

Cost Transparency in European Listed and Non-Listed Real Estate February 2017



INREV



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AREF is the Association for Real Estate Funds. www.aref.org.uk

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Executive summary

- > Transparency requires clarity, completeness, comparability and convenient access to data
- > Expense ratios satisfy many though not all cost transparency needs
- > For many closed end funds a measure of gross to net IRR is a more useful measure than TER
- > Expense ratios differ in the non-listed and listed sectors but an approximate common measure is possible

The need for cost transparency is an important issue in all asset classes, including real estate. In a world of low investment returns, the impact of costs is greater. Maintaining investor confidence is key. This report concentrates on Europe, but the issue is global.

The industry must ensure that market participants have the relevant information at their disposal. That information must be clear, complete and comparable both between and within sectors. That information should also be conveniently accessible. The priorities together form the Four Cs of cost transparency: clarity, completeness, convenience and comparability.

For real estate as an asset class, this is not necessarily a straightforward task, for several reasons. One is that the non-listed sector operates a wider spectrum of investment

strategies than the listed sector. Another is that the non-listed sector has traditionally viewed expenses as a percentage of asset value while the listed sector has viewed costs as a percentage of income.

Although the difficulty of comparing the two can lead to some frustration among investors, as long as management fees in funds are generally based on assets under management, there would seem to be little appetite for the non-listed industry to change to a denominator based on income. Conversely in internally managed vehicles, which includes the overwhelming majority of listed vehicles, there are no outgoing management fees and therefore aligning the cost ratio to the fee structure is not a consideration. It therefore makes more sense to look at the outgoings as a proportion of the income. In these circumstances, it would seem highly unlikely that AREF, INREV and EPRA would harmonise on a single denominator. However, this does not prevent a rudimentary comparison to be made.

‘The non-listed sector has traditionally viewed expenses as a percentage of asset value while the listed sector has viewed expenses as a percentage of income.’

Key recommendations:

1. Improvements to the disclosure of calculation and components of the ratios.
2. Consider additional ratios for both listed and non-listed, especially for closed end funds where a gross to net IRR or return reduction metric might be more relevant.
3. Promote wider adoption of guideline disclosures across the listed and non-listed sectors.
4. Review cost terminology in light of recent and forthcoming changes to EU directives for non-listed vehicles, particularly for products marketed to retail investors.
5. Consider greater disclosure for a small number of very specific items (e.g. property level expenses on a grouped basis).

AREF and INREV expense ratios both use Net Asset Value (NAV)¹ and Gross Asset Value (GAV) as denominators to measure the fee and cost burden of the vehicle. In both cases, there is a ratio for vehicle fees and costs, known as the total expense ratio (TER), and a ratio for property related costs. The TER is the ratio used most often by investors.

AREF and INREV expense ratios are both comprehensive ratios for non-listed funds

¹ INREV uses a measure called INREV NAV while AREF does not prescribe a particular NAV

covering all relevant fees and costs. The two ratios overlap extensively, although there are some differences.

As has been mentioned above, the fundamental difference between the EPRA cost ratios and the AREF and INREV expense ratios is that the EPRA ratios show costs as a proportion of gross rental income rather than as a proportion of asset values. The EPRA cost ratios do not currently provide separate ratios for overhead costs (equivalent of TER) and property related costs. However, many listed companies provide separate cost lines for these so it is possible to calculate an equivalent of TER. EPRA cost ratios are calculated on two different bases: with and without the impact of vacancy.

‘EPRA ratios show costs as a proportion of gross rental income’

The study introduced a rudimentary calculation methodology for comparing the ratios of listed with non-listed. To illustrate

the calculation a non-listed style expense ratio was derived for a sample of 11 listed companies, and compared with the average expense ratio for non-listed funds.

The respective TERs for listed and non-listed are shown in Table 1. Although the numbers are only a rough guide to illustrate the calculation, the equivalent numbers should become more reliable as adoption

and disclosure of ratios becomes more comprehensive in both the listed and non-listed sectors.

Table 1: Total expense ratios for listed and non-listed real estate

	Listed	Non-listed
GAV	0.58	0.64
NAV	1.00	1.04

Note: This calculation is based on a sample of 11 listed companies and 25 non-listed funds.

Transparent information brings the greatest benefit when it is easily accessible. In the listed sector, annual accounts are the information source of choice, and it is here that improvements in clarity, completeness and comparability could be directed.

For the non-listed sector, there is currently no single preferred source of information on fees and costs. Larger institutional investors in non-listed tend to receive a suite of tailored information from their managers. However, industry efforts aimed at trying to standardise the information exchange are underway.

Two broad areas were identified as needing further work but they are outside the scope of this report:

a) The availability and use of accounts for non-listed funds;

b) The use and comparability of AREF, INREV, EPRA and other calculations of Net Asset Value (NAV).

INREV, PREA, NCREIF and ANREV joined forces in 2015 to bring convergence in reporting standards globally. In May 2016, global terms and definitions for the most widely used categories of fees and costs were released to the public. Ongoing efforts toward a single set of globally consistent fee and expense ratios will continue to throughout 2017.

Introduction

Introducing the Four Cs of cost transparency

- > **Clarity** – the information on ratios, cost components and calculations should be clear
- > **Completeness** – the information should be comprehensive, covering all relevant items
- > **Convenience** – the information should be easily accessible
- > **Comparability** – the information should enable comparisons within and between sectors

This is the framework used in the rest of this study. These four factors are not necessarily wholly compatible in every instance so sensible compromises between them may be needed in some cases. (For example: achieving completeness may not ensure convenience and comparability.)

The project

This research has been commissioned by AREF and INREV, and written by John Forbes of John Forbes Consulting LLP with support from the project focus group:

- Marleen Bosma, Head of Research, Bouwinvest
- John Cartwright, Chief Executive, AREF
- João Carlos Lelis, Fund Manager, Sonae Sierra

- Stephen Ryan, Research Manager, INREV
- Mark Sherwin, Secretary General, AREF
- Constantin Sorlescu, Professional Standards Manager, INREV
- Maarten van der Spek, Senior Strategist, ADIA
- Jean-Paul Vignac, Finance Director, LaSalle
- Henri Vuong, Director of Research and Market Information, INREV
- Laurent Ternisien and Hassan Sabir, both of EPRA, also contributed to the focus group's work.

All references to “we” in the report refer to John Forbes Consulting LLP.

Aim

The aim of this study is gain a better understanding of the composition and calculation of selected fee and expense metrics, exploring fee and cost structures, with a focus on total expense ratios (TER) for non-listed funds and cost ratios for listed entities. The study also facilitates comparison between the non-listed and listed routes to market by proposing a rudimentary equivalent of TER for listed vehicles that allows a starting point for comparison. It is hoped that the findings of the study will increase the information flow in this area and provide greater clarity and transparency for market participants.

Methodology

In terms of methodology, 43 people in the real estate investment management industry have been interviewed as part of this process, selected for their knowledge in this area. Their details can be found in Appendix 8. A follow-up survey was also conducted with the same group. In addition, the author analysed the accounts of 26 listed property companies and extracted key information from INREV's 2016 Management Fees and Terms Study.

In addressing the research objective, the study sought to explore the following:

Table 2: Key areas of investigation

Definitions	{	<ul style="list-style-type: none"> • Definitions of fee and cost structures for listed and non-listed real estate • Definitions for TERs and cost ratios
Composition	{	<ul style="list-style-type: none"> • Components of TERs and cost ratios • The effect of each component on an overall ratio.
Methodology and calculation	{	<ul style="list-style-type: none"> • Methodology for calculation of TERs and cost ratios • What approach do fund managers take in calculating expense and cost ratios? • What approach do investors take in comparing expense and cost ratios.
Comparison	{	<ul style="list-style-type: none"> • Differences between the compositions of TERs and cost ratios • How can expense and cost ratios be more comparable? • Are there any general differences in costs between the listed and non-listed sector, or is it only a different investment structure?
Improving transparency	{	<ul style="list-style-type: none"> • How can transparency be improved for fee and expense metrics, and corresponding expense and cost ratios? • How can information flow be improved for fee and expense metrics?

2. Market practice background

The importance of cost transparency

Concerns over fee and cost transparency have been an ongoing issue in the real estate investment industry. Increasing demands on the accumulated, collective retirement bucket from an aging population coupled with a parched return landscape stretching to the horizon puts this firmly into focus for all asset classes. In this challenging environment, maintaining investor confidence is key. This report concentrates on Europe, but the issue is global.

Investors continue to have concerns regarding the cost of investing in real estate as an asset class. The granular and operational nature of real estate mean that the cost may appear to be relatively high compared to more liquid and fungible investments. It is important that the industry ensures that market participants have the information at their disposal to understand the cost structure of investment. They also need to be able to validly compare the relative costs of different routes to access the market and of different providers that they might use within those routes.

This is particularly important now as many pension funds and other institutional investors themselves are under increasing scrutiny over their cost of operating and investing.

Key differentiators

In considering the expense ratios, the study has looked at three key differences in the investment vehicles concerned.

