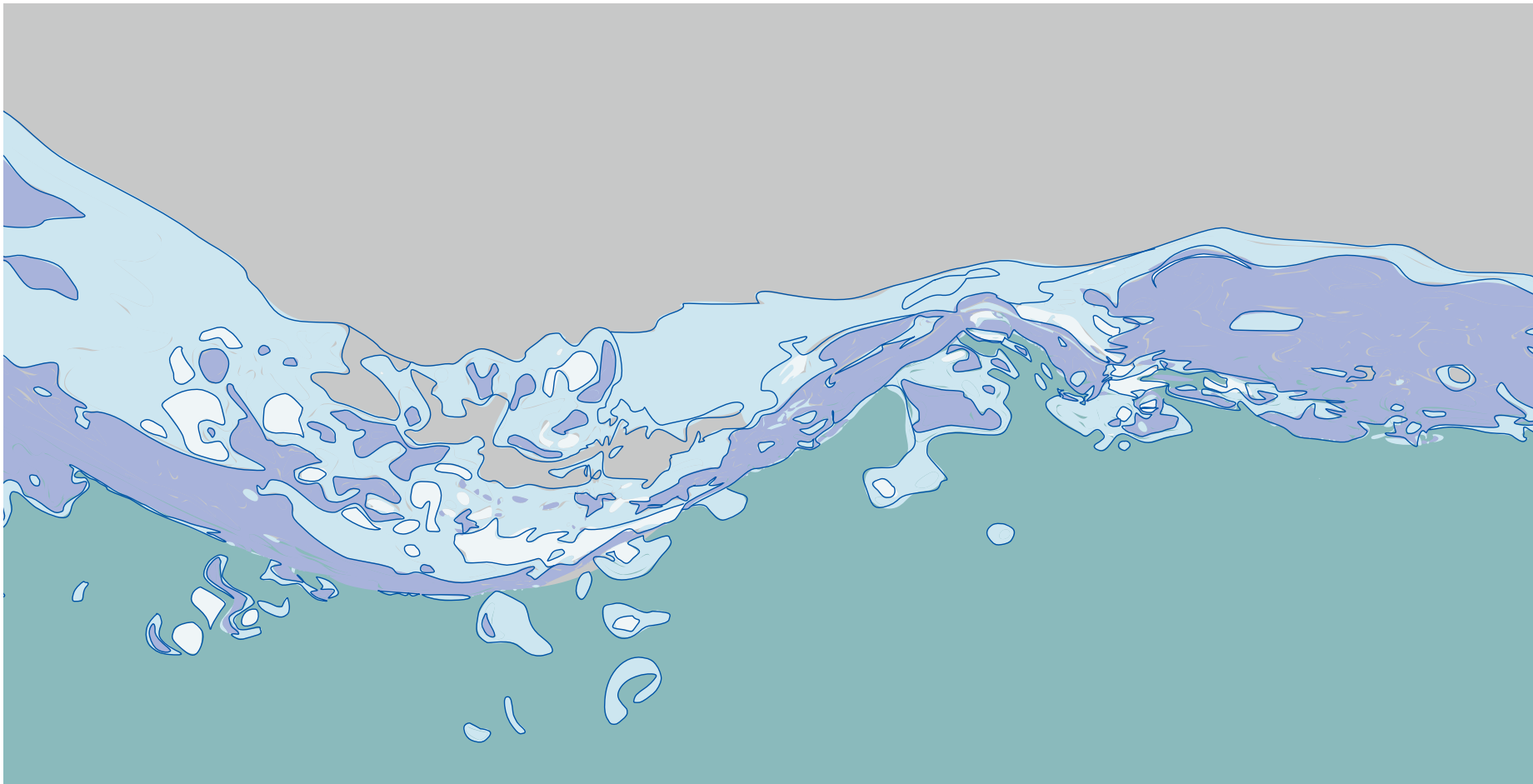




Secondary Trading and Liquidity Study **2016**

Research

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 vehicles 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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Executive summary

- > Secondary trading works for both open end and closed end funds, but in different ways
- > Investors in open end funds can spend less time queuing for redemptions or subscriptions
- > Secondary trades do not trigger asset sales or purchases – good news in difficult markets
- > Most funds experience secondary trading across several years
- > Close to 25% of European non-listed funds have experienced secondary trading

This research provides insights into the nature and extent of secondary trading in European non-listed real estate funds; identifying key trends and benefits of secondary trading; and pointing towards areas where further research is warranted.

Secondary trading means investors buying and selling shares in funds amongst themselves rather than via the fund manager. Secondary trading can be effected in different ways: between investors, arranged by the manager, or via a middleman such as a broker or a trading platform. The item being traded is the claim on the fund, not an asset in the fund itself. Secondary trades range from the plain vanilla (one seller, one buyer, one

payment) to the highly complex where there are multiple parties involved and the consideration is structured in some way.

Secondary trading is growing. Close to 25% of European funds have experienced secondary trading, and the global market for non-core real estate secondaries has gone from an estimated €409 million in 1996 to €7.5 billion in 2015¹. The total market is estimated to be worth in the region of €9 billion.² Within Europe, secondary trading is more firmly established in the UK than elsewhere.

Pension schemes, the main source of capital for non-listed real estate funds, can apply secondary trading to solve particular situations requiring liquidity, such as annuity buy outs, merging with another scheme or transfers of large individual entitlements. Secondary trading also helps with the management of institutional portfolios and six specific examples of this are given in the study.

