield the minimum is 3.5%. Although these number are set arbitrarily, there are no historical observations below these levels.

With the Monte Carlo simulation 10,000 scenarios have been generated and each scenario has been applied to every fund. Based on these 10,000 scenarios the average Management Fee Load, Performance Fee Load and Total Fee Load is calculated. The averages are shown in table 5.

⁶ NCREIF is the National Council of Real Estate Investment Fiduciaries and NPI data is used for the period 1988 - 2012

Table 6: Average Management Fee Load (MFL), Performance Fee Load (PFL) and Total Fee Load (TFL) based on a Monte Carlo simulation model, reflecting dynamic real estate market scenarios, and a linear model, reflecting a flat real estate market scenario.

	Simulation Model			Linear Model		
	MFL	PFL	TFL	MFL	PFL	TFL
Core	1.26	0.19	1.45	1.24	0.02	1.26
Value Add	1.83	0.73	2.55	1.81	0.34	2.15
Opportunistic	1.81	1.43	3.25	1.80	1.53	3.33
All funds	1.66	0.83	2.48	1.64	0.68	2.32

The average TFL based on the simulation is 16 basis points higher compared with the linear model and only the PFL is responsible for this increase. This could be explained by option theory, as the performance fee is a kind of call option and an increase in volatility will increase the value. Core funds are 19 basis points more expensive when adjusting the IRR for changing market circumstances and this is due to an increased PFL. Value Add fund are even 40 basis points more expensive when considering dynamic markets. Opportunistic funds on the other hand are 8 basis points less expensive. The reason for this is probably that the average IRR can be lower in the simulation results for highly leveraged, Opportunistic funds, also documented by Spek and Hoorenman (2011). The average IRR in the simulation study is however, slightly (0.5%) lower than in the linear model.

To understand these results, these average fee loads resulting from the simulation are then used as input for the regression analysis. This provides a more robust way to understand the different drivers of fees. The regression is done similar to the one done for the linear model. The results of these regression models are shown in table 6.

Table 7: Regression results on the average total fee load (TFL), management fee load (MFL) and performance fee load (PFL), based on a Monte Carlo simulation of the real estate market (simulating interest rate, inflation, vacancy, rental growth and net initial yields).

	TFL	MFL	PFL
Constant	1.50*** (5.10)	2.27*** (9.42)	-1.03*** (-15.67)
Average Net IRR	5.07*** (3.56)	-5.05*** (-4.44)	10.81*** (21.43)
Leverage	0.40*** (8.95)	0.19*** (5.47)	0.20*** (9.54)
Log(Size)	-0.13*** (-3.24)	-0.09*** (-2.83)	---
Core	-0.39*** (-4.00)	-0.41*** (-5.57)	---
Multi Country	0.20** (2.49)	0.18*** (2.81)	---
Developing economy	0.63*** (5.55)	0.51*** (5.61)	---
Mature Pacific	---	-0.29* (-1.97)	---
Industrial	-0.28** (-2.33)	-0.21** (-2.25)	---
Residential	---	0.15* (1.84)	---
2007 & 2008	0.14* (1.88)	---	0.10*** (2.63)
Catch Up	0.83*** (10.55)	---	0.83*** (22.48)
R ²	.63	.30	.77
Adjusted R ²	.62	.28	.77

The results are very similar to the results given with a flat market, but with a higher explanatory power. The main difference in MFL is that Mature Pacific funds have significantly lower management fees (29 basis points). In the PFL regression a few variables became insignificant. Styles are no longer significant and in addition there is no multi country impact on PFL. Also interesting to see is that the sum of MFL and PFL coefficients is more or less similar to the TFL coefficient, which would make perfect sense when most of the TFL is explained. Again this is an indication that these results are robust. Some coefficients have increased, like the constant (+124 basis points), leverage (+9 bps) and Core (+11 bps), but others declined like net IRR (-305 bps), multi country (-6bps), developing (-15bps) and catch up (-25 bps).

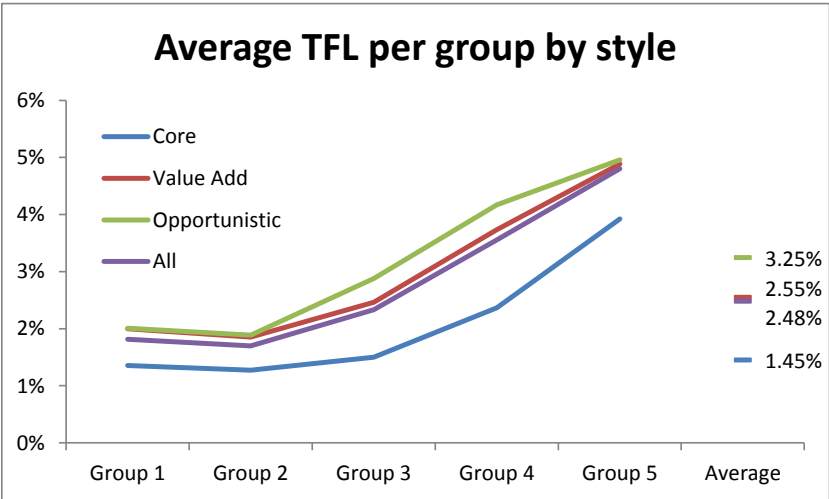
As the average IRR is an important variable in explaining TFL, it is interesting to group the results by return. These groups are shown in table 8, including the percentage of observations fallen in each group, the average TFL per group and the standard deviation of the TFL within the group. It is remarkable that the TFL in the lowest return group is higher than in the second group, meaning that the loss of IRR due to fees is higher when returns are negative than when returns are modestly positive. Furthermore, it is noticeable that the variation in TFL is twice as high in the highest return groups as in the lowest groups.