Table 3: Key differentiators

Listed versus non-listed	
<p>EPRA is the European Public Real Estate Association and therefore the entities covered by its standard are listed, and are entities whose shares are traded on an official stock exchange.</p>	<p>INREV is the Association for Investors in Non-Listed Real Estate Funds. It represents the interests of institutional investors.</p> <p>AREF is the UK Association of Real Estate Funds, and currently has mainly non-listed funds as its members (although it now has its first listed entity as a member). Its member funds cater for institutional and retail investors.</p>
Internally managed versus externally managed	
<p>Internally managed entities are ones where the management team is employed directly by the entity.</p> <p>Externally managed entities are ones where the management team is a third party remunerated by a management fee.</p>	<p>The clear majority of listed entities are internally managed although the study has identified a few externally managed REITs (for example Schroders REIT and AEW REIT in the UK).</p> <p>Non-listed funds are typically externally managed. The study identified one example of an internally managed fund, the Irish Property Unit Trust (IPUT) in Ireland but there are other examples, for instance in the Netherlands.</p>
Open end versus closed end	
<p>For the purposes of this exercise, a closed end fund is one which raises a fixed amount of equity in one or more closings for a fixed duration. At the end of the life of the fund, the equity is returned to investors and the fund is wound up or a vote may be taken to extend the life of the fund or to convert it to a different form.</p> <p>An open end fund has no fixed duration.</p>	<p>Where the volume of investors wishing to join an open end fund exceeds those wishing to leave, new units are issued for which investors subscribe. Conversely, when the volume of investors wishing to leave exceeds the volume wishing to join, units are cancelled and investors' holdings are redeemed. The mechanics of this are complex and vary from fund to fund. Material on the mechanics and risks can be found on the AREF and INREV websites.</p> <p>In recent years, funds have been launched which blur the boundaries between open end and closed end.</p>

3. Clarity and completeness of information

Clarity
Completeness
Convenience
Comparability

Overview of section

This section starts by describing the main AREF and INREV expense ratios and the EPRA cost ratios, and how they are calculated. Observations are made on the key components of overhead cost. The section then looks at the important area of comparability of management reward, specifically share based rewards for listed entities and performance based fees for managers. There are some observations on property cost disclosures.

How the cost ratios are calculated

As a starting point, we set out in Table 5 a summary of the basis of calculation of the key AREF and INREV expense ratios and the EPRA cost ratios. A more detailed analysis is set out in Appendix 1.

Table 4: Key ratios

INREV ratios	Key source	The basis for calculation of INREV cost ratios is set out in Module 6 of the INREV Guidelines (Fee and Expense Metrics). These are reviewed regularly and are updated when a necessity or material change is required. As a Guideline module the aim is to set the industry standard for best practice. The current guidelines have eliminated some of the ambiguities in earlier versions. The INREV cost ratios cover two key ratios, Total Expense Ratio and Real Estate Expense Ratio. These are calculated as follows:
	Total Expense Ratio	This ratio uses management fees and other vehicle costs as a proportion of weighted average INREV Net Asset Value (NAV) and INREV Gross Asset Value (GAV). The ratio should be disclosed with and without performance fees.
	Real Estate Expense Ratio	This ratio uses property expenses as a proportion of weighted average INREV GAV.
AREF ratios	Key source	The key document is the AREF Guidance on Expense Ratios Principles, Basis of Calculation & Presentation Effective from 1st January 2009 adopted by the AREF Code of Practice Sub-Committee in February 2009. This is planned to be updated when the proposed EU regulations for packaged retail and insurance-based investment products (PRIIPs) comes into effect. This is discussed later in this report.
	Key ratios	The key ratios are Total Expense Ratio and Property Expense Ratio / Real Estate Expense Ratio. These are calculated as follows:
	Total Expense Ratio	As with the equivalent INREV ratio, this ratio uses management fees and other vehicle costs as the numerator. Although the specific examples of vehicle level expenses are slightly more comprehensive in the INREV guidelines, the overall result is the same and in practice we did not find any examples where managers' approach was resulting in a different numerator. The denominator is, as with INREV, average GAV and NAV over the same period as the relevant costs. However, unlike INREV, this is based upon accounting NAV. INREV uses an adjusted NAV (called INREV NAV), the major difference being the capitalisation of acquisition costs of assets and their amortisation over five years.
	Property Expense Ratio	The Property Expense Ratio is the equivalent of the INREV REER.
	Real Estate Expense Ratio	The AREF Real Estate Expense Ratio is a combined ratio incorporating expenses used in the TER and PER, again as a proportion of GAV and NAV. The comments above regarding GAV and NAV remain applicable. The difference in the NAV treatment in the INREV guidelines has a knock on effect on the calculation of the numerator. The amortisation of property acquisition costs in INREV is included as a cost in INREV REER.
EPRA ratios	Key source	The key document is the EPRA Reporting Best Practices Guidelines. These were updated in December 2014.
	Comment on ratios	The EPRA cost ratio does not currently provide separate ratios for overhead costs (equivalent of total expenses in the TER) and property related costs. However, many listed companies provide separate cost lines for these so it would be possible to calculate an equivalent of TER.
		EPRA cost ratios are calculated on two different bases, with and without the impact of vacancy.
		The fundamental difference between the EPRA cost ratios and the INREV and AREF cost ratios is that the EPRA ratios show costs as a proportion of gross rental income rather than as a proportion of asset values.
	The EPRA guidelines suggest that companies are encouraged to use the EPRA Cost Ratios as a base-line to provide additional disclosures, where appropriate, on costs in the context of their own business model. For example, companies might provide a reconciliation between the EPRA Cost Ratio and a cost measure based on a Gross Asset Value (GAV) denominator; a cost measure which excludes costs of development; an 'administration' cost measure.	

A note on the denominator for AREF and INREV TERs

The denominator for the AREF TER is, as with INREV, average GAV and NAV over the same period as the relevant costs. However, unlike INREV, this is based upon accounting NAV not taking into account differences between specific accounting standards. INREV uses an adjusted NAV called the INREV NAV to overcome this issue (especially in cross border comparison). This is less of an issue for AREF member funds which are UK funds. As such they are accounting either under IFRS or FRS102 which is the current UK GAAP. The differences between the two are usually not material for investment funds. One of the differences between the INREV NAV and both AREF and EPRA NAV is the capitalisation under INREV NAV of acquisition expenses of assets and vehicle formation expenses, which are then amortised over five years.

One of the points raised later in this report is the separate disclosure of unamortised, capitalised costs. This would allow users to adjust INREV NAV to make it comparable to AREF and EPRA NAV.

Comparison of the ratios

The calculation of the ratios described above are shown in Calculation 1:

Calculation 1 – arriving at the key ratios

Management fees where applicable	(A)	X
Other vehicle and overhead costs	(B)	X
Total (A+B)	(C)	X
Property level costs	(D)	X
Total (C+D)	(E)	X
Gross Asset Value	(F)	X
Net Asset Value	(G)	X
Gross rents	(H)	X
Ratios:		
INREV TER ² and AREF TER ³	C/F and C/G	
INREV REER ⁴ and AREF PER	D/F	
AREF REER	E/F and E/G	
EPRA Cost Ratio	E/H	

Detailed comments on the comparisons of the ratios can be found in Table 5.

² Denominator reflects INREV adjusted NAV and GAV.

³ For AREF members TER based on GAV is optional whereas TER based on NAV is compulsory

⁴ Denominator reflects INREV adjusted GAV. INREV numerator also includes property fees, where applicable.

AREF and INREV define the fee and cost components in the TER calculation. Although the EPRA cost ratio does not currently provide separate ratios for overhead costs and property related costs, many listed companies provide separate cost lines for these so it would be possible to calculate an equivalent of TER. This is discussed further in section 5.

The study sets out in Table 5 comments on the major components of fees and costs for the TER and cost ratios.

Key observation regarding the ratios

It is apparent from the interviews that in both listed and non-listed vehicles the key area of concern for investors is management reward and ensuring that there is an alignment of interest between management and investors. In the case of externally managed vehicles, this manifests itself through the management fee and, where applicable, performance fees. In the case of internally managed vehicles, it is the direct reward of the executive team. Although there are significant differences

between non-listed and listed vehicles, this is a function of the fact that all but one of the non-listed vehicles in the form of funds identified during this study are externally managed. The overwhelming majority of European REITs are internally managed.

‘The key area of concern for investors is management reward’

Table 5: Comments on major cost components

Component	INREV	AREF	EPRA
Ongoing management fees	Included in TER in which they are the main expense component.	As for INREV	The clear majority of listed vehicles are not externally managed and therefore do not have external management fees.
Performance fees	TER is shown before and after performance fees.	Performance fees are shown as a separate item.	As above.
Other third party costs	Included in TER	As for INREV	All costs are included.

In the case of listed companies, executive reward is generally composed of a cash paid bonus and a share scheme. The treatment of share schemes is analysed two paragraphs below, but is important to note that the cost of share scheme arrangements is reflected through the profit and loss account. The costs included in the EPRA cost ratio are therefore from this perspective comparable to those in the INREV TER after performance fees. AREF TER does not include performance fees but these are separately disclosed.

As indicated above, ongoing management fees are the main expense component of the TER. Per the 2016 INREV Management Fees and Terms Study, management fees account for over 80% of total expenses. Investors in non-listed funds are very interested in management fees and how these relate to the manager’s cost.

Investors in non-listed funds are also very interested in performance fees. Performance fees can take different forms depending on

the nature of the fund. In many core funds, there are no performance payments. In other funds, there will often be performance fees the basis of calculation of which will depend upon the nature of the fund. In opportunity funds, performance reward is typically in the form of house or individual carried interest.

The extent of other third party costs included separately in TER is driven primarily by differences between managers as to what is incurred by the manager and recovered through the management fee and what is charged directly to the vehicle. Investors interviewed did not show great interest in most third-party costs per se, but were more interested in the relationship between these costs and the management fees. They wanted comfort that the fund was not picking up costs that were more properly for the account of the manager.

Analysis provided with the cost ratios

One of the features of the EPRA cost ratios that appealed to investors in non-listed funds was the level of detail provided in the accounts of the basis of the calculation of the cost ratios. As part of the study, 26 sets of European listed real estate company accounts were examined. Many of these included very comprehensive disclosure. EPRA encourages this through an “awards” process administered by Deloitte. All EPRA member accounts are reviewed by Deloitte who rank all those that reach a minimum standard as “gold”, “silver” or “bronze”. This encourages adoption of the EPRA guidelines.