Summary of benefits of secondary trading

- Can increase liquidity for investors
- Exit closed end strategies that have drifted from their original mandate
- Facilitates portfolio rebalancing

¹ Source: Landmark Partners. Exchange rates as at 31 December 2015

² Source: PERE Secondaries Report 2015

- Investors in open end funds can spend less time queuing for redemptions or subscriptions
- Improved governance by streamlining manager relationships
- Better governance by buying into closed funds when the pool is no longer 'blind'
- Facilitates fund recapitalisations
- Opens up possibility of buying at a deep discount

Secondary trades can be done at any price that the parties agree. Prices are generally set at net asset value (NAV), or at a premium or discount to NAV. Table 1 on page 5 summarises the price agreed in 1,015 trades across 88 funds that occurred between September 2009 to March 2016³.

'Secondary trades range from the plain vanilla to the highly complex'

³ Source: CBRE/GFI's PropertyMatch trading platform, henceforth PropertyMatch

Table 1: Prices agreed for secondary trades

Trades concluded at NAV	10%
Trades concluded at premium to NAV	43%
Trades concluded at discount to NAV	47%
Average premium	2.9%
Maximum premium	20.50%
Average discount	-5.5%
Maximum discount	-55.00%

Secondary trading is a feature of both open end and closed end funds. In terms of both frequency and monetary value, much of the trading in closed end funds occurs when funds have five years or less remaining. The busiest years are the three in the lead up to planned termination.

Other key results are as follows:

- A minority of funds have traded in just one year, but for most funds it's long term
- Out of a sample of 20 closed end funds, the top five account for 71.6% of all trades volume
- Larger trades often lead to consolidation of the investor base in a fund
- The concentration in secondary trading is not driven by asset size

- The activity level in secondary markets varies over time

The availability of secondary trading opens the possibility of one investment strategy for investors in closed end funds: the inflection point strategy, which means trading shares in a closed end fund when the fund's J-curve turns positive. The risk profile of early stage and late state closed end funds is very different, and having different investors for each of the two stages is arguably a better way to match investors with appropriate investments.

Secondary trading may ease periodic liquidity pinches, thereby reducing the need for gating, redemption queues and the other liquidity management techniques. Secondary trading does not increase or decrease liquidity of the fund's underlying portfolio, but the investor's holdings are more liquid.

If properly explained and understood, secondary trading may help to address fears of illiquidity.

1. Introduction

Objectives of the study

The objectives are to provide insights into the nature and extent of secondary trading in European non-listed real estate funds; to identify the key trends and benefits of secondary trading; and to point towards areas where further research is warranted.

Structure of the study

This document is structured as follows. Section 2 looks at the market landscape: who the main participants are, what are they doing and how big the market is. Section 3 considers the benefits of secondary trading. Section 4 is the literature review. Data sources and methodology are described in Section 5. Then, in Section 6, the discussion turns to the results of the data analysis in terms of fund characteristics and secondary trading patterns. Section 7 examines secondary trading for closed end funds and Section 8 provides concluding remarks.

INREV would like to thank the project focus group for their support and guidance on this paper:

- Alistair Dryer, Senior Fund Manager at Aviva Investors
- Anish Goorah, Vice President at MCB Capital Markets.
- Thomas Kallenbrunnen, Head of Real Estate at Helaba Invest
- Nicole Lux, Senior Research Fellow at De Montfort University
- Jose Pellicer, Partner at Rockspring Property Investment Managers

Special thanks are due to Paul Robinson of PropertyMatch for sharing his time and expertise.

2. Secondary market landscape

Secondary trading is becoming more common among European non-listed real estate funds. The market for secondary trades has been growing steadily since 1996 and was worth an estimated €9 billion globally in 2015. Of this amount, it is estimated that between €2.0 billion and €4.0 billion is trading in European funds.

The chart below shows an estimate of the trajectory of the global market for secondary trading since 1996. The data is dominated by higher return strategies and therefore core strategies are under-represented. The data does not include all investor-to-investor trades (for example, a trade such as private endowment selling to a family office may not feature), and as such market size is likely to be under-estimated.

What is a secondary trade?

The INREV Guidelines define a secondary trade as one where an existing investor transfers units or shares⁵ in an open or closed end fund to another investor at an agreed price and on specified terms, without the occurrence of a new issue or redemption within the underlying fund. Secondary trades can be effected in different ways such as via a trading platform, direct contact between investors or matched bids arranged by the fund manager.

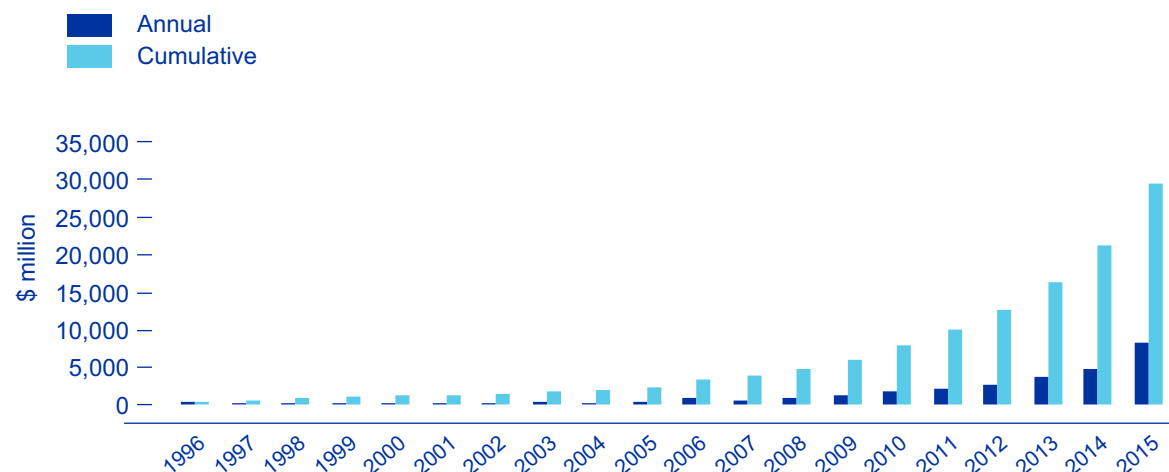
The most straightforward secondary trade involves one seller and one buyer who exchange units in a single transaction. However, other secondary trades can be considerably more complex. For example, several existing investors may be approached by a single buyer, or the opposite: one

existing investor with a large holding may need to find several buyers. Another possible deal is where a large single investor with stakes in multiple underlying funds may try to shed several of their holdings in a single portfolio deal on the secondary markets.

