THE INVESTMENT CASE FOR CORE NON-LISTED REAL ESTATE FUNDS

	'NREV

SEPTEMBER 2014

INREV STRAWINSKYLAAN 631 1077 XX AMSTERDAM THE NETHERLANDS

T +31 (0)20 799 39 60 INFO@INREV.ORG WWW.INREV.ORG INREV is the European Association for Investors in Non-Listed Real Estate Vehicles. Our aim is to improve the accessibility of non-listed real estate funds for institutional investors by promoting greater transparency, accessibility, professionalism and standards of best practice.

As a pan European body, INREV represents an excellent platform for the sharing and dissemination of knowledge on the non-listed real estate industry.

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1 INTRODUCTION

Non-listed core real estate funds offer the diversification benefits of real estate as part of a multi-asset portfolio and can provide investors with an accessible and transparent route to gain exposure to the sector. They are a maturing part of the European real estate industry that is now launching its second generation of funds. The first generation of funds faced the extreme challenges of the Global Financial Crisis (GFC) head on; an experience which has resulted in a refined and reconsidered fund product for the new cycle.

This paper highlights both the qualitative and quantitative benefits of core real estate funds in Europe and how they can support the investment requirements of investors. The industry offers a wide range of products to match risk/return requirements, but this report focuses on core non-listed real estate funds as a natural entry point for investors that are looking for real estate exposure.

Some of those benefits are true for all types of real estate investing, while others are more individual to funds. The inclusion of results from recent research by Property Funds Research (PFR) adds insight into many of these benefits but also transparently reflects some of the challenges of the European industry moving forward from the financial crisis.

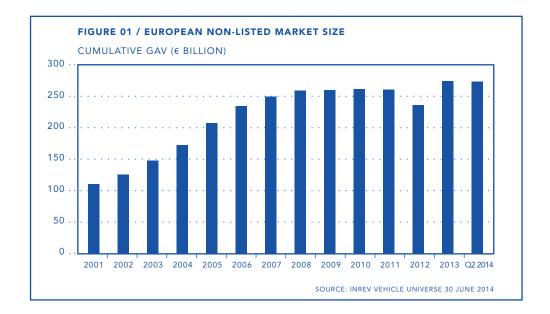
2 BACKGROUND TO THE INDUSTRY

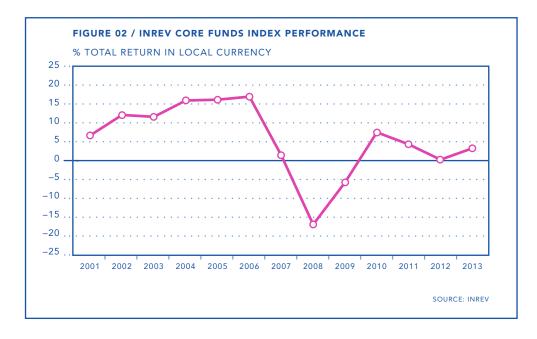
Real estate has investment attributes that make it an attractive asset class, including a strong income component, a degree of inflation hedging and diversification benefits due to a lack of correlation with other asset classes. However, historically, it has been difficult for mediumand small-sized investors to access real estate (or real estate style returns) directly as this typically requires both critical mass and access to sector expertise. The non-listed real estate funds industry emerged as a pan-European industry close to 20 years ago, offering an investment approach that made indirect investment in real estate more accessible for a growing number of institutional and high net-worth investors.

The concept of pooling capital to invest in real estate has reduced some of these barriers to entry and opened up the opportunity for investors to be able to diversify and benefit from investing in a wider range of sectors and geographies and the expertise of specialist managers. The funds were also structured to meet most investors' tax needs.

As the funds market developed, the range of products widened, and can generally be divided into three main risk/return categories: core, value added and opportunity funds. Core funds invest typically in income producing investments and mainly use low leverage, have no or very low development exposure and generate a high proportion of return through income. Value added funds deliver returns from a balance of income return and capital appreciation. These types of funds may allocate part of its investments in development, use moderate leverage and will typically invest in forms of active management, such as leasing risk, repositioning or redevelopment to generate returns through adding value to the property. Opportunity funds typically use high leverage, have a high exposure to development or other forms of active asset management, and will deliver returns primarily in the form of capital appreciation. These types of funds may asset management, and will deliver returns primarily in the form of capital appreciation. These types of funds may invest in any markets or sectors, and may be highly focused on individual markets or property types.