‘The EPRA cost ratio is calculated as a proportion of gross rents’

The EPRA cost ratio is calculated as a proportion of gross rents. The disclosure in the more detailed accounts shows how gross rent has been calculated. This number can be traced back to the profit and loss account. This disclosure is recommended in the EPRA guidelines but has not yet been universally adopted. Of the 26 sets of accounts reviewed, roughly half met this level of disclosure.

It would appear that there are two major advantages to the level of disclosure provided:

It allows users of the accounts to recalculate ratios in any way they see fit.

It provides greater assurance over completeness of the calculations. One of the comments from the interviews in respect of the non-listed sector is that there is a concern that fund managers may be tempted to leave items out in their TER and REER calculations. For obvious reasons, nobody has volunteered that they are doing this. The listed companies’ approach of setting out the calculation eliminates this concern. The numbers in the calculation can be traced back to the audited profit and loss account.

For listed companies, we recommend that EPRA continues to encourage more widespread adoption of the disclosure set out

in the EPRA guidelines. This is outlined in more detail in Appendix 1.

The position for non-listed funds is more complicated. Annual accounts are important here too, but many investors will typically have a much broader range of information provided by the fund manager. The level of additional disclosure in the accounts of non-listed funds is far more varied than is typically the case for listed companies, although a considerable amount of additional information is available to those investors who receive additional information from their fund managers via the INREV SDDS. The level and mechanics of additional disclosure for non-listed funds is a topic that needs to be debated further.

The INREV Standard Data Delivery Sheet (INREV SDDS) aims to standardise the information exchanged between a fund manager and an institutional investor. Fund managers can enter their fund details (including fees and cost details) in a standardised template which can be sent to investors, thereby easing access to key information.

Treatment of share based reward under IFRS for listed companies

A key component in management reward for internally managed, listed vehicles is an executive share scheme. The accounting treatment of share schemes is dealt with under IFRS 2. The key features are set out in detail in Appendix 2.

Share schemes are an important component of reward in listed, internally managed vehicles and in many ways are the equivalent of performance fees in non-listed, externally managed funds. The costs are taken to the profit and loss account and are therefore reflected in the EPRA cost ratios. This is equivalent to a TER after performance fees.

Performance fees

The importance of management fees in cost ratios for externally managed funds has been discussed above. The EPRA cost ratio guidelines specifically mention performance

For those open end funds for which TER is most relevant, performance fees are a less significant cost component.'

fees as a reason why EPRA and INREV ratios are not comparable. The INREV SDDS requires TER to be disclosed before and after performance fees. The information is therefore

available for those institutional investors who receive the INREV SDDS, but not necessarily for those who do not, such as retail investors. AREF specifically requires separate disclosure of performance fees.

For those open end funds for which TER is most relevant (this is discussed later in this report), performance fees are a less significant cost component. There is a view from the interviews conducted that existing AREF and INREV expense ratios, particularly TER, are most relevant for open end core funds and least relevant for closed end opportunity funds. For closed end opportunity funds, the performance element of fees is expected to be the largest component. The ongoing management fee based on NAV is expected to cover the manager's day-to-day costs, with the profit being provided by the performance fee.

Additional property cost disclosure

Interest in property level ratios is less than in overhead ratios. There is a general view that "they are what they are". There are several factors that contribute to the difficulty of comparing property level costs.

These vary depending upon the complexity of

'AREF and INREV expense ratios are more relevant for open end core funds'

the underlying asset type. For example, the costs of managing a complex, multi-let, retail centre are likely to be considerably higher than for a single let warehouse.

There are differences across countries and asset types between the costs that are recovered through service charges directly from the tenant and those that are borne by the asset owner (but possibly recovered through a higher rent).

EPRA has attempted to achieve standardisation by adjusting costs and rents:

Service charge fees / recharges should be deducted from service costs.

If the company has rent which includes operating expenses not recharged specifically to tenants (e.g., 'warm' rents – a common practice in Nordic countries, and property costs which are included in the rents but which are not rebilled directly under the triple-net lease market practice) adjustments should be made to offset the service income against service costs and deduct this income from Gross Rental Income in (ix) and (xi) in Appendix 1. Both the adjustments should be limited to the extent that the cost equals revenue. Any profit or loss related to under / over-billing of, for example, energy costs should therefore be considered in the ratio.

Source: EPRA

‘Interest in property level ratios is less than in TERs’

This does not wholly resolve the challenge.

Investors and other users of accounts and ratios may benefit

from additional property level disclosures that may allow better comparison of one entity’s performance with another. In addition to providing the overall ratio as is the case at present, it would be possible to provide cost ratios for groups of assets with similar characteristics. Whether the grouping of assets should be prescribed at industry level or left to individual manager discretion is an interesting point for future discussion.

‘Investors and other users of accounts and ratios may benefit from additional property level disclosures’

Key recommendations to improve clarity and completeness

The fee and cost components of both the TER and the REER for non-listed funds should be broken down separately to individually show direct management fees, other amounts charged by the manager or related parties and amounts charged by third parties, as should fees and expenses capitalised which do not form part of the TER and REER.

The Fee and Expense Metrics and the Corporate Governance modules of the INREV Guidelines already requires a clear disclosure of all the fees charged by the manager and the activity to which they relate (see Appendix 1). Therefore, the study recommends at a minimum adoption of these guidelines or other equivalent methods of disclosure. Disclosure of fees paid to related parties would improve transparency as would a reconciliation including third party costs that could be tied back to the expense ratios.

We would recommend disclosure of the calculation of the expense ratios on an annual basis that can be reconciled to the audited accounts figures. This is also discussed in the next section of this report. A possible format is set out in Appendix 4.

4. Convenient access to information

Clarity
 Completeness
Convenience
 Comparability

The importance of easy access to information

This section begins with analysis of the nature and use of annual accounts. It then examines data exchange frameworks, including the INREV SDDS, before moving to the practicalities of using expense ratios. It considers the use of expense ratios for listed and non-listed, and it enquires whether the ratios are used in both due diligence and ongoing monitoring. Clear and complete information is a necessary step towards cost transparency but to bring the greatest benefit that information needs to be easily accessible. In some cases, that may mean better disclosures in annual accounts but there is no “one size fits all” prescription in this area.

Nature and use of annual accounts

For investors in listed vehicles, annual accounts are generally seen as a key source of information when they invest and for monitoring investments on an ongoing basis. The

‘Clear and complete information is useful only if it is accessible’

combination of comprehensive disclosure in listed companies’ accounts and those accounts being available for anyone makes it easy to recut information in any way the user wishes, and to make comparisons between companies. Management presentations and other information is generally publicly

available for all investors and potential investors too.

Annual accounts are important for institutional investors in non-listed funds too, but they will typically have

‘Information on expenses can be delivered in many ways, including annual accounts and due diligence questionnaires.’

a much broader range of information provided by the fund manager, such as responses to due diligence questionnaires when they invest and regular reporting packages from the manager afterwards. INREV is playing a key role in creating standard templates for these.

This raises interesting questions about the use and availability of accounts for non-listed funds; however, this is outside the scope of this study. However, we believe it is an important topic for further debate.

INREV SDDS and similar data exchange frameworks

The INREV SDDS aims to streamline and standardise the information exchanged

between the fund manager and investor. Fund managers can enter their fund details in a standardised template, which they can then send to their investors. This offers increased efficiency in the data upload and analysis of vehicle and portfolio information across fund investments. The INREV TER and REER disclosure is included in the template along with a breakdown of the fees charged by the manager and its affiliates. To enhance transparency, it may be beneficial to add in further details about the ratio calculation so that the user can see from which points the numbers are drawn and reconcile these to the accounts, and this is under consideration.

The INREV SDDS can be found here: <https://www.inrev.org/sdds>

Disclosure of calculation of TER and REER for non-listed funds

Many listed companies provide a comprehensive calculation of the cost ratio in their accounts in addition to the publication of the ratio itself. This allows the component elements to be reconciled to the numbers in the audited accounts. This is the disclosure recommended by EPRA, so we can anticipate greater adoption of this in the future.

In our survey we asked respondents if they would support such a breakdown being included in the accounts of non-listed funds, in addition to disclosure of the ratio itself. The majority, 96% of respondents agreed.

Nature and use of cost ratios

How are ratios used for listed entities?

Analysts that were interviewed as part of this study made some use of the EPRA cost ratios, but this was more to look at changes in a key indicator on a year-by-year basis for specific companies rather than to compare one REIT to another.

Investors were less concerned about the ratios. Our interviewees who invest in listed real estate do so globally. The European listed real estate market is relatively small compared to the US and Asian markets. European equities generally accounted for roughly 15% to 20% of the listed equities portfolios of those real estate equities investors interviewed. The specific EPRA ratios are published only by European listed companies.

From the interviews, there was a general recognition that it is difficult to compare one listed company with another. Two things would assist with this:

The disclosure in the EPRA cost ratio in the accounts with the most comprehensive disclosure, separating administration and property costs, is very helpful and aids comparison between different companies. Based on the sample of companies selected, fewer than half of EPRA companies make this full disclosure. Based on interviews, others are looking to make progress in this area. The most valuable thing that can be done in respect of EPRA ratios is to encourage greater adoption.

‘The most valuable thing that can be done in respect of EPRA ratios is to encourage greater adoption.’

There was some interest in considering additional disclosure of the property element of the costs, and in ratios grouping similar types of properties. This is an interesting concept and should be discussed further.

How are ratios used for non-listed funds?