It may be useful to contrast the more familiar subscription and redemption process with the secondary trading process⁶. When an investor subscribes for shares in a non-listed fund, those shares are created by the fund. Likewise, when an investor redeems their shares, cancellation of the shares is done by the fund. The creation and cancellation of shares is at a price that is set in the fund's documentation. The creation price may be set at net asset value (NAV) plus a margin for costs, and the cancellation price may be set at NAV minus a margin for costs.

Usually the dealing in shares in a fund is looked after by a fund administrator appointed by the fund. Where the money of the investors wishing to join the fund exceeds the money of those wishing to leave, new units are issued. Conversely, when the money of the investors wishing to leave exceeds the volume of those

Figure 1: Secondary trading volume in global real estate since 1996⁴



Source: Landmark Partners

⁴ The volume of large portfolio deals in 2015 may not be repeated in 2016

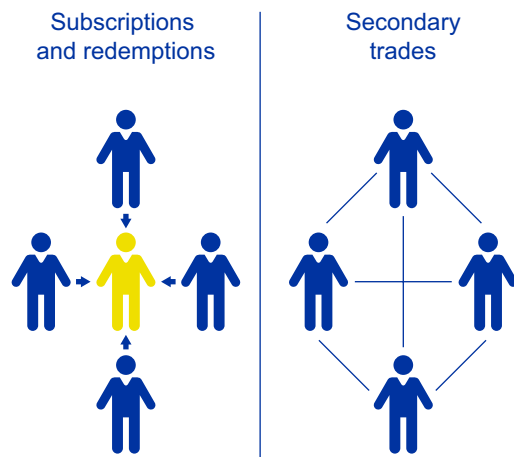
⁵ The terms units and shares are used interchangeably in the rest of the report

⁶ For a description of the mechanics of a secondary trade see INREV's Pillars to Ensure Open End Fund Liquidity (updated in November 2016) or the User Guide published by PropertyMatch in September 2015

wishing to join, shares are cancelled. The first situation results in net subscriptions, the second in net redemptions. When there are substantial net subscriptions the fund manager needs to buy assets; when there are substantial net redemptions the fund manager needs to sell assets.

Figure 2: Illustration of the subscription / redemption process and the secondary trading process

How the process works



Key: figures in blue represent investors; the figure in yellow represents a fund manager

Secondary trading works differently. An existing investor sells their existing units to another investor rather than selling them back to the fund. The buyer steps into the shoes of the seller and is registered as the new owner of the units in the fund's records. The fund does

not have to issue or cancel units, and the fund manager does not have to buy or sell assets.

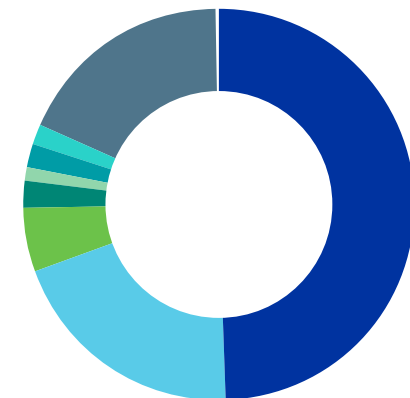
The secondary trade can take place at times when the fund may be operating a redemption or subscription queue, and the secondary trade can be done at any price that the buyer and seller agree. It does not have to be set as a certain prescribed margin above or below NAV; in fact, the price of a secondary trade does not have to refer to NAV at all (although in practice it usually does).

To use a simplistic analogy, secondary trading is like buying and selling a cloakroom ticket. The coat in the cloakroom does not change hands, the ticket does. The cloakroom ticket can be bought and sold even when the cloakroom is closed. The value of the ticket is whatever the buyer and seller deem it to be, rather than someone else's view of what the coat is worth. The last person to hold the ticket ultimately gets the coat.

Secondary market transactions are very varied in size, running from small trades between retail investors in open end funds, through trades of about €5 million each between institutional investors, all the way to large scale portfolio trades with total values measured in billions (such as the CalPERS deal in November 2015, worth a reported €2.8 billion).

Buyers, sellers and market size

Figure 3: European strategy: equity raised by investor type



Source: INREV Capital Raising Survey 2016

The investors who are interested in non-listed real estate as an asset class are largely pension funds and insurance companies, according to INREV's 2016 Capital Raising Survey. The investors who are interested in buying and selling real estate secondary interests are very similar in composition,

according to Preqin's Secondary Market Monitor.