The industry saw tremendous growth by gross asset value (GAV) between 2001 and 2007 (Figure 01) and also saw strong net asset value performance in those years, according to the INREV Index (Figure 02, page 04). Both metrics were negatively impacted by the global financial crisis, although a recovery is well underway and the sector has learnt a number of lessons as a result of the crisis and is in better shape, and arguably more attractive to investors as a result.





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WHAT IS A CORE REAL ESTATE FUND?

Core funds offer a range of strategies across sectors and geographies but tend to share similar characteristics in line with their lower risk and lower return profile. A core fund is one which invests typically in income producing real estate investments. It will mainly employ low levels of leverage and will have no, or very low, exposure to real estate development. In general, a core fund generates a high proportion of its return through rental income.

4 WHY INVEST IN CORE REAL ESTATE FUNDS?

The following section sets out why core funds are a good choice for investors when looking to invest in real estate. Some of the benefits also extend to other types of real estate such as direct or listed while others relate specifically to core non-listed funds.

Better exposure to the real estate market

One of the main benefits of investing in core real estate funds is that it gives investors genuine exposure to real estate type returns. Core unlisted funds can therefore provide investors with a proxy for direct real estate investment, demonstrated by how closely funds track the established direct property market index, with a high (0.87) correlation to the IPD Pan-European All Property Index.

Direct investing is not efficient for smaller and medium-sized investors to gain real estate exposure. Apart from the practical challenges of direct investment, research from Property Fund Research outlined below shows that the tracking error of a portfolio of property funds against market returns is materially lower than for an equivalent direct portfolio or investment in the listed real estate market. Therefore, it is a major benefit for investors to be able to achieve real estate market exposure through non-listed core real estate funds.

Table 01 shows the tracking errors of the different approaches to the IPD Pan-European All Property Index. The results show that the tracking errors for a portfolio of 10 or 20 funds are much lower at 5.8% and 5.6% compared with a direct portfolio of €100 million or €200 million at 11.0% and 8.2% respectively and listed at 28.3%.

STRATEGY 2001 – 2013 2001 VINTAGE	TWRR – MEAN (%)	DIRECT TRACKING ERROR – MEAN (%)
IPD PAN-EUROPE ALL PROPERTY INDEX	6.00	-
INREV CORE FUNDS INDEX	5.21	-
DIRECT €100 MILLION	5.09	11.0
DIRECT €200 MILLION	5.09	8.2
SINGLE NON-LISTED FUND	5.19	9.1
DUAL NON-LISTED FUND	5.29	7.6
€100 MILLION MULTI-MANAGER (10 CORE FUNDS)	4.93	5.8
€200 MILLION MULTI-MANAGER (20 CORE FUNDS)	4.93	5.6
LISTED FUND	10.88	28.3
SOURCE: P	FR, INREV, CBRE GLOBAL INVEST	MENT PARTNERS, EPRA, IPD

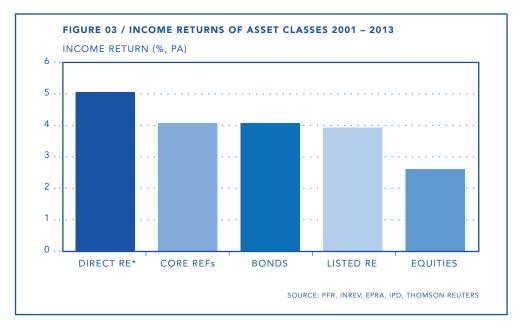
TABLE 01 / RETURNS AND TRACKING ERRORS FOR PROPERTY INVESTMENT APPROACHES

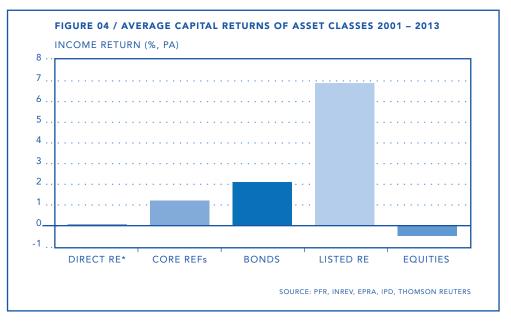
Strong stable income

One of the key benefits of core real estate funds is the ability to offer investors a high and stable income return relative to other asset classes. As a rule, their strategies focus on generating a high proportion of returns from income. Between 2001 and 2013, the time-weighted rate of return (TWRR) for the income component of core funds was 4.08% per

annum (Figure 03). Further analysis shows a low variance of this income return, meaning the levels of income remained relatively consistent through all phases of the cycle in the ten year period, including during the GFC. The TWRR for capital growth for the same period was 1.21% per annum, reinforcing the emphasis on income from core funds (Figure 04).