Based on the interviews, TER is used more widely than REER. TER is used more comprehensively when evaluating investment options as part of the due diligence process prior to making investments, rather than as an ongoing monitoring of investments. Although some investors did have specific limits on TERs that they would apply, in most cases it was a subjective exercise. Some investors used the INREV Management Fees & Terms Study as a basis of comparison, and many of the larger investors have databases of their own comparable data points to use.

Investors and managers recognised that annual expense ratios were more relevant for some fund types than others. Generally, TERs were felt to be more relevant for lower risk funds where returns are lower and the impact of direct costs therefore greater. TERs were also felt to be more relevant for funds where activity was relatively stable year-on-year, so for open end funds and closed end funds

where the anticipation that the fund will roll over and continue at the end of its fixed life.

In Europe, there are many closed end funds with a life of ten years which is extended by another five to ten years at the end of the original fund life. In such funds, there is no expectation that the assets will be sold off. There are also large numbers of closed ended funds with a shorter fixed life (seven to nine years) with a more fixed life. The ability to extend in these funds is typically much shorter and is intended to happen only if circumstances prevent an orderly disposal of assets at the end of the fixed period. Annual TERs are less relevant for this second type of closed end funds with a fixed lifecycle, as is typically the case in private equity opportunity funds. Such funds typically have a fixed lifespan and a strategy with an investment period, a stabilisation period and an exit period. As such cumulative performance over the life of the fund is a more useful measure of performance than an annual snapshot. An alternative measure for such funds is discussed in Section 5.

There was a consensus amongst both managers and investors that the disclosure of expense ratios was much more prevalent for funds than for separate accounts, but also that this was starting to change. There

‘Generally, TERs were felt to be more relevant for lower risk funds’

‘Expense ratios may be used for initial decisions but not for ongoing monitoring’

was a concern that comparative information for both fees and expense ratios was less available for separate accounts than for funds.

Some investors who used expense ratios to evaluate investments did not use this extensively for ongoing monitoring of investments. All investors surveyed said that they made some use of the ratios, but based on comments during the interviews in some cases this was not very systematic. This seems somewhat surprising as the ratios are a useful measure of year-on-year performance, and indeed this was the main use cited for EPRA ratios. It seems particularly surprising that investors who used managers’ historic or even estimated TER in evaluating performance did not subsequently compare actual performance to assumptions made on the way in. This is not unique to the use of TERs. This is symptomatic of a broader tendency by some investors not to establish a logical flow from due diligence to ongoing monitoring.

The study asked investors if they used, and managers if they provided, TERs and REERs in due diligence before investing and in ongoing monitoring after investing. The results are as follows:

Table 6: Use of ratios in due diligence and ongoing monitoring

	In due diligence		In ongoing monitoring	
	TER	REER	TER	REER
Managers providing	100%	100%	100%	100%
Investors using	100%	75%	100%	100%

The impact of size

It might be anticipated that economies of scale would ensure that larger listed companies and non-listed funds would have lower cost ratios. Although Unibail Rodamco, by some margin the largest European REIT, had the lowest cost ratios, the pattern was less clear across the rest of the companies and funds considered. Size did not appear to be the key determinant in the cost ratios of either listed companies or non-listed funds.

Key recommendation to improve convenience of data access

Promote wider adoption of guideline disclosures across the listed and non-listed sectors.

5. Comparability of key cost information



Overview of section

This section focuses on comparability – that is, can the expense ratios facilitate useful comparisons. How well do the TERs work in the context of: different investment styles; different structures; funds that are internally and externally managed; funds that are listed and non-listed. The section explores alternative TERs before calculating a notional EPRA TER that could be compared with AREF or INREV TERs.

The suitability of TERs - style, structure and other criteria

There was interest, amongst both managers and investors, in additional expense ratios. In some cases, the need for additional expense ratios was linked to investment style

‘There was interest, amongst both managers and investors, in additional expense ratios.’

or to vehicle structure. In other cases, the question was based on other criteria, such as internal management versus external management

or whether the vehicle was listed or not.

Investment style

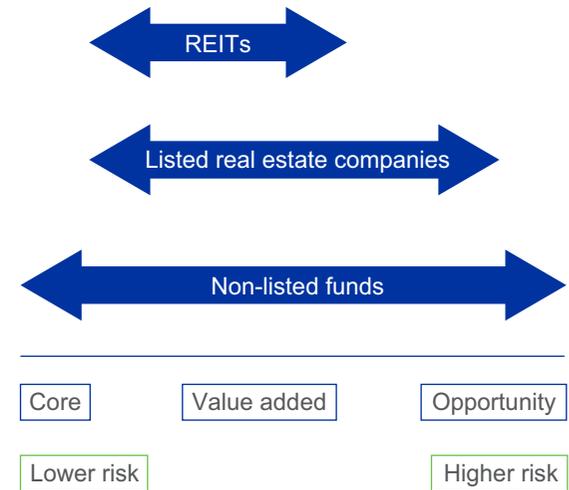
The non-listed real estate industry categorises funds into groups based on risk and return expectations. INREV has sought to formalise this, and its current style framework⁵ comprises three mutually exclusive groupings, namely: core, value added and opportunity. In ensuring comparability, it would be helpful to consider where listed companies fall on this spectrum.

Our initial view is that based on return expectations, levels of gearing and other risk factors, non-listed funds cover a broader spectrum than listed companies - the most core of core real estate funds are more core than the most core of listed companies. Equally, the most opportunistic of the private equity real estate funds operate at higher levels of risk and with higher levels of gearing than listed companies. The larger REITs who provide the most comprehensive EPRA cost disclosure appear to operate within a narrower band within the universe of listed companies. We believe that REITs are probably more closely comparable to the riskier examples of core through to core plus and value-added real estate funds. Cost ratios were felt to be most useful in the more core end of this spectrum. This is obviously subjective. EPRA do not have a style framework and not everyone would agree with having precise definitions for describing fund styles.

⁵ ANREV, INREV and NCREIF have joined forces to bring consistency to frameworks for describing fund styles. Efforts toward a globally consistent fund styles framework will take place throughout 2017.

This interpretation is illustrated in Figure 1:

Figure 1: Style coverage of non-listed and listed



This analysis is somewhat subjective and others may have a different view. The important thing is to consider is the nature of the vehicles and their risk and return profile to ensure that, where comparisons are made, cost ratios are being compared for genuinely similar vehicles.

Closed end or open end

There was a view among many of those interviewed that TER in isolation is not in itself a useful ratio for all funds. Whilst it is a meaningful ratio for an open end core fund, it is a less useful measure for a closed end fund with a fixed lifespan and a strategy with an investment period, a stabilisation period and an exit period.

However, this depended upon the nature of the closed end fund. Some funds had a notional fixed life but the life cycle of the assets was not expected to be over a fixed period. For example, there were examples of closed end funds with a life of ten years, with the expectation that assets would not be sold at the end of the period. Instead the anticipation was that the fund would be extended for another fixed period. In many cases the investment strategy was lower risk, perhaps core plus, and performance fees might be calculated on a rolling basis using valuations of the assets.

Up until 2014, INREV had a Return Reduction Metric (RRM) that sought to cope with the difference between open end funds and closed end funds of the first type (that is, with a fixed lifespan).

Listed versus non-listed

Although there are major differences in the way that AREF and INREV expense ratios

‘Investors in non-listed receive much more tailored information from their managers than when they invest in listed’

and EPRA cost ratios are calculated, there is nothing arising from one being for listed and the other being for non-listed that makes this inherently the case. Generally, disclosure in the accounts of

listed companies is more standardised those of non-listed funds, but funds are making significant progress in this area too.

Internally managed versus externally managed

This would appear to be the most important distinction. In both cases, the key consideration of investors appears to be the way that management is rewarded, and ensuring that there is an equitable alignment of interest. In the case of an internally managed vehicle, the focus is directly upon the executive reward arrangements. In the case of externally managed vehicles, this is a two-step process. The first step is to look at the fees paid to the manager, the second is how those rewards are shared amongst the individual executives. AREF and INREV expense ratios are currently based on asset value (GAV and NAV). This reflects the general basis of fee calculation. However, with an increasing focus on income, and in some cases performance fees using this as a criterion, there was interest in additional disclosure based on income or returns as well as valuation.

Alternatives to existing TERs

The study discusses four alternatives, namely: gross to net IRR; gross to net equity multiples; expense ratios based on income for non-listed funds; expense ratios based on asset values for listed vehicles

‘An equitable alignment of interest is important’

‘TER in isolation is not in itself a useful ratio for all funds’

Gross to net IRR and equity multiple

As discussed above, TER in isolation may not be a useful ratio itself for all funds.

An annual expense

ratio does not correlate to what either investors or the manager are looking to achieve.

Expenses will vary significantly over the life of the fund, as will the Net Asset Value. Costs will be high in the initial period and NAV will only grow over time. Costs will also be high in the wind-up period and NAV will be reducing.

For a closed end fund with an opportunity or value-added strategy, where performance is measured on internal rate of return over the life of the fund, a more useful measure of costs is a gross to net IRR analysis and a cumulative gross to net equity multiple analysis. This could be published as a complement to, rather than a replacement for, the conventional AREF or INREV TER.

A pro-forma gross to net disclosure could be a useful framework to consider and for INREV to bring back into use. We set out a possible simple example in Appendix 4. Up until 2014, INREV had a Return Reduction Metric (RRM) that sought to achieve this.