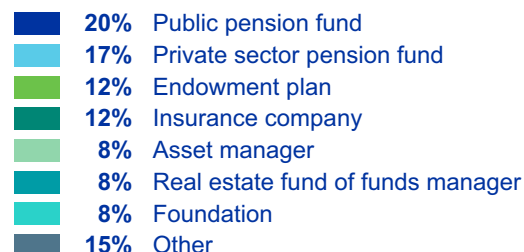
Figure 4a: Investors interested in buying real estate funds on the secondary market by type



Source: Preqin

The main participants in the primary market are investors (pension funds, insurance companies, foundations and endowments), fund managers and fund of fund managers. In the secondary

Figure 4b: Investors interested in selling real estate funds on the secondary market by type



Source: Preqin

market, there are two additional participants who play a significant role. The first role is played by brokers and trading platforms who facilitate secondary trading (examples being PropertyMatch and Tullet Prebon). The second role is played by specialist managers and providers of liquidity solutions (examples being Partners Group and Landmark Partners).⁷

⁷ Landmark Partners, quoted in PERE Secondaries Report 2015

In terms of supply and demand, it is estimated that one in eight potential investors is already invested in the real estate secondary market, whereas the equivalent number is estimated to be one in two for venture capital.

As noted above, the market for secondary trades has been growing steadily since 1996 and was worth an estimated €9 billion globally in 2015. Of this amount, it is estimated that between €2.0 billion and €4.0 billion is trading in European funds, although it is very difficult to be precise.

Another way to gauge the size of the market is to look at the volume of secondary trading in open end funds. The Association of Real Estate Funds (AREF) in the UK provides these details on its website at www.aref.org.uk/statistical-analysis-page. The historic time series goes back as far as 1998 and it shows that on average the value of secondary matched trades as a percentage of fund value has been 0.75% per quarter, or 3.0% per year⁸. This suggests that the secondary trading turnover in that market is worth £1.2 billion per annum.

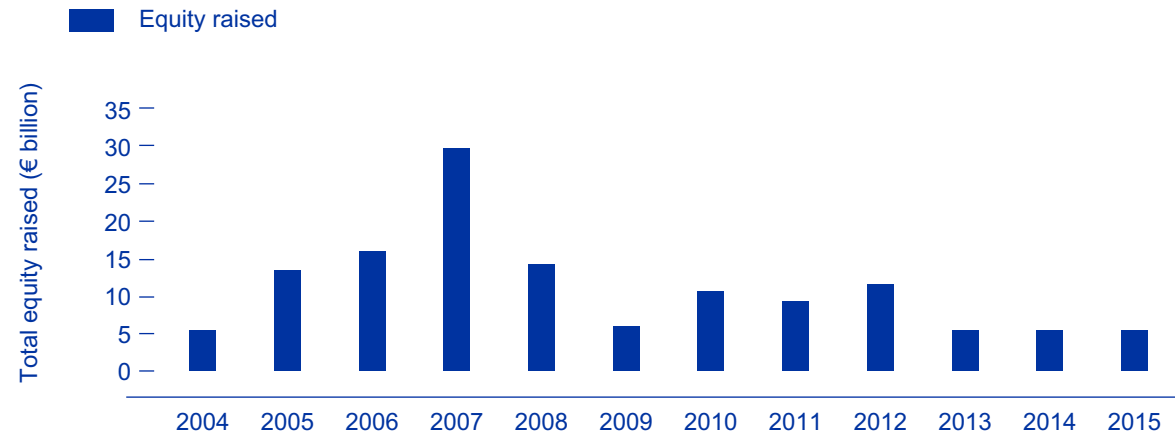
An industry rule of thumb suggests that at least 3% of capital raised in the primary market will end up being secondary traded over the next five years. INREV's Capital Raising Surveys, which date back 11 years

⁸ The AREF data includes matched trades from retail investors and smaller institutions whereas the PropertyMatch data has broader coverage.

now, show that over the last five years €92.6 billion of new capital was raised for European non-listed funds, suggesting that at least €2.8 billion will find itself in the secondary market in the period 2016 to 2021.

These are crude rules of thumb and could potentially underestimate future volumes, particularly if US public pension funds dedicate capital to European secondaries (as they have to secondaries in the US).

Figure 5: Equity raised for European funds since 2004



Source: INREV Capital Raising Surveys

Examples of secondary trading at work

The section gives six examples of secondary trading being put to use to solve actual portfolio management issues. The examples cover both open and closed end funds.

Secondary trades in specific situations

The benefits of secondary trading can be illustrated through examples of its application to particular real life portfolios and particular events.

1. A European pension plan seeks to invest £5 million in a core UK open end fund is told that there is a subscription queue of 12 months. Rather than waiting, the pension plan bought units in this fund via a secondary trading platform at a 2.5% premium to NAV, and paid brokerage fees of 0.3%. The buyer believed that the opportunity cost of waiting 12 months exceeded the combination of the premium to NAV and the brokerage cost, and the seller was happy to receive a 2.5% premium to NAV.
2. The second example, which is publicly available on the UK Companies House website, is slightly more complex because the seller's stake was too large for a single investor to buy, and therefore several buyers were required. A large Dutch pension scheme transferred its interest in a European open end fund to three UK-based limited partners (LPs). Two of these were existing investors who wished to increase their stake in the fund; the third was a new investor.
3. The third example relates to a transfer by a single investor to a specialist manager who then blends this shareholding with many others to form a new secondaries fund; this new fund in turn is bought by other institutional investors. The aggregate value of any such specialist fund can be very large, for example, €2bn, and the investment strategy may be exclusively on the secondary market or may blend secondaries with other types of real estate.
4. The fourth example is of a mature defined benefit scheme that is about to wind up. It has plans in place to liquidate all its equity and bond holdings over the next quarter; however, it has a small legacy holding in a closed end real estate fund that is three years from its termination date. If the scheme cannot liquidate this holding the scheme itself will have to continue in existence as a 'zombie' scheme, incurring unavoidable costs such as the cost of an annual audit report and trustees' fees. The scheme decided to sell the closed end fund on the secondary market at a sizeable discount to NAV. The 'haircut' on its real estate investment was estimated to be less than the costs of keeping the scheme alive, so the trustees were happy to trade at a discount.
5. The fifth example features a real estate fund of funds manager – such managers regularly buy and sell on the secondary market as they launch new funds, close terminated funds or simply adjust their asset allocation. Fund of funds managers are very active participants in the secondary market, and they often favour trading platforms over the matched bargain approach operated by some fund managers.
6. The sixth and final example is of an insurance company that has carefully laddered its illiquid alternative assets, meaning that it has diversified its closed end investments by vintage year and time horizon, and expects to match drawdowns within certain funds with distributions and redemptions from others. However, two of its portfolio investments have gone off track and threaten to upset the expected cash flow schedule. By selling these in the secondary market and reinvesting the proceeds, the schedule is put back on track.