It would be expected that the income component of core funds would exceed that of bonds. However, Property Fund Research has shown that this was not the case over the period 2002 – 2013 when income returns for bonds were almost in line with core funds at 4.07% and 4.08% respectively (Figure 03). This is attributed to the unexpected performance of bonds during this time rather than the relative long-run trends for income returns from core real estate funds. While central bank policy did push down yields, significant increases in bond yields for Southern European economies increased the overall European bond market total returns. For comparison, the income return for bonds for 2012 and 2013 were a more typical 3.75% and 2.65% respectively.

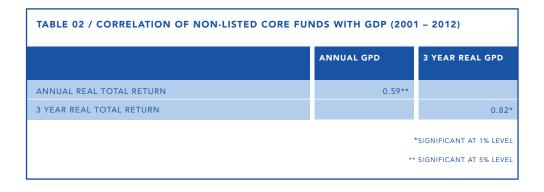




* TYPICAL ACQUISITION AND MANAGEMENT FEES HAVE BEEN DEDUCTED FROM THE GROSS DIRECT REAL ESTATE INDEX (IPD) RETURN TO MAKE IT COMPARABLE WITH THE NET OF FEE RETURNS IN THE INREV CORE FUNDS INDEX.

Moderate relationship to the macro-economy

Core real estate funds offer a good real return adjusted for inflation in line with the growth of the economy. This is because real estate funds exhibit a moderate correlation with the macro-economy, particularly with gross domestic product (GDP). Property Fund Research looked at the annual and three year total real returns and found a positive correlation to GDP in both cases (Table 02).



However, this relationship with the economy does not extend to evidence that real estate or core real estate funds offer an inflation hedge. It is often cited that real estate is a natural inflation hedge because income is generated through lease income driven by general economic demand. However, there is limited statistical evidence to support this view, and the Property Fund Research research looking at correlation and sensitivity of returns with the consumer price index as a measure of inflation in fact showed a negative relationship.

In some ways this negative correlation is a technical issue. The high inflation of one year is not likely to produce high returns in real estate in the same year. It will take time for inflation to feed through to rents and there would be no immediate impact on capital markets. Over specific time periods it may be possible to construct an inflation hedging strategy, for instance by investing only in properties with index-linked leases. However, the full benefit of an inflation hedging strategy is likely to be realised over a longer time period. It should also be noted that results are highly influenced by the short time series that includes the financial crisis.

Diversification at a multi-asset allocation level

Core funds provide good diversification potential at a multi-asset allocation level. This can be seen by the fact that, in general, core real estate funds' returns sit between bonds and equities on a risk-adjusted basis. Recent research by Property Fund Research provides some evidence to support this but also reflects the unusual circumstances affecting all asset classes during the GFC.

To demonstrate this, Figure 05 (page 09) plots time-weighted rate of return (TWRR) against standard deviation. It shows that between 2001 and 2013, returns for core real estate funds were lower than listed real estate, as expected, but also, slightly underperformed bonds and outperformed equities. It should be noted that the returns for bonds were unusually high in this period. This is due to continued low inflation, downward pressure on interest rates and high yields delivered by government bonds in Southern European markets. This saw high capital returns drive overall bond returns. The performance of the equities market was also unusual in this period, as it experienced both the dot.com crisis early in the 2000s and the financial crisis from 2008 onwards.

The risk profile of the three asset classes is more in line with expectations. Looking at standard deviation on the x-axis as a measure of risk, core funds sit in their expected place, which is below equities and listed real estate and above bonds.