Table 8: Total Fee Load (TFL) simulation results grouped by return, including the standard deviation of the TFL.

Group	Net IRR interval	% of observations	Average TFL	Standard deviation TFL
Group 1	Net IRR < 0%	5.7	1.81	0.69
Group 2	0% ≤ Net IRR < 7.5%	27.0	1.70	0.65
Group 3	7.5% ≤ Net IRR < 15%	46.5	2.33	1.02
Group 4	15% ≤ Net IRR < 22.5%	16.7	3.56	1.40
Group 5	Net IRR ≥ 22.5%	4.1	4.81	1.40
All	---	100	2.48	1.13

Within these IRR groups, it is also interesting to look at the differences in styles. In figure 3 these differences are presented and it is remarkable to see that the difference between Opportunistic and Value Add funds is so low. Core on the other hand seems significantly lower. All styles have higher TFLs in the lowest return group.

Figure 3: Average Total Fee Load (TFL) per return group by style and the average TFL by style based on the simulation results



Finally, TFLs per group are used in the regression. In table 9 the results are displayed and it is good to see that the constant is more or less similar to the averages shown in table 7. Furthermore most coefficients are rather stable across return groups, although they are increasing somewhat in the highest groups. Core has a lower TFL in any event, but is not significant in group 5, as there are hardly any Core funds that are returning over 22.5% in any scenario. Value Add funds are more expensive than Opportunistic funds, provided that the return is rather similar. Although this seems remarkable, it is rather not likely that returns are similar.

The years 2007 & 2008 were already proven to be more expensive due to higher PFLs. This regression analysis confirms this, as this 2007 & 2008 dummy is significant in the highest return groups. Finally, there is a clear size effect. The bigger the fund, the lower the TFL and this is true for every return.

Table 9: Regression results on the average total fee load (TFL) per return group, based on a Monte Carlo simulation of the real estate market (simulating interest rate, inflation, vacancy, rental growth and net initial yields).

	Group 1	Group 2	Group 3	Group 4	Group 5
Constant	1.87*** (8.20)	1.94*** (9.05)	2.12*** (8.33)	3.45*** (8.67)	4.61*** (7.40)
Leverage	0.23*** (6.24)	0.16*** (4.64)	0.27*** (6.35)	0.29*** (4.66)	0.33*** (3.44)
Log(Size)	-0.10*** (-2.91)	-0.10*** (-3.19)	-0.13*** (-3.39)	-0.23*** (-3.80)	-0.25** (-2.53)
Core	-0.36*** (-5.09)	-0.35*** (-5.34)	-0.37*** (-4.36)	-0.44*** (-2.83)	---
Value Add	---	---	---	0.26** (2.05)	0.41** (2.66)
Multi Country	0.21*** (3.09)	0.20*** (3.12)	0.22*** (2.91)	0.24** (2.18)	---
Developing economy	0.25*** (3.30)	0.28*** (3.91)	0.30*** (3.43)	0.44*** (3.25)	0.54*** (3.05)
Industrial	-0.23** (-2.26)	-0.24** (-2.54)	-0.28** (-2.44)	---	---
Residential	0.26*** (3.11)	0.19** (2.46)	---	---	---
2007 & 2008	---	---	0.17** (2.28)	0.27** (2.56)	0.28* (1.79)
Catch Up	---	---	1.11*** (14.84)	1.61*** (14.28)	1.02*** (6.67)
R ²	0.31	0.29	0.58	0.54	0.21
Adjusted R ²	0.30	0.28	0.58	0.54	0.20

Conclusions

This paper tries to improve the transparency of the rather opaque world of private real estate fees. For the analysis a unique investor's private real estate fund database is used containing ex-ante fee structures as recorded in the corresponding placing documents. Based on IRR modelling and simulation, it is shown that the average total fee load for private real estate funds is 2.5%, which is clearly lower than the average private equity investment. Nevertheless, there are some substantial differences between funds. Core funds charge approximately 40 basis points less fee, while Value Add and Opportunistic funds do not seem to differentiate between fees structures. Size is another relevant indicator that impacts fees. As in most other finance theories, there is a size effect in fees. The bigger the fund, the lower the fee load on average. Industrial funds charge approximately 20 bps lower management fees, while residential funds charge 15 bps more. This is a clear reflection of the relative amount of work that needs to be done for these property types. A similar effect is the 18 bps increase in management fee for funds investing in multiple countries and the 51 bps increase for funds investing in developing countries. Complexity clearly has its price.

The most striking features affecting fee load are leverage and the catch-up clause. Leverage increases the management and performance fee, even when controlling for an increase in return. From 0% to 50% leverage will boost the fee with 40 bps. For fund managers this looks like an easy way to improve their profitability. The other easy way for fund managers is to introduce a catch-up clause. Funds charging a catch-up are on average 83 bps more expensive than other funds, which is included in the performance fee, while there is no additional work involved. This should therefore be part of the first negotiations done by investors.

Finally, it must be mentioned that the total fee load doesn't tell the full story. Fund expenses and other costs are excluded from this research, as these are not well documented in the placing documents. More transparency is necessary to include these in the research and to analyse the total expense ratio. Furthermore, it must be said that the placing documents hold before-negotiation fee structures and therefore in reality larger investors will have lower fee load due to negotiations. Nonetheless, it is clear

that fee structures should be an important topic on the investors' agenda and there are some obvious features that will impact the height of the total fee load, making it easier going forward to negotiate fair terms.

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