Other examples could be given, but the point is clear – secondary trading is a useful and flexible tool in the investor's toolkit, and not just for closed end funds.

3. The benefits of secondary trading

There are many benefits from the growing use of secondary trading, for both investors and fund managers. These are the main ones:

- Secondary trading is not a panacea to the inherent illiquidity of real estate; however, it can increase liquidity for investors. Fear of illiquidity is an obstacle to investment in non-listed real estate, and prevents institutional investors such as pension schemes from having an allocation to the asset class.

The Pension Management Institute (PMI) is a professional body for the UK pension industry. At the PMI's annual conference in London in April 2016 140 delegates were asked this simple question: if you are not currently investing in real estate, please state why. The most often cited reason, which 40% of those who responded chose, was 'lack of liquidity'. Secondary trading, if properly explained and understood, can help to address this fear.

- Secondary trading is a useful portfolio management tool. Investors can exit closed end strategies that have either drifted from their original mandate or have become less desirable from the investor's point of view.
- Secondary trading facilitates portfolio rebalancing which can add value. Rebalancing to the strategic asset allocation target means regularly buying more of the assets that have just fallen in

value, and taking profits in the assets that have just risen in value.

- Secondary trading means that investors in open end funds can spend less time queuing for redemptions or subscriptions. Nobody likes queuing, and queuing has an opportunity cost, whether that is caused by waiting too long to buy a desirable asset or waiting too long to shed an undesirable one.
- Furthermore, sometimes redemptions are an operational necessity for investors and it may not be feasible to wait in a redemption queue. Two examples involving pension schemes are (i) when a member transfers to another scheme and (ii) annuity purchase by members retiring from a defined contribution scheme.
- Secondary trading can improve governance structures. The ability to secondary trade allows institutional investors to streamline their portfolio of closed end funds, and therefore the number of manager relationships, without waiting for terminations to occur. In November 2015 CalPERS used the secondary market to dispose of a portfolio of 43 international and US fund interests, greatly simplifying the governance structure within the scheme's real estate strategy.⁹

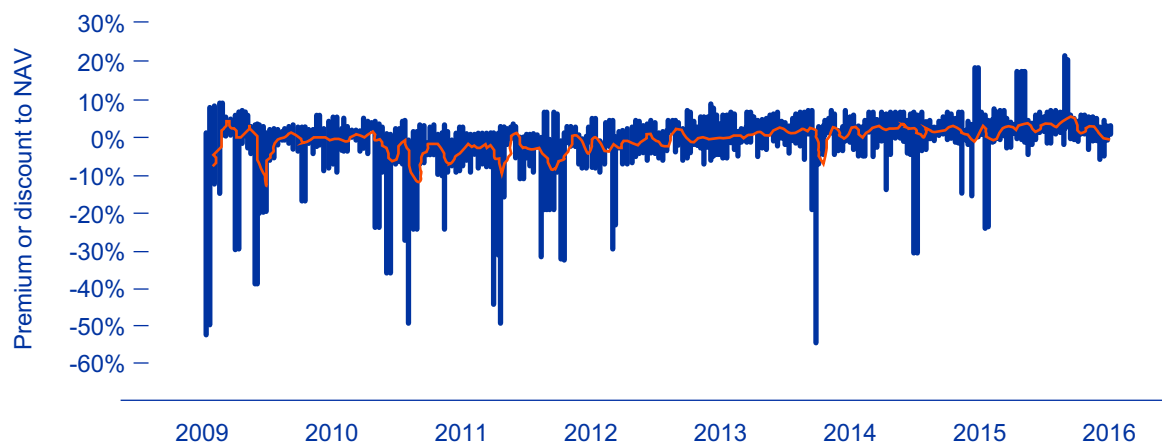
⁹ <https://www.calpers.ca.gov/page/newsroom/calpers-news/2015/real-estate-assets>

- Secondary trading allows investors to join closed end funds when the funds are already established (and therefore better diversified). In contrast, being an original investor in a closed end fund usually means waiting for the portfolio of assets to be assembled. Joining a closed end fund which is already invested or even maturing permits investors to mitigate the J-curve effect and to take a shorter-term position in real estate than would otherwise be the case.
- Secondary trading can help in fund recapitalisations. Rather than winding up one fund only to start another similar one, incoming investors can buy out the outgoing investors and the fund can be extended with new investors on board. One large specialist manager noted in January 2016: 'As 'peak vintage' real estate funds approach their legal expirations dates, fund sponsors continue to actively explore means to provide investors with liquidity.'¹⁰
- Secondary trading opens up the possibility of buying at a deep discount. There will be occasions when sellers need to trade at prices that are heavily discounted, and this presents a clear investment opportunity for investors on the other side of the deal. Historic trading data indicates that there is a greater chance of a steep discount than a steep premium.