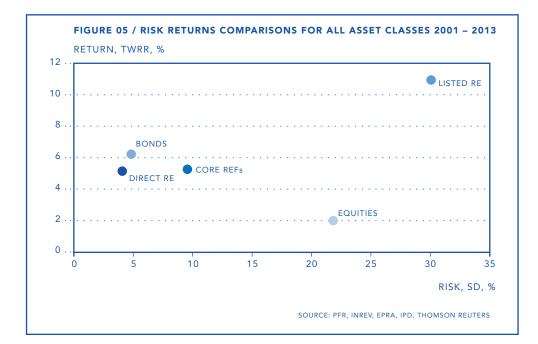
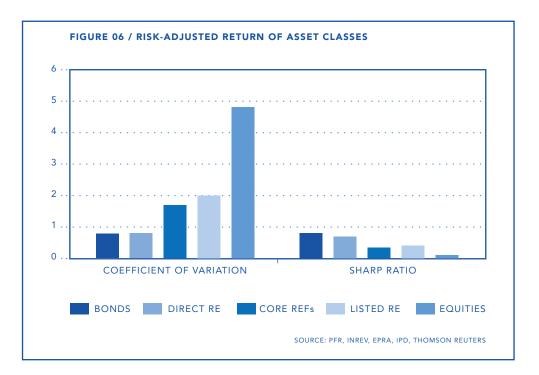
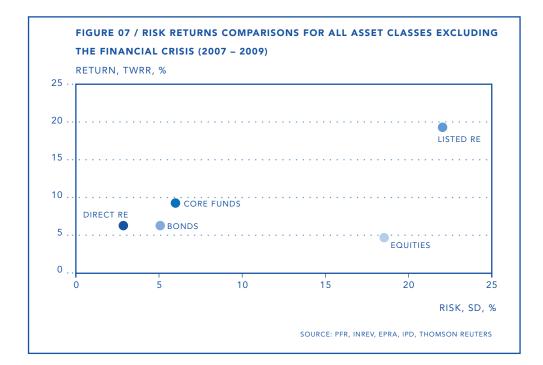


Figure 06 shows risk-adjusted returns using the co-efficient of variation ratio, which measures dispersion around the mean. It supports core funds' role in diversification by showing the expected relationship of core real estate funds sitting between equities and bonds. The Sharpe ratio, which corrects the returns in excess of the risk free rate (defined in this report as the return on a 1 year government bond) for volatility also confirms the position of core funds between stocks and bonds.



As a theoretical exercise, it is also possible to show the relationship between return and risk excluding the effects of the financial crisis from 2007 to 2009. This is shown in Figure 07 and depicts the expected traditional scenario where core funds sit in between bonds and equities both on a risk and return basis. Once again, the low performance from equities is influenced by the dot.com crash.



The second indicator of the ability of core funds to support diversification is the low correlation with the other asset classes. This is set out in Table 3 and indicates a negative correlation with bonds given the -0.24 coefficient and a low positive correlation coefficient of 0.39 with equities. It is important to note that both figures are statistically insignificant from zero implying that there is no statistical evidence of a relationship between the returns of non-listed real estate with bonds and equities. This confirms that non-listed real estate offers investors diversification benefits when included in a multi-asset portfolio.

Previous studies over longer time periods and using direct real estate return indices appear to confirm these findings, with real estate typically exhibiting a low negative correlation with bonds and a low positive correlation with equities (Hoesli, et al., 2004). The results also show greater diversification benefits between listed real estate and non-listed real estate, which at 0.57 has a lower correlation coefficient than between listed real estate and the listed equity market at 0.81.

	CORE REFs	IPD	LISTED RE	EQUITIES	BONDS
INREV CORE REF INDEX	1.00	***0.87	**0.57	0.39	-0.2
IPD		1.00	**0.51	**0.54	-0.4
LISTED RE			1.00	***0.81	-0.2
EQUITIES				1.00	*-0.4
BONDS					1.0

Diversification potential

Core real estate funds provide investors with an enhanced ability to gain diversified exposure to real estate compared with direct investment. Funds open up the access investors can gain to property assets, whether by size, number, geography or sector. This offers investors a broader range of opportunities across real estate and improved diversification.

For investors with smaller allocations, it removes the asset specific risks that they would face with a direct approach. The pooling of capital from a number of investors for a core real estate fund means the buying power of the fund can give investors access to a greater number of assets. This diversification increases if an investor makes commitments to several different funds, which also provides a layer of manager diversification.

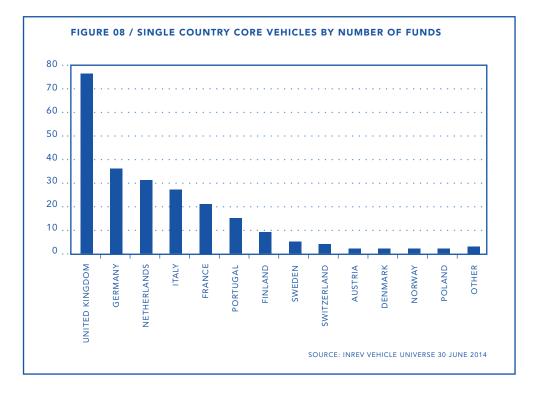
This theme extends to geographical diversification, with investors able to use the specialist skills of fund managers to gain access to the diversification benefits of international investing without requiring their own resources in or expertise of other countries.