Meanwhile, in the private equity space, the Institutional Limited Partners Association (ILPA), headquartered in Toronto, has produced a transparency reporting template

for private equity funds which focuses on fees. This was published in January 2016. This is for private equity generally rather than specifically for real estate and is a broad reporting template which covers all assets and liabilities of the vehicle, though is less comprehensive than the INREV SDDS. However, it can be used as starting point for calculation of a gross to net ratio for accounts disclosure. INREV has already performed a comparison of terms and definitions with the ILPA template as part of its broader global standards initiative.

As several of those interviewed suggested gross to net IRR and equity multiple are more useful measures than annual TER for closed end funds with a fixed lifespan and a strategy with an investment period, a stabilisation period and an exit period. We asked survey respondents if they agreed, and 89% of respondents overall agreed. However, all of those who disagreed were Dutch investors so there may be a concern that is

‘Gross to net IRR and equity multiple are more useful measures than annual TER for closed end funds with a fixed lifespan’

related to jurisdiction that needs to be explored further. The study would suggest that this is an additional disclosure rather than a replacement for the TER.

The life and times of an opportunity fund

For opportunity funds following a typical private equity real estate model, the fund would typically reflect a fixed lifecycle for the investments. There would be an investment period during which commitments from investors would be drawn down and invested, a hold period during which the strategy for adding value was effected followed by sale of the assets once value had been maximised. Performance would typically be based upon reaching an internal rate of return hurdle. Historically this might have been on an asset by asset basis but would now typically be cumulative across the life of the fund. In these funds, an annual snapshot of an expense ratio was felt to be almost entirely irrelevant by most of those involved, investors and managers alike. For funds with the same vintage, what is relevant is a cumulative cost over the life of the fund, giving a cumulative gross to net return.

Expense ratios based on income for non-listed funds

The EPRA cost ratio is shown as a proportion of gross rental income. This was of interest to some investors, particularly those in core funds that were focused on providing income. There was not a clear agreement amongst investors as to what a relevant ratio might be, with some taking the view that a ratio based on gross rental income would be of interest,

with others being more focused on the annual distribution from funds. What managers are promising investors will vary from fund to fund.

In some cases, the basis for annual management fees or performance fees is changing to reflect this. However, management fees are the largest expense component for TER and remain overwhelmingly calculated on gross or net asset value. TERs as currently calculated will therefore remain the focus with ratios based on income, total returns or distributions being a potential additional disclosure rather than an alternative.

Expense ratios based on asset values for listed vehicles

It is possible to calculate an AREF or INREV style TER of overheads as a proportion of asset values. from the information provided in many listed company accounts. The EPRA guidelines already suggest that in addition to cost ratios based on gross rental income, cost ratios could be provided based on gross or net asset value. Although this is the recommendation we were not able to identify any cases where this had been done from the

‘Management fees are the largest expense component for TER and remain overwhelmingly calculated on gross or net asset value.’

accounts that we reviewed. Listed companies may consider this as an additional disclosure, i.e. it is an option rather than an obligation.

In our survey, we noted that the EPRA guidelines suggest that in addition to cost ratios based on gross rental income, cost ratios could be provided based on GAV and NAV. The study asked respondents if they would support this and 82% of respondents said they would. However, it is important to note that those who supported this did not come from the listed sector. Those primarily involved in the listed sector either did not support the suggestion or did not respond.

Comparison across Europe

Regulatory framework

Funds in the European Union that invest in transferable securities are regulated under the Undertakings for Collective Investment in Transferable Securities (UCITS) Directive (2009/65/EC). The UCITS Directive sets out a standard for cost disclosure. It is important to note the following:

Although some funds covered in this project invest wholly in securities in listed real estate companies and are therefore UCITS funds, most funds covered invest in direct property are therefore not UCITS funds. The Directive that regulates managers of non UCITS funds (The Alternative Investment Funds Managers Directive, AIFMD) does not contain equivalent provisions. Furthermore, the AIFMD governs funds marketed to institutional investors. Non UCITS funds marketed to retail investors are

governed by national regulation. Thus, cost disclosure for alternatives funds is governed by local regulation in each country to the extent that it is governed by any regulation. This will change with the introduction of the EU Packaged Retail and Insurance-based Investment Products (PRIIPs) Regulation. This is discussed further one paragraph below.

The UCITS Directive has moved away from the TER terminology and now requires the disclosure of “Ongoing Charges”. These are very like TER, but exclude performance fees. One of the benefits for disclosure of TER is that it enables comparison between different fund types.

The PRIIPs regulation will introduce standard cost disclosure requirements for funds with retail investors either directly or through an insurance product. PRIIPs will apply to the manager of a fund marketed to retail investors and others in the distribution chain. A PRIIP “manufacturer” (or any other person who

‘The UCITS Directive has moved away from the TER terminology and now requires the disclosure of “Ongoing Charges”’

changes an existing PRIIP, such as a distributor) is required to (a) prepare a Key Information Document (KID) for each

PRIIP that they produce, and (b) publish each KID on their website.

The KID is required to include a disclosure of costs, split between ongoing charges and one off costs. This is broadly comparable to the UCITS KIID requirements outlined above and is designed also to be compatible with the requirements of MIFID set out in Table 7 below.

The implementation of PRIIPs has been thrown into some disorder by the rejection in September 2016 by the European Parliament of the draft regulatory technical standards (RTS) that sets out the requirements for KID disclosure. 26 of the 28 members of the EU Council of Ministers support a one-year delay of the introduction of PRIIPs to 31 December 2017. The one year delay was confirmed by the European Commission in November.

Although PRIIPs will not generally apply directly to institutional investors, there may be cases where institutional investors are invested in funds alongside retail investors and therefore PRIIPs rules will be relevant.

EU wide rules are also established by the Markets in Financial Instruments Directive (MIFID). MIFID is the framework of EU legislation for intermediaries providing services to clients in respect of investment in financial instruments. This includes units in collective investment schemes. The cost disclosure requirements under MIFID are being strengthened under MIFID II, but remain less prescriptive than those under UCITS and

PRIIPs as the rules cover a much broader range of products. The implementation of MIFID II has also been delayed and will not now come into effect until January 2018.

A comparison of the requirements under UCITS, PRIIPs and MIFID II are set out in Table 7 below.

In the case of PRIIPs, the percentage cost is disclosed as an estimated reduction in yield (RIY) over different hold periods.

We would suggest a comprehensive review of expense ratio terminology, methodology and disclosure for non-listed funds once the PRIIPs requirements are finalised.

Use of ratios in selected European countries

It is clear from the interviews that there is significant variation in the use of ratios country by country. Investors and managers from the Netherlands had the strongest interest in the subject.

In the United Kingdom, there is consistent adoption amongst AREF member funds. This is to be expected as it is an AREF member requirement. For funds that are Authorised Funds (regulated, open end funds) for marketing to retail investors, the publication of a TER or an ongoing charges figure is a regulatory requirement. Such funds can either publish a TER, or if they have opted to produce a UCITS-like KIID, ongoing charges. Most have opted for the latter. Ongoing charges in this case do not include performance fees, which should be separately disclosed. This will be replaced by the PRIIPs rules when these come into effect. The AREF TER Guidance which was written in 2009 is scheduled to be updated, but this is not planned to take place until the PRIIPs provisions are finalised.

Table 7: Comparing relevant EU Directives

	UCITS (KIID)	PRIIPs KID	MIFID II
Disclosure	Percentage	Absolute and percentage, see note	Absolute and percentage
One off charges	Yes	Yes	Yes
Ongoing charges	Yes	Yes	Yes
Transaction costs	No	Yes	Yes
Incidental costs	Yes	Yes	Yes
Aggregate of costs above	No	Yes	Yes
Cumulative effect on returns	No	Yes	Yes

Two further points are worth noting from the interviews:

First, some Scandinavian managers provide very good analysis of cost ratios. This has been used

‘There is significant variation in the use of ratios country by country.’

to prepare a possible disclosure, set out in Appendix 4;

Secondly, Italian real estate funds are required by local regulation to provide a cost ratio that is slightly different to what has been discussed so far in this study. The Italian approach is set out in Appendix 6. Rather than focus on the difference between fund level and property level costs, it focusses on recurring costs versus non-recurring costs. However, as a breakdown is provided, investors can recalculate the ratios on whatever basis they wish.

Calculation of a notional EPRA TER

As discussed earlier in this report, the fundamental difference between the EPRA cost ratios and the AREF and INREV expense ratios is that the EPRA ratios show costs as a proportion of gross rental income rather than as a proportion of asset values. The EPRA cost ratio does not currently provide separate ratios for overhead costs (equivalent of TER) and property related costs. However, many listed companies provide separate cost lines for these so it is possible to calculate an equivalent of TER. EPRA cost ratios are calculated on two different bases: with and without the impact of vacancy.

It is possible to produce a rudimentary non-listed style expense ratio number for listed funds that approximates to the number for those non-listed funds publishing either an AREF or an INREV expense ratio. A notional average expense ratio is calculated in this study for a sample of listed companies.

An equivalent to a TER number for listed funds could be calculated as follows:

Table 8: Notional EPRA TER

<i>Numerator</i>	Where EPRA companies produce an analysis of the cost ratio that includes a split between administration cost and property cost, this equates to the TER and REER split in AREF or INREV ratios. There is no formal description of what should be allocated to each, but based on interviews with companies, common sense is being applied.
<i>Denominator</i>	The study believes that the EPRA NNNAV is the closest approximation to the INREV NAV. A detailed comparison is set out in Appendix 1.

Note that:

For the INREV NAV, vehicle formation and acquisition costs are capitalised and amortised over five years. This capitalisation and amortisation is not the case in either the EPRA or AREF NAV. This should be debated further and we have suggested separate disclosure and reconciliation of the unamortised acquisition costs.

We have averaged opening and closing NAV

as an approximation of average NAV over the year as a weighted average NAV over the year, as required for the INREV NAV, is not available from the accounts of listed companies. This may give a different result if NAV has been volatile over the year.