¹⁰ Landmark Partners, quoted in Property Funds World on 26 January 2016

- Secondary trading should not be seen by managers as a threat. Having one investor leave to be replaced by another, unfamiliar investor may at times be uncomfortable, but facilitating secondary trading is beneficial to the investors and therefore to fund managers in the long run. There is one exception, however: managers need to be careful that the tax status of any new investor does not compromise the fund's own tax status.
- At industry level, secondary trading and the extra flexibility that it brings may encourage higher allocations to real estate from investors. It may also help draw in capital from previously untapped sources such as defined contribution pension schemes. Managers should ensure they understand the particular requirements of such clients.
- Secondary trading may ease periodic liquidity pinches, thereby reducing the need for gating, redemption queues and the other liquidity management techniques that are deployed by managers from time to time.
- Successful secondary trading needs transparency and any steps that managers can take to improve transparency (both in relation to secondary trading and generally) will be helpful. One UK fund manager publishes all secondary trades on its website¹¹. Managers should ask themselves: is our fund ready for secondary trading?

Figure 6: Secondary trading prices and 12 month moving average



Source: PropertyMatch. Calculations by INREV

¹¹ <https://www.hermes-investment.com/uki/capabilities/real-estate/hermes-property-unit-trust/hput-secondary-market-trades/>

4. Literature review

Research on the single topic of secondary trading and liquidity for non-listed real estate funds is very scarce. Some studies cover secondary trading; others cover liquidity; few address the two topics together. Nevertheless, there is a reasonable amount of literature available.

Cummings and Ellis (2011) analyse investment in illiquid assets including direct real estate and non-listed real estate funds from the perspective of Australian defined contribution superannuation funds. The authors point out that the predictability of scheme cash flows is linked to allocations to illiquid assets, and they specifically mention secondary trading.

Cheng et al (2013) investigate the connection between liquidity, holding periods and optimal allocations. One of several interesting observations is that increased liquidity permits shorter holding periods. Another useful conclusion is that modern portfolio theory overestimates the optimal allocation to real estate because it cannot reflect the effect of liquidity.

Damodaran (2006) analyses the components of trading costs and points out that the total trading costs of buying and selling assets may fall as liquidity increases, thanks to reduced opportunity cost. As the author notes: 'waiting can cost profits both on trades that are made and in terms of trades that would have been profitable if made instantaneously but which became unprofitable because of the waiting' (page 3).

Norges Bank Investment Management (2015) has published a Discussion Note in which the writers (unnamed employees) point out that the reported allocations of institutional investors appear to be somewhat below the theoretical optimal allocation. 'A number of possible explanations of this 'allocation puzzle' have been offered in academic studies, including deficiencies of the underlying data, investors' emphasis on maintaining liquidity, inappropriate risk measurement, or unconsidered relevant decision factors such as the structure of investors' liabilities, but a widely accepted conclusion is still outstanding'.

Ang et al (2013) discuss different concepts of liquidity and point out that "uncertainty about the length of the illiquidity interval, as opposed to a deterministic non-trading interval, is a primary determinant of the cost of illiquidity".

Markwat et al (2016) believe there are two types of liquidity premiums: 'First, a compensation for average illiquidity itself and second a compensation for the risk of illiquidity'.

While academic literature is thin on the ground, some fund managers have contributed worthy analysis. Green (2015) writing for Schroders looks at illiquidity from the perspective of a defined benefit pension scheme and notes that 'being able to tolerate a degree of illiquidity enables pension schemes to access a wider range of asset classes for return generation and diversification purposes'.

Ma et al (2014) writing for BlackRock note that

'stochastic modeling approach is better suited to capturing the potential impact of liquidity risk.... this allows the investor to account for the timing of cash flows associated with an illiquid investment as well as the potential for a forced selling scenario (in which a secondary market transaction would likely be at a discount to net asset value'.

The Investment Property Forum (IPF) in the UK has produced an impressive body of research on liquidity in commercial property. In 2014 the IPF examined a sample of nearly 600 UK commercial real estate transactions that took place over the period 2004 to 2013, and calculates that the median time to transact is 190 days. In Liquidity Pricing of Illiquid Assets (2015) evidence is found that the ex-ante illiquidity premium to the risk free rate is around 3% on average and it varies over time, ranging from 1.5%-2.0% to 10%.

INREV, AREF and the IPF's End of Fund Life Report 2016 usefully distinguishes between closed end funds that are genuinely fixed term in nature and those that can be easily extended and therefore have more flexible lifespans.

One significant contribution of our study is the meshing of secondary trading transaction data with INREV's Vehicle Universe. To our knowledge, this is the first study that compares a time series of real estate secondary trades with historic data on vehicle characteristics. Another important contribution is in extending the literature on the linkages between the secondary trading, liquidity budgeting and asset allocation.

5. Data and methodology

The empirical analysis is based on a number of datasets. The first is INREV's proprietary dataset of European non-listed real estate funds which comprise the INREV Annual Index universe. The INREV Annual Index measures Net Asset Value (NAV) based annual performance of non-listed real estate funds. Returns are net of all fees and other costs and represent the aggregate investor return. The index is available from 2001.

The latest edition of the index contains 334 funds, an increase of 31 vehicles compared to the previous year. In total, it represents a Gross Asset Value (GAV) of €187.8 billion and NAV of €148.0 billion as of the end of 2015. The Index universe contains a mixture of funds that differ by style, structure, domicile, vintage, as well as other vehicle characteristics. In the history of the Index there has been a total of 475 funds in the index universe.