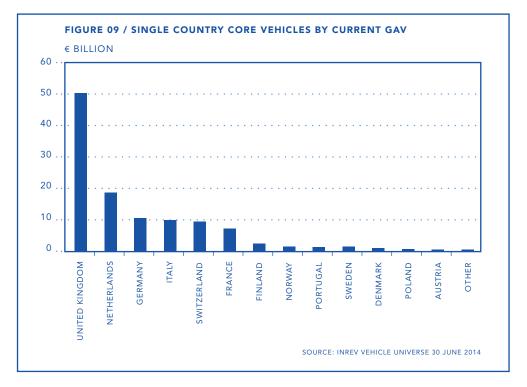
However, it is not just about supporting investors with smaller allocations. Experienced investors also use core funds to diversify into property types that they do not have the expertise to invest in directly nor want to build up. This could also be the case for assets that are too small or too large for an experienced investor to invest in individually.

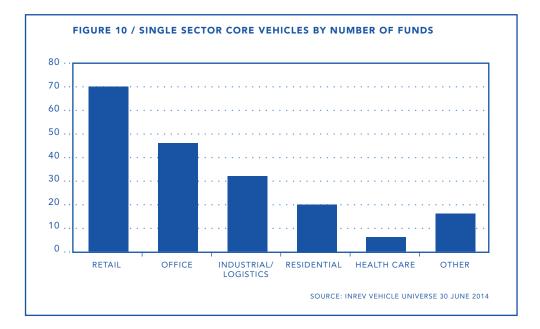
Broader range of products

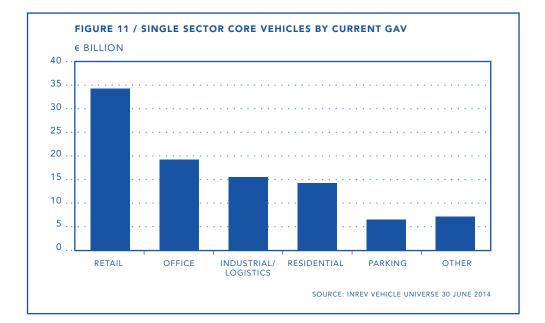
The growth of the non-listed real estate funds industry means investors benefit from a broad and growing range of core fund products. As of June 2014, the INREV Universe included 258 (56.7%) core funds with a GAV of €210 billion.

The scale of the market gives investors choice and access to a large universe of assets, which is being added to as the sector grows. These can meet their requirements to access either pan-European funds or specialist vehicles by country or sector to match allocation and diversification needs, as Figures 08, 09, 10 and 11 on page 12 and 13 show. The coverage is strong in all markets and sectors and can provide more range and choice compared with the listed markets such as in Germany, where there is a narrow choice of listed companies in which to invest.









Access to specialist management

Direct investment in real estate across geographies and sectors is complex. Investors in core property funds benefit from access to specialist real estate managers and a range of skills that would be difficult for an investor to replicate in-house.

This includes the range of expertise and geographical footprint to effectively manage platforms of real estate assets across the different sectors. Fund managers can benefit from scale to bring efficiencies to asset management and carry weight in the market to source deals and be an effective buyer and seller of properties.

Specialist managers also exist for more niche sectors such as hospitality, student accommodation and senior housing, which require particular operational expertise that investors would be unlikely to be able to replicate on an effective scale.

Taking advantage of specialist managers can also remove some of the practical challenges of undertaking a direct strategy across Europe. This includes experience and dedicated resources dealing with different tax and legal jurisdictions.

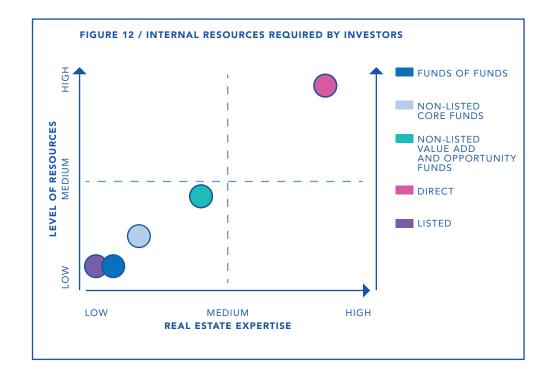
Pan-European investing also requires understanding and experience of different market dynamics and relationships with market participants, which fund managers are more likely to have in-house.

For many investors, specialist managers can supplement or offer an alternative to internal teams that would be too costly or time-consuming to build up, or that cannot be justified in relation to the size of an investors' real estate allocation.