Calculation

The calculation is for illustrative purposes only and is based on a small sample of 11 listed companies and 25 funds that provided a TER based on the INREV NAV.

The study has calculated notional TERs and REERs using the split of costs between administration and property costs in the EPRA cost ratio where this is provided, gross assets and EPRA NNNAV.

In making the comparison, we have used data from the INREV Management Fees and Terms Study 2016.

The INREV Management Fees and Terms Study 2016 was published in July 2016. This is the eleventh edition of the study - the previous edition was published in 2014. The 2016 report analyses and compares the fee structures and fee levels of European non-listed real estate funds in 2015. The study uses data for the end of calendar year 2015 collected in the first half of 2016.

The key findings are:

1. On average, value added funds had a higher TER than core funds both as a

proportion of GAV and NAV. Core funds had a TER based on GAV of 0.69% and value added funds had a TER based on GAV of 0.90%, giving an average across both of 0.73%, before performance fees. The post-performance fees figure is 0.77%.

2. TER is lower for open end funds than for closed end funds measured as both a proportion of GAV and NAV. The TER based on GAV for open end funds is 0.58% compared with 1.07% for closed

end funds. The TER based on NAV for open end funds is 0.79% compared with 1.86% for closed end funds. Open end funds generally tend to follow a core strategy whereas closed end funds can cover a broader spectrum, which largely reflects the finding in point 1 above. Closed end funds are also more impacted by the cost of establishment and winding up.

3. When the TER based on GAV is split by management fees and vehicle costs, the dominant component is the management

Figure 2: Backward-looking 2015 TER rates split by type of fees



Source: INREV Management Fees and Terms Study 2016

fee. On average, based on GAV, non-listed real estate funds have management fees of 0.60% and vehicle costs of 0.14%. For core funds the split is 0.54% and 0.15% for management fees and fund costs respectively, while for value added funds the split is 0.79% and 0.11%, as shown in Figure 2.

4. The impact of performance fees in the INREV cost data is limited. Annual TERs are most relevant in open end core funds and least relevant in closed end opportunity funds. This is reflected in the responses to the INREV survey on which the Management Fees & Terms Study is based. Most of the respondents are core funds. No opportunity funds responded. Core funds tend to have no performance fee element or a limited performance fee element.

The study can be found on the INREV website here:

<https://www.inrev.org/inrev-news/inrev-news/4398-updated-analysis-of-total-expense-ratios-TERS>

The INREV Fee and Expense Metrics module was updated in July 2016 after the questionnaire for the Management Fees and Terms study was completed and therefore not all parts of the study are entirely consistent with the updated guidelines. However, the total expense ratio (TER) calculated in the report is broadly comparable to the methodology in the updated Guidelines.

The comparable figures for the 25 funds that provide a strict INREV TER (based on INREV NAV only) are as follows:

Table 9: Total expense ratios for listed and non-listed real estate

	Listed	Non-listed (based on INREV NAV)
GAV	0.58	0.64
NAV	1.00	1.04

Source: INREV Management Fees & Terms Study 2016 (sample of 25 funds); John Forbes Consulting LLP (sample of 11 listed companies)

6. Recommendations and conclusions

The study makes a number of recommendations, summarised in the points directly below.

Recommendations

1. Improvements to the disclosure of calculation and components of the ratios.
2. Consider additional ratios for both listed and non-listed, especially for closed end funds where a gross to net IRR or return reduction metric might be more relevant.
3. Promote wider adoption of guideline disclosures across the listed and non-listed sectors.
4. Review cost terminology in the light of recent and forthcoming changes to EU directives, particularly for products marketed to retail investors.
5. Consider greater disclosure for a small number of very specific items e.g. property level expenses on a grouped basis.

Concluding remarks

Cost transparency is a necessity in all asset classes, including real estate. The industry must ensure that market participants have the relevant information at their disposal.

That information must be clear, complete and comparable both between and within sectors. That information should also be accessible in a convenient way. These are the Four Cs of cost transparency: Clarity, Completeness, Comparability and Convenience.

Cost transparency is needed for both existing investors and potential investors. Without it decision-making is more difficult and confidence harder to maintain.

The study has looked in detail at the key AREF and INREV expense ratios and EPRA cost ratios, highlighting those areas where they are similar and where they are different. The study has provided a comparison between the non-listed and listed sectors by outlining a rudimentary methodology for comparing EPRA cost ratios with AREF and INREV expense ratios.

Expense ratios are the cornerstone of cost transparency. Greater adoption of industry guidelines will ensure wider usage of such ratios. However, additional ratios can play a role too (for example, for closed end strategies where the expenses vary at different points over the fund's lifetime).

The move towards better cost ratios will continue, driven by investors, regulators, fund

managers and industry bodies. For example, INREV and other industry bodies in the US and Asia are already working towards a global expense ratio.

This study has concentrated on cost transparency in listed and non-listed real estate, and is a step towards a better understanding of the differences between the ratios for listed and non-listed. Further work remains to be done in the wider context of cost transparency in multi-asset portfolios.

Appendices

Appendix 1. Detailed Calculations of AREF and INREV expense ratios and EPRA cost ratios

INREV TER and REER

The basis of calculation of INREV TER and REER are set out in detail in the INREV guidelines which can be found here:

<https://www.inrev.org/guidelines/module/fee-and-expense-metrics#inrev-guidelines>

Costs are disclosed in the ratio as a proportion of NAV and GAV, which are defined in the guidelines for INREV NAV and INREV GAV. The differences in calculation between INREV, AREF and EPRA NAV and GAV are described below.

Per the INREV guidelines, fees describe charges borne by the vehicle for services provided by the manager and costs describe charges to a vehicle by external service providers. Fees charged by the manager directly to their investors are not considered, except for fees charged for services rendered to the vehicle.

Where a single fee is charged to cover a variety of activities, the constituent elements will need to be identified, allocated to the appropriate cost category and disclosed appropriately.

The guidelines outline the bases for providing historical ratios and forward looking projected ratios.

Historic Total Expense Ratio, including and excluding performance fees, based on both the time-weighted average INREV GAV and the time-weighted average INREV NAV of the vehicle over one year, should be provided annually.

TER is expressed as a percentage of time-weighted average INREV NAV. However, the degree of leverage within a vehicle distorts the comparability of the measure when it is based on NAV. It is therefore also expressed as a percentage of INREV GAV.

The components of the numerator include the vehicle fees and costs for the reporting period.

Some fees, such as property-level fees charged by the manager, should not be included when calculating the TER; they do however form part of the REER. If the manager charges a single fee covering both property and vehicle management activities, it should be split into its constituent elements.

TER should be disclosed both including and excluding performance fees, due to various structural methods of distribution, and each calculation should be separately disclosed.

Historic Real Estate Expense Ratio, based on the time-weighted average INREV GAV of the vehicle over one year, should be disclosed annually.

While the TER relates to the operating costs borne by the vehicle, the REER captures only those costs that relate to the management of

the real estate assets. The REER includes the property-specific costs described below.

The numerator should include the fees and costs associated with managing the properties, while the denominator should be the time-weighted average INREV GAV.

The INREV Guidelines require that a forward-looking TER, based on both the time-weighted average INREV GAV and the time-weighted average INREV NAV for the first year when the vehicle is expected to be stabilised, should be provided in the documentation. These measures should be calculated following the same methodology as for an historic TER, although they will be based on estimates.

The forward-looking TER is calculated after performance fees, such that all vehicle costs are considered. The forward-looking TER should be accompanied by disclosure of the estimates used to calculate this metric.

A forward-looking REER, based on the time-weighted average INREV GAV of the vehicle for the first year when the vehicle is expected to be stabilised, should be provided in the documentation. This should be calculated following the same methodology as for an historic REER, although it will be based on estimates. The forward-looking REER should be accompanied by a disclosure of the estimates used to calculate this metric.

Fees and costs should be classified consistently for calculating the INREV fee and expense metrics, as follows:

Vehicle fees included in the TER comprise:

Asset management fees (certain services);

Fund management fees;

Performance fees (including carried interest);

Wind-up fees.

Vehicle costs included in the TER comprise:

Audit costs;

Bank charges;

Custodian costs;

Dead deal costs;

Other/miscellaneous vehicle costs;

Other professional service costs;

Transfer agent costs;

Valuation costs;

Vehicle administration costs;

Vehicle formation costs (amortisation for the period).

The costs incurred by Special Purpose Funds (“SPVs”), which sit above the acquisition structure in the holding structure, are included in vehicle expenses. Costs of this nature that are charged to the acquisition vehicle should also be included in this category.

Property fees included in the REER are directly attributable to the management and the maintenance of specific properties. These fees comprise:

Asset management fees (certain services not included in the TER);

Internal leasing commissions;

Property acquisition fees (amortisation for the period);

Property management fees.

Property costs included in the REER are directly attributable to the management and the maintenance of specific properties. These costs comprise:

External leasing commissions;

Property acquisition costs (amortisation for the period);

Other/miscellaneous/sundry costs;

Property insurance costs;

Property management costs;

Repairs and maintenance costs;

Taxes on property-related activities;

Utilities costs (non-rechargeable portion).

Fees and costs excluded from the TER and REER comprise:

Deferred taxes on property-related activities

Development costs;

Disposition costs;

Fair value adjustments;

Financing costs;

Financing fees charged by managers;

Gain/loss on currency exchange rates;

Gain/loss on investment disposition;

Goodwill write-off;

Impairment of goodwill;

Losses on disposal of subsidiaries;

Payments related to financial derivatives;

Project management fees;

Provisions and allowances;

Receivables write-off costs;

Rent free/discounts;

Securities handling charges;

Share of losses of associates and joint ventures;

Taxes on real estate transactions;

Unwinding of discounts and effect of changes in discount rate on provisions.