The second dataset is supplied by the secondary trading platform PropertyMatch. This is a screen-based secondary trading portal dedicated to non-listed real estate funds. The PropertyMatch dataset comprises over 1,000 transactions with a combined value of £4.5 billion sterling. The transactions occurred between September 2009 and March 2016 and involved 88 non-listed real estate vehicles. third dataset is from Hamburg Stock Exchange (and kindly supplied to INREV by Regensburg University). This dataset comprises over 15,000 transactions with a combined value of €4.6 billion. The

transactions occurred between October 2008 and October 2014 and involved 12 open end German real estate funds. The average transaction size was €0.3 million.

In terms of methodology, the first approach taken is to scrutinise each dataset individually to understand the nature of the affected funds (INREV dataset) and the nature of the individual secondary transactions (PropertyMatch and Hamburg Stock Exchange datasets). INREV's dataset is useful because contributing funds in the dataset are invited to answer this question: 'are units or shares traded on the secondary market?' Funds are also invited to state the percentage of equity transferred on the secondary market and to identify the nature of the secondary market facilitator. Not every contributor to the database fills out these fields.

The second approach is to seek overlaps in coverage between datasets and, where they exist, to search for any insights that the combined data might yield. There was a rich overlap between the INREV and PropertyMatch datasets – 44 funds in common. There was no overlap between the other possible dataset pairings: that is, PropertyMatch and Hamburg SE, or INREV and Hamburg SE. There is no overlap between the INREV and Hamburg SE datasets because INREV targets institutional vehicles only whereas the German open end funds which are traded on the Hamburg SE cater for both retail and (smaller) institutions.

In addition to the data analysis described above, the research relies on information provided in interviews with representatives of the following firms that have experience and expertise in the area: Almazara; Aviva Investors; PropertyMatch; JLL; Landmark Partners; Partners Group; Tullet Prebon; Willis Towers Watson.

'The PropertyMatch dataset comprises over 1,000 transactions with a combined value of £4.5 billion sterling.'

6. Results of analysis

This section looks at the extent of secondary trading in Europe, and then turns to the characteristics (structure, style, country strategy, domicile and legal form) of the funds that have experienced secondary trading to identify any patterns of note. It then examines the secondary trading market in terms of availability, value, frequency and timing. Open end and closed end funds are compared and a close look is taken at how those trades impact on the overall equity in the fund and on the shareholder base.

Extent of secondary trading – fund perspective

Of those funds that are or were historically in the INREV dataset, 96 of 475 funds (20.2%) report that they experienced secondary trading. Please note that some funds that are no longer in the Vehicles Universe experienced secondary trading, therefore the total of 475 funds is great than the figure of 335 shown on page 16. However, it is not mandatory for contributing funds to complete this field and as such there is a risk of under-reporting of secondary trades. When the INREV dataset is crosschecked against the PropertyMatch dataset, it can be seen that the INREV dataset is missing 11 funds that did, in fact, have secondary trading. This brings the total to 107, or 22.6% of the total sample. This suggests that almost one in four funds have had some secondary trading.

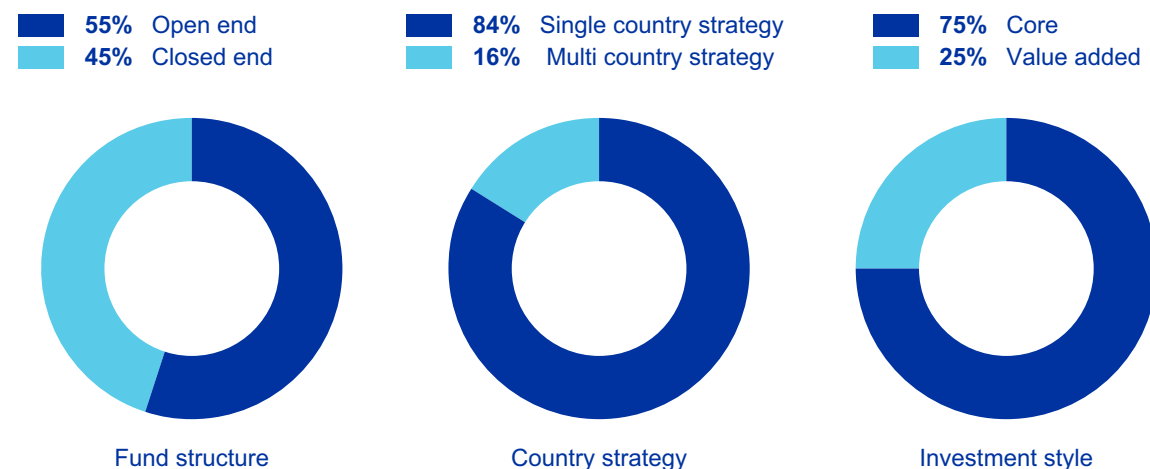
There is considerable concentration within that group of funds that have experienced secondary trading. For example, from the

sample of 20 closed end funds that are common to the INREV and PropertyMatch datasets, the top five funds in terms of trading volumes account for 71.6% of all trades over the period 2010 to 2015. The 2013 trades in just one closed end fund account for 7.3% of all the trades in closed end funds in the period 2010 to 2015.

For open end funds, the patterns of secondary trading are also revealing. From the sample of 24 funds that are common to the INREV and PropertyMatch datasets, the top five funds with the greatest trading volume account for 72.6% of all trades over the period 2010 to 2015. The 2014 trades in just one open end fund account for 7.1% of all the trades in open end funds in the period 2010 to 2015.