Core real estate funds offer investors the ability to make real estate portfolio allocation decisions internally without requiring the skills to analyse and execute real estate strategies. It also means their investment horizons are not restricted by their own resources.

As investors move higher up the risk spectrum towards value add or opportunity funds, or opt for direct investing, this requires more real estate specific expertise internally in addition to financial oversight to manage the portfolio. At the other end of the spectrum, where investors have no real estate expertise in-house but financial investment resources, funds of funds and/or multi managers provide oversight for the individual real estate fund investments.

The combination of level and types of resources associated with different forms of real estate investing is set out in Figure 12, page 15. Access to specialist management is always the highest ranked stated benefit of fund investing by investors in the annual INREV Investment Intentions Survey.



Aligned investing

Core real estate funds enable investors to gain exposure to real estate through an active investment with a fund manager. Each fund should have a clearly articulated strategy defined by the fund manager to which the investor subscribes. There is usually little control for the individual investors within a fund over management or execution, but they have access to the manager and oversight over governance and execution of strategy. Changes to this prescribed strategy and any other aspects of the fund normally have to be agreed with investors, and cannot be decided by the fund manager or at a corporate level, as may be the case with listed companies. This is also reflected in the financial set-up with funds which are individually structured as individual products with costs and dividends ring-fenced for that vehicle.

Management fees tend to be structured in such a way as to encourage alignment of interests between investors and manager and it is not uncommon for managers to co-invest alongside investors to improve alignment.

Transparent fee structure

The current core real estate fund model allows investors to gain a clear overall appreciation of all costs for the investment and the facility to monitor those costs. This provides a high level of transparency and a good basis for comparison with other asset classes.

Work by INREV has brought further transparency and uniformity to this area, which includes the use of metrics such as the INREV Total Expense Ratio and initiatives to ensure clear information on all fees at the due diligence and reporting stages, as well as research into the use of performance fees.

Professionalism and the next generation fund model

Investors now benefit from a fund model that has been adapted and improved following the crisis. The industry has re-evaluated many aspects of the fund model to work towards a robust solution that can withstand all phases of the cycle. This has resulted in permanent gains for investors in areas such as fee structures and alignment. For example, fee structures have moved away from being based on gross asset value and instead tend to use net asset value, better aligning fees to performance. Performance fees (mainly applicable in value add and opportunity funds) are also now usually more structured to be paid out at the end of a fund life on realisation of profits rather than on a periodic basis based on valuations. For alignment, more meaningful co-investment from fund managers is demanded by investors, although there is a much lower use of this in core funds.

With the lessons of the crisis, the variation in fee levels between funds has narrowed, and use of leverage has reduced. Since the financial crisis, the industry has also become subject to regulation which is designed to protect investors' interest. In particular, the Alternative Investment Fund Managers Directive dictates that most fund managers active in Europe must be licensed and comply with far-reaching requirements for organisation, oversight and reporting.

5

WHO SHOULD INVEST IN CORE REAL ESTATE FUNDS?

One important aspect when looking at investing in core real estate funds is whether there is a type of investor for which these products would provide the most benefit. This report isolates four of the characteristics and requirements, which provides a good foundation from which to discuss the benefits of these funds (Figure 13).



FIGURE 13 / CHARACTERISTICS OF THE NON-LISTED REAL ESTATE INVESTOR

Investor size

Core real estate funds attract a wide range of investors but those most likely to be attracted to the sector will be in the small to medium size range. Through funds, medium sized and smaller investors can leverage on the resources offered by fund managers to gain access to a wide range of strategies that they would not be able to do individually. Larger investors tend to use real estate funds to supplement their own investing to gain access to particular strategies, locations or fund managers, but in general have the resources to undertake direct investing on a large scale or opt for joint ventures or club deals, which offer them a greater level of control over the product's real estate strategy.

Lower levels of resources

Investors with lower levels of resources can use funds to gain access to the expertise of fund managers. This also supplements the type of resources with smaller and medium-sized investors being less likely to have operational real estate expertise with dedicated resources more likely suited to an oversight role. Larger investors will generally have more resources, which enables them to take on more hands-on investing approaches such as direct or joint ventures and club deals, but may well also use funds to access more specialist skills, platforms or less familiar markets.

Real estate market exposure and diversification

Investing in core real estate funds is the best approach for those investors seeking diversified access to real estate by sector or geography. In general, investors are looking for beta or market exposure as the emphasis is on diversification rather than a return premium. Those investors seeking a premium on returns as they are investing outside their area of expertise, are more likely to look at direct options or higher risk/return products such as value add or opportunity funds.