The INREV Guidelines also require disclosure of the components of fees earned by the manager as set out in Calculation 2 below:

Calculation 2 – Disclosure of fees earned by the manager

Fees earned by the manager disclosures	20XX Currency	20XX Currency
Asset management fees	X	X
Fund management fees	X	X
Performance fees	X	X
Wind-up fees	X	X
Internal leasing commission fees	X	X
Property management fees	X	X
Financing fees	X	X
Project management fees	X	X
Property acquisition fees	X	X
Property disposition fees	X	X
Other related fees	X	X
Total fees earned by the manager	X	X

AREF TER and REER

The broad requirements to disclose expense ratios is set out in section 2.7 of the AREF Code of Practice (Management fees and other expenses). This can be found here:

<http://www.aref.org.uk/code-practice/management-fees-expenses>

This requires AREF member funds to comply with the AREF Expense Ratio Guidance, published in 2009, which can be found here:

<http://www.aref.org.uk/sites/default/files/Finalised%20TER%20Guidance.doc.pdf>

The key requirements are set out in the table below:

Expense Ratio	Items Captured
(A) Fund Management Fees	Fund management fees, to include core functions such as fund accounting, reporting, and investor relations. Investment management fees (for approvals, oversight, direction, reviewing etc.). Fund level asset management arrangements (not project specific costs which are carried in (D)). Other fees paid to manager associated with investment management function – for example, transactions, development oversight, debt management – and transaction fees paid to Manager.
(B) Fund Operating Expenses	Non-property specific costs, including: Supervisory board Administration fees Audit fees Valuer fees Custody / Trustee fees Fund legal fees Fund marketing fees Other fund level professional fees Company secretarial fees Taxes (not relating to transactions) such as non- recoverable VAT associated with the operations of the fund. Miscellaneous fees and expenses associated with the operation of the fund. Amortised set up costs (where expensed) Amortised debt costs Other costs associated with debt such as valuation fees (but not debt interest which is excluded). [In all cases the allocation of costs should follow the accounting treatment].
(C) Total Expense Ratio (TER)	The aggregate of Fund Management Fees and Fund Operating Expenses (A + B)

(D) Property Expense Ratio (PER)	<p>Property portfolio specific costs including:</p> <ul style="list-style-type: none"> Service charge shortfalls and holding costs such as empty rates and security Rent review and lease renewal costs Maintenance and repairs (not improvements) Property insurance costs / rebates Aborted transaction costs where appropriate.
(E) Real Estate Expense Ratio (REER)	<p>C+D This represents the 'steady state' costs associated with the operation of the fund.</p>
(F) Transaction costs	<p>Tax, professional fees and other costs associated with the purchase and sale of property holdings.</p>
(G) Performance fee	<p>Performance fees paid (or accrued for) to the manager during the period, whether of a capital or revenue nature. This should include any performance fees paid to third parties to the extent that the fee relates to strategic / fund level activities. If performance fees are paid to third parties for activities at asset level, then these should be carried within the Property Expense Ratio or in transaction costs as appropriate.</p>

EPRA Cost Ratio

The requirements in respect of EPRA cost ratio disclosures are set out in the EPRA Reporting Best Practices Recommendations published in December 2014. These can be found here:

http://www.epra.com/media/EPRA_Best_Practices_Recommendations_BPR_-_Dec2014_1436191395537.pdf

The basis of calculation is set out below:

(i)	Administrative/operating expense line per IFRS income statement	X
	-	X
	-	X
(ii)	Net service charge costs/fees	X / (X)
(iii)	Management fees less actual/estimated profit element	(X)
(iv)	Other operating income/recharges intended to cover overhead expenses less any related profits	(X)
(v)	Share of Joint Ventures expenses	X
	Exclude (if part of the above):	
(vi)	Investment Property depreciation	(X)
(vii)	Ground rent costs	(X)
(viii)	Service charge costs recovered through rents but not separately invoiced	(X)
	EPRA Costs (including direct vacancy costs) (A)	X
(ix)	Direct vacancy costs	(X)
	EPRA Costs (excluding direct vacancy costs) (B)	X
(x)	Gross Rental Income less ground rent costs - per IFRS	X
(xi)	Less: service fee and service charge costs components of Gross Rental Income (if relevant)	(X)
(xii)	Add: share of Joint Ventures (Gross Rental Income less ground rent costs)	X
	Gross Rental Income (C)	X
	EPRA Cost Ratio (including direct vacancy costs) (A/C)	X
	EPRA Cost Ratio (excluding direct vacancy costs) (B/C)	X

EPRA NAV and NNNAV

The EPRA cost ratio is as a proportion of gross rent. However, if ratios are to be recalculated as a proportion of GAV and NAV to enable comparability to INREV and AREF TERs and REERs, the calculation of EPRA NAV is important. A comparison of INREV and EPRA NAV is set out below:

	INREV	EPRA	Notes
IFRS NAV per accounts	X	X	
Effect of exercise of options		X	The differences are more to do with the things that are issues in non-listed or listed funds. The basic principles are the same.
Reclassification of convertibles	X	X	
Reclassification of shareholder loans	X		
Revaluation of investment properties if cost option under IAS40 is used	X	X	
Revaluation of properties under construction if cost option under IAS40 is used	X	X	
Revaluation of properties held for sale	X	X	
Revaluation of other assets	X	X	
Revaluation of properties leased to tenants under finance leases	X	X	
Set up costs	X		These are not included in EPRA NAV. This is the most significant difference.
Acquisition costs	X		
Contractual fees	X		These are certain fees paid to the manager. They are not an issue in internally managed funds (so for most listed entities).
Exclude fair value of:			But note these are readjusted below for EPRA NNNAV
Financial instruments		X	
Deferred tax		X	
Goodwill as a result of deferred tax		X	
Impact of JV interests		X	
EPRA NAV		XX	
Fair value of financial instruments		X	Reversal of adjustment above

Transfer tax benefits on NAV	X		The future benefits of transfer tax planning are not included in EPRA NAV
Deferred tax based on expected crystallisation	X	X	
Goodwill as a result of deferred tax	X	X	
INREV NAV	XX		
EPRA NNNAV		XX	

EPRA NNNAV (triple net NAV) is a much closer approximation to INREV NAV than EPRA NAV is. The study has used EPRA NNNAV in our calculations in the main body of the report.

Appendix 2. Treatment of share-based reward for listed companies

A key component in management reward for internally managed, listed funds is through executive share schemes. The accounting treatment of share schemes is dealt with under IFRS 2. The key features are:

Equity settled schemes

Equity-settled transactions with employees and directors would normally be expensed to the profit and loss account and would be based on their fair value at the grant date. Fair value should be based on market price, which should be straight-forward to determine for listed companies covered by EPRA. IFRS 2 determines and recognises the compensation costs over the period in which the services are rendered. For example, if a company grants share options to employees that vest in the future only if they are still employed, then the accounting process is as follows:

The fair value of the options will be calculated at the date the options are granted.

This fair value will be charged to profit or loss equally over the vesting period, with adjustments made at each accounting date to reflect the best estimate of the number of options that will eventually vest.

Shareholders' equity will be increased by an amount equal to the charge in profit or loss. The charge in the income statement reflects the number of options vested. If employees

decide not to exercise their options, because the share price is lower than the exercise price, then no adjustment is made to profit or loss. On early settlement of an award without replacement, a company should charge the balance that would have been charged over the remaining period.

Performance conditions

Where a share scheme includes vesting conditions related to performance, the treatment will depend on the conditions. If the conditions are specifically related to the market price of the company's shares, then such conditions are ignored for the purposes of estimating the number of equity shares that will vest. If the vesting or performance conditions are based on other test, for example, increase in profit or earnings per share, then the conditions must be considered in estimating the fair value of the option at the grant date. In real estate companies, for example British Land PLC, the performance conditions for employee share schemes include property related performance conditions.

Cash settled schemes

These are less common. Cash payments are made based on the price of the company's equity instruments. The expense for cash settled transactions is the cash to be paid by the company. If employees are entitled to cash payments equal to the increase in the share price of a given number of the company's shares over a given period, this creates a liability, and the profit and loss account cost is based on the fair value of the

instrument at the reporting date. The fair value of the liability is re-measured at each reporting date until settlement.

Example calculation

On 1st January, the company grants share options vesting over three years to employees as follows:

Employee 1	100
Employee 2	40
Employee 3	20
Employee 4	20
Employee 5	20
Total	200

At the date of grant, the value of the options taking account of vesting conditions is estimated at 7.50

The total value of the options is 1,500

This cost is spread over the vesting period of 3 years - 500 per year.

Changes to rules

Some changes to the rules were announced on 20 June 2016. The amendments clarify requirements on accounting for:

The effects of vesting and non-vesting conditions on the measurement of cash-settled share-based payments;

Share-based payment transactions with a net settlement feature for withholding tax obligations; and

A modification to the terms and conditions of a share-based payment that changes the classification of the transaction from cash-settled to equity-settled.

Companies are required to apply the amendments for annual periods beginning on or after 1 January 2018. Earlier application is permitted.

Disclosure

Extensive disclosure of share schemes is required in company accounts. This allows the user to understand both the current profit and loss account cost and future costs under the scheme.

Conclusion

Share schemes are an important component of reward in listed, internally managed funds and are in many ways the equivalent of performance fees in non-listed, externally managed funds. The costs are taken to the profit and loss account and are therefore reflected in the EPRA cost ratios. This is equivalent to a TER after performance fees.