The concentration in trades among the top funds is not driven by asset size. The top five closed end funds measured by net asset value (NAV) are not the same as the top five funds measured by secondary trading volume, and the top five by NAV account for 55.8% of the total compared to 71.6% for secondary trading. Three funds belong to both the top five rankings. For open end funds the same applies; that is, the concentration in secondary trading is not driven by asset size. The top five by NAV account for 53.7% of the total compared to 72.6% for secondary trading.

Figure 7: Structure, country strategy and style of funds that had secondary trading (as % of the funds that had secondary trading)



Source: PropertyMatch, INREV

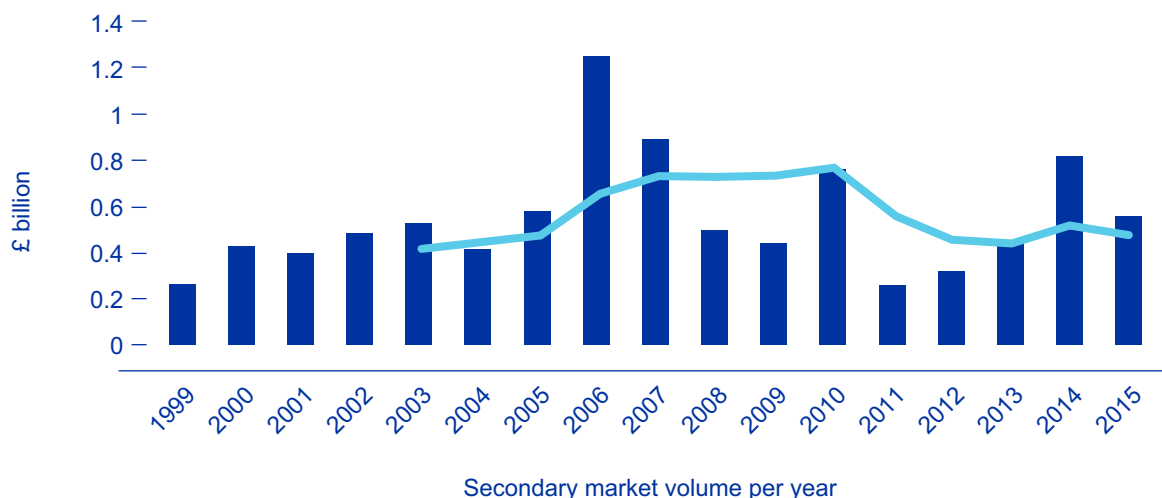
Fund characteristics

The characteristics of the affected funds can be summarised as follows:

- **Domicile:** 33% UK and 22% Luxembourg, remainder mixed
- **Legal form:** 34% PUT, 15% limited partnership, remainder mixed
- It is evident that single country funds are the norm. Within the category of single country funds, funds targeting the UK are dominant, and their dominance helps explain why the UK is the most prevalent domicile and why PUTs (property unit trusts) are the dominant legal form. Indeed, secondary trading is better established in the UK than in continental Europe (possibly due to the greater market penetration of brokers in the UK market), and this is particularly true of open end funds.

According to Samuel Beckett, 'the tears of the world are a constant quantity. For each one who begins to weep somewhere else another stops.' Secondary trading is not like that – its quantity is variable

Figure 8: Secondary trading volume in UK funds since 1999



Source: AREF

The secondary market and its availability

The secondary trading process is defined in Section 2 of this study. In this section the focus is more on availability.

The activity level in secondary markets varies over time, as Figure 8 shows. This figure shows UK funds only, as there is no equivalent time series available for all of Europe. The columns show annual volumes, and the line is the five year moving average. On average, the value of secondary trades is approximately £540 million per year, or around £270 million per half year. However, in the first half of 2016 only £84 million was

transacted – possibly due to the uncertainty leading into the Brexit referendum vote on 23 June 2016.

The secondary market is never closed because there is a direct link between price and liquidity – if buyers can go high enough, and sellers can go low enough, deals will be done.

Value, frequency and timing of secondary trades

Secondary market transactions are also very varied in size, running from small trades between retail investors in open end funds, through trades of about €5 million each between institutional investors, all the way to large scale portfolio trades with total values measured in billions (such as the CalPERS deal in November 2015, worth a reported €2.8 billion). While this study focuses on institutional investors, it is worth noting that there is an active secondary trading market used principally by retail investors in German open end funds, and the Hamburg Stock Exchange data shows that these trades are €0.3 million on average¹².

In terms of pricing, historic trading data from PropertyMatch show that 10% of trades were concluded at NAV. The other trades were at a premium (43%) or a discount (47%). The average premium of 2.9% is smaller than the average discount of -5.5%.

As noted in the Introduction, there are different ways to achieve secondary trading. According to the INREV dataset the most popular method is via a platform, followed by manager-arranged trading.

The PropertyMatch dataset covering 1,015 trades in 88 funds over the period September 2009 – March 2016 reveals the following patterns:

- Trades per fund: 12 average
- Premium to NAV: 1.2% average, maximum 20.5%
- Discount to NAV: -2.6% average, maximum -55%
- Settlement cycle: 19 days on average
- Average trade size: £4.5 million¹³
- Currency used: 95% of trades in sterling

Table 2 brings together vehicle characteristics for those 20 closed end funds that are in INREV's dataset and have traded on the PropertyMatch platform. Some things are striking:

- The dominance of single sector funds
- The relatively high degree of trading in value added funds (occupying two of three top slots in terms of frequency)
- The longevity of these closed end funds

¹² It is possible that some of the secondary trades in German open end funds are by small institutional investors using those funds as substitutes for Spezialfonds

¹³ Trade sizes are very widely dispersed, ranging from less than £500,000 to over £100 million

Table 2: Frequency and value of secondary trades in closed end funds

Launched	Structure	Style	