Accepts lower levels of liquidity

Real estate in general has a lower level of liquidity compared to other asset classes and this is the same for property funds. Investors looking at this product must accept this lower level of liquidity in return for the return premium that it offers because of this. This is particularly the case for closed end core funds, which require a locked-in commitment of around eight to 10 years. However, it could also be argued that with the divisible units and the ability to trade, they could be considered more liquid than the assets in which it invests.

Open end funds offer more potential liquidity. While the industry has adopted the concept of secondary trading for closed end funds, in reality there has been limited volumes traded, with the UK market being an exception. Investors uncomfortable with this notion of lower levels of liquidity but are looking for real estate exposure would be more likely to consider the listed sector, which offers more entry and exit options, but more equity-style volatility. 6

HOW TO INVEST IN CORE REAL ESTATE FUNDS?

How investors should access property through core funds can be explained through a number of steps.

- **A. MAKING FUND ALLOCATION DECISIONS:** investors need to decide whether they want to make their own allocation decisions or outsource that to an third party, with the industry offering approaches for both options:
 - i. **Internal allocation decisions:** if an investor is to make its own allocation decisions, they would then decide the number and types of funds to invest in to suit their own targets for diversification including by geography and sector. An advisor might also help with this approach.
 - ii. **Third party allocation decisions:** if an investor wishes to outsource its allocation decisions, then it can choose to invest with a fund manager that offers a multimanager or funds of funds approach. The choice of approach and manager selection can be made with the support of an advisor.

Multi-manager: this involves a single investor allocating an amount of equity to a fund manager for it to be invested in a series of real estate funds. Part of the multi-manager's role is to build and oversee the fund allocation strategy for the investor to achieve agreed aims such as country and geographical diversification. The multi-manager will also manage and report on the performance of the portfolio of funds.

Funds of funds: this approach pools together a series of allocations from a group of investors to create a fund which will commit to a series of underlying real estate funds. The fund of funds would have allocation targets by geography or sector, for example.

- **B. CLOSED OR OPEN END FUNDS:** there are two main structures that are used for core real estate funds with investors deciding on which type of fund to allocate to depending on their liquidity requirements.
 - i. **Closed end:** a closed end fund structure has a finite lifetime which is typically around seven to 10 years. The fund will typically have an investment period of two to three years during which commitments are invested in assets. Towards the end of the fund term, the manager will start to sell assets to realize returns and return capital and profits. Income distributions are normally made quarterly.
 - ii. **Open end:** an open end fund structure has an infinite lifetime and is designed to offer investors the possibility to buy and redeem units to enable them to enter and exit the fund over time. The fund manager manages redemptions with the fund growing and shrinking depending on new subscriptions and redemptions. In reality, the ability to enter and exit the fund can be hindered by market circumstances. Redemption levels can be capped or frozen to allow the manager to manager redemptions and balance the interests of continuing and exiting investors. Fund managers can also choose not to accept new subscriptions, for example, the fund has surplus cash to invest.
- **C. PRIMARY OR SECONDARY INVESTING:** with both closed end and open end funds in the market, investors have a choice of entry point when accessing core property funds.
 - i. **Primary investing:** a primary market investment is when the investor enters via the manager, either at the inception of the fund or when the manager raises further equity or at one of the regular subscription times for the fund. A primary investment

allows the investor to benefit from the full duration of the strategy set out for the closed end fund. For some investors, mainly larger ones, being involved in the early stages of a fund launch may allow them to influence the strategy of the fund or its terms.

ii. **Secondary investing:** a secondary market investment is when an investor enters a fund during the lifetime of the fund, either through a secondary trade for a closed end fund or buying units in an open end fund. A secondary trade gives an investor the chance to gain immediate exposure to a portfolio of properties or a particular strategy. For closed end funds, it might be an opportunity to benefit from a preferential entry price, depending on why the exiting investor is selling. However, pricing of secondary trades is always seen as challenging and often there are pre-emption rights for existing investors which can limit the ability for a new investor to enter the fund.