Appendix 3. Notional TER for listed companies

A detailed calculation of the notional TER for a sample of listed companies is set out below:

	Property cost	Admin expense	Gross asset value (GAV)		Net asset value (NAV)		Average GAV	Average NAV	Notional TER	Notional REER	EPRA	Excl vacancy		
			Opening	Closing	Opening	Closing			GAV				NAV	
NSI	22.5	6.9	1112.1	1283.1	640.3	661.1	1197.6	650.7	0.5	1.0	2.4	4.5	25.7	25.6
Befimmo	9.9	13.35	2279.2	2286.8	1169	1250	2283	1209.5	0.5	1.1	1.0	1.9	16.62	12.8
Vastned	10.1	8.5	1622.5	1743	769.5	805.3	1682.75	787.4	0.5	1.0	1.1	2.3	20	19.3
British Land	20	81	11398	13273	6700	8359	12335.5	7529.5	0.6	1.0	0.8	1.3	16.4	14.6
Citycon	19.1	29.3	2661.3	4051.1	1559.5	2185.8	3356.2	1872.65	0.8	1.5	1.4	2.5	20.3	18.5
Cofinnimo	33.7	7.8	3234.2	3196.1	1595.3	1910.1	3215.15	1752.7	0.2	0.4	1.2	2.3	20.13	17.68
Derwent	3.2	30	3701.8	4372.8	2877.7	3847.1	4037.3	3362.4	0.7	0.8	0.8	0.9	24.3	22.3
Mobima	10.7	8.7	2056.5	2777.6	1164.2	1206.9	2417.05	1185.55	0.3	0.7	0.8	1.6	20.3	19.7
Hammerson	34.7	48.3	7568.2	8131.2	4669.3	5292.9	7849.7	4981.1	0.6	0.9	1.0	1.6	23.1	20.5
Segro	35.3	33.3	4798.7	5770.9	2514.6	3195.9	5284.8	2855.25	0.	1.	1.2	2.4	24.2	22.5
Unibail Rodamco	119.1	106.2	30734	32624	15147	16903	31679	16025	0.3	0.6	0.7	1.4	14.2	12.4
									Total	6.1	10.7	12.8	23.1	
									Average	0.5	0.9	1.1	2.1	

These are included in local currency for each entity. This has no impact on the ratios.

Appendix 4. Possible disclosure for non-listed funds

A possible comprehensive disclosure of TER and REER calculations for non-listed funds is set out below as a basis for discussion. This is a comprehensive disclosure that covers all the points raised in this report.

	Current year		Prior year	
Fund level costs	A1		X	
Property level costs	A2		X	
Total costs per accounts (A1+A2)		A3		X
Costs for TER				
Fund level costs per accounts		A1		X
Adjustments to INREV / AREF	B1		X	
Adjustments to INREV / AREF	(B2)		(X)	
Net adjustments (B1+B2)		B3		X
Adjusted costs (A1+B3)		B4		X
Comprising:				
Fees paid to the manager (excluding performance fees)	C1		X	
Performance fees	C2		X	
Other amounts paid to manager and related parties	C3		X	
Amounts paid to third parties	C4		X	
Total costs for TER (equals B4 above)		C5		X
Costs for REER				
Property level costs per accounts		A2		X
Adjustments to INREV / AREF	D1		X	
Adjustments to INREV / AREF	(D2)		(X)	
Net adjustments (D1+D2)		D3		X

Adjusted costs (A2+D3)		D4		X
Comprising:				
Fees paid to the manager	E1		X	
Other amounts paid to manager and related parties	E2		X	
Amounts paid to third parties	E3		X	
Total costs for REER (equals D4 above)		E4		X
Fund formation costs				
Amount brought forward		F1		X
Additions		F2		X
Amortisation		(F3)		(X)
Balance carried forward (F1+F2+F3)		F4		X
Property acquisition costs				
Amount brought forward		G1		X
Additions		G2		X
Amortisation		(G3)		(X)
Balance carried forward (G1+G2+G3)		G4		X
Gross Asset Value				
Per accounts		H1		X
Capitalised costs		H2		X
Other adjustments		H3		X

GAV for ratio purposes (H1+H2+H3)		H4		X
Net Asset Value				
Per accounts		I1		X
Capitalised costs		I2		X
Other adjustments		I3		X
NAV for ratio purposes (I1+I2+I3)		I4		X
	GAV	NAV	GAV	NAV
TER before performance fees	J1	J2	X	X
TER after performance fees	J3	J4	X	X
REER	J5	J6	X	X

Possible gross to net calculation

The study sets out below the skeleton of a possible gross to net calculation. This is intentionally only a skeleton as the detail will vary considerably from manager to manager depending upon the nature of the fund and the reward structure.

	Current year	Since inception
Gross return calculated as appropriate for the nature of the fund and underlying investments	X	X
Management fees	(X)	(X)
Other amounts paid to the manager and related parties other than performance fees	(X)	(X)
Amounts paid to third parties	(X)	(X)
Performance fees and carried interest as appropriate	(X)	(X)
Net to investors	X	X

If costs and performance fees are different for different investors, further disclosure may be necessary.

Appendix 5. Possible comprehensive disclosure of ratios

Expense	As a proportion of					
	Gross Asset value		Net Asset Value		Income	
	Current year	Prior year	Current year	Prior year	Current year	Prior year
Vehicle Expense (TER)						
Property Expense Including vacancy						
Property Expense Excluding vacancy						
Vehicle and Property Expense Including vacancy						
Vehicle and Property Expense excluding vacancy						

Appendix 6. Italian fund cost ratio disclosure

FUND MANAGEMENT EXPENSES	Total amounts				Amounts paid to entities part of the Management Company's Group			
	Amount (Euro)	% on average NAV	% on total assets	% on loan amount	Amount (Euro)	% on average NAV	% on total assets	% on loan amount
1) Management fees								
- fixed management fee								
2) Recurring costs of the funds invested by the Fund								
3) Depository fees								
- NAV calculation fee								
4) Audit fees								
5) Cost of valuation of investments and real estate assets								
6) Independent appraisers fees								
7) Property fees on real estate assets								
8) Legal expenses								
9) Cost of NAV publication and prospectus publication								
10) Other expenses of the Fund								
TOTAL RECURRING EXPENSES								
11) Success fees								
12) Financial expenses on financial instruments								
whereof:								
- equity instruments								
- debt instruments								
- derivatives								
- other								
13) Financial costs on loans								
14) Tax costs of the Fund								
TOTAL EXPENSES								

Appendix 7. Survey questions

Use of TER / REER

INVESTORS do you use / MANAGERS do you provide TERs in

- Due diligence before investing (YES/NO)
- Ongoing monitoring (YES/NO)

INVESTORS do you use / MANAGERS do you provide REERs in

- Due diligence before investing (YES/NO)
- Ongoing monitoring (YES/NO)

Disclosure of related party payments

Some respondents suggested that the cost components of both the TER and the REER should be broken down separately to separately show direct management fees, other amounts paid to the manager or related parties and amounts paid to third parties. Do you agree? (YES/NO)

Disclosure of calculation of TER / REER

Many listed companies provide in their accounts a calculation of the cost ratio that allows the component elements to be reconciled to the numbers in the audited accounts. Would you support this being included in the accounts of non-listed funds? (YES/NO)

Gross to net IRR and equity multiple

Some respondents suggested that cumulative gross to net IRR and equity multiple are more useful measures than annual TER

for closed end fund with a fixed lifespan and a strategy with an investment period, a stabilisation period and an exit period. Do you agree? (YES/NO)

Listed companies

EPRA guidelines suggest that in addition to cost ratios based on gross rental income, cost ratios could provide based on GAV and NAV. Would you support this? (YES/NO)

Appendix 8. Interviewees

Our thanks to all who have contributed to this report. The following is a list of names of those that contributed to the study and gave permission for their name and company name to be published.

Andrew Saunders	Cenkos
Hemant Kotak	Green Street
Michael McKell	Tullett Prebon
Stephen Tross	Bouwinvest
Sander van Riel	CBRE Global Investors
Matt Abbott	Mercers
Mathieu Elshout, Maarten van der Spek, Hans Op't Veld	PGGM
Peter Hobbs	bfinance
Tom Dorey, Laurence Dowling	Schroders
Adam Cibik	Texas Employee Retirement Scheme
Douglas Crawshaw	Towers Watson
Kieran Farrelly	Townsend
Ingo Bofinger	Gothaer
Bas van den IJssel, Wietse de Vriese	Almazara
Ilkka Tomperi	Varma
Jana Sehnalova	La Française Forum Securities
Simon Jones	Hymans Robertson
Thomas Kallenbrunnen	Helaba-invest
Marieke van Kamp	NN Group
Andrew Colman	Delin Capital
Nigel Pedroz	Capman
Chris Mathew	Hermes

Ian Baker	Rockspring
Jaap van der Bijl	Syntrus Achmea
Mark Reid	TH Real Estate
Friederike Werner, Adrian Ion	Deutsche Wealth & Asset Management
Stefan Ziegler	KGAL GmbH & Co. KG
Robbert Staal	Blue Sky Group
Vikesh Morzaria	UBS
.Michael Schonach	.Northern Horizon Capital
Fredrik Elwing	EQT
Edward Bates	STAM
Mads Rude	Sparinvest
John Harding	BlackRock
Wienke Bodewes	Amvest
Andrea Cornetti	Prelios
Vanessa Gelado Crespo	Nienver
Paul Macey	British Land
Sebastian Jacob	Deutsche Wohnen
Justin Read, Thurai Sithambarnathan	SEGRO
.Timon Drakesmith	.Hammerson
Elisabetta Caldirola, Tommaso Grassi	PwC
Pat McGinley	IPUT