D. OTHER CONSIDERATIONS

- i. **Fees:** non-listed core real estate funds typically charge an annual fund management fee based on the fund's net asset value (NAV) or gross asset value (GAV). According to the INREV Management Fees and Terms Study, core funds charge an average of 0.79% based on NAV and 0.57% based on GAV. Funds can charge other fees, with the most typical being acquisition and disposal fees. Some core funds also charge a performance fee based on exceeding their benchmark, internal rates of return or total return targets.
- ii. Leverage: Core real estate funds can also offer investors access to leveraged returns. This may be useful for investors that are seeking some leverage in their investments as part of their strategy or if they are unable to borrow when investing directly. Core funds in the industry offer a range of leverage levels while some are equity only. The impact of the overuse of leverage across non-listed property funds was one of the key risk factors in the crisis for the industry as property values fell. The industry continues to be re-evaluating its approach to leverage, which tends to be the deleveraging of existing funds and lower targets of leverage for new ones, particular for those with a core style. Academic research in the industry has shown the use of leverage up to 40% supports an efficient risk/return profile with anything higher disproportionately increasing the risk. Core funds mainly have no or low (<40%) leverage, whilst approximately one third of all core European funds use more 40% leverage.</p>
- Advisors: institutional investors can work directly with fund managers to make fund investments or choose to outsource this work to a number of specialist advisors. The choice of approach often depends on the level of real estate expertise within the institutional investor.

Fund managers have resources dedicated to raising capital for funds and working with potential and existing investors. These are in place to support investors' due diligence and commitment process, and ensure ongoing communication following the investment.

If an investor chooses to work with an advisor, their role is to advise institutional investors on overall real estate strategy, which could be for a specific mandate such as a core fund investment or more broadly across the different investment approaches such as listed or separate accounts. For non-listed, the consultant screens potential fund investments and undertakes due diligence on an investors' behalf.

7 THE ROLE OF INREV

INREV was established in 2003 to offer more transparency to the sector through research and professional standards. It immediately gained traction from the market's main players and has been a central force in contributing to the professionalism of the market. Its continued prominence in the industry is a major benefit for investors looking to allocate to non-listed real estate funds.

The establishment and adoption by the industry of the INREV Guidelines has created a high standard for fund managers when it comes to corporate governance and information provision for investors. The Guidelines act as a basis for investors to look for when selecting fund managers.

The association also offers a wider range of industry-supported research into topics such as fees and capital raising as well as the INREV Index, which has established a benchmark to support performance evaluation both at a real estate and asset allocation level.

APPENDIX 1: NOTES ON LIMITATIONS OF RESEARCH

The research aspects of this report undertaken by Property Funds Research should be considered in light of a number of limitations of research. These are as follows:

CURRENCY

The INREV Index is denominated in local currency meaning that there should be no impact of changes in currency exchange rates on performance. However, some funds may have exposure to currencies other than the currency of denomination and this exposure may not be perfectly hedged.

TAX

Returns are assumed to be after management fees but before tax at the investor level. Tax is a significant consideration that individual investors must take into consideration before investing in any structure. For instance, there are some legal structures that provide a tax efficient investment for specific investors but not for others. Also, some investors may be legally exempt from different taxes depending on the tax rules and regulations of that are specific to that country.

VALUATION

Real estate performance based on valuation- based capital values suffers from valuation smoothing which arguably reduces the volatility of investment returns. For the purpose of this study the performance of non-listed real estate funds has not been adjusted to account for smoothing as (i) there has been no consensus on the most effective method to adjust smoothed returns and (ii) the smoothed return is what is reported in mixed asset portfolio performance measures.

The performance of real estate funds can be materially impacted depending on the valuation practices adopted by funds. There are no industry standard methods for calculating fund assets or liabilities where values are dependent on the accounting standards have been adopted by the fund (for example, Local GAAP, IFRS, INREV NAV). Funds can also change the standards used for accounting purposes during the life of a fund and this can have a significant impact on the performance of a fund.

Similarly, there is no standard real estate valuation method that has been adopted across Europe with fund performance potentially materially impacted depending on the standard approach to valuation in different jurisdictions (the UK compared to Germany and southern Europe, for example).

TIME PERIOD

As mentioned previously, the short 12 year period covered by the INREV fund performance database does limit the analysis in terms of methodological techniques that can be employed and care must be taken when inferring statistical findings beyond the 12 year period.

LIQUIDITY

Real estate as an asset class is often defined as being relatively lumpy and illiquid with transactions often taking months to complete. In contrast, assets traded in a public market (i.e. equities, bonds, listed real estate) provide investors with greater levels of liquidity and price transparency through an active secondary market. The secondary market for non-listed real estate funds remains thin and offers limited levels of liquidity for investors.

For the purposes of this study it is assumed that an investor has adopted a buy and hold strategy for all asset classes. Therefore, an investor who actively traded could have received materially different returns to those reported in this report.

APPENDIX 2: REFERENCES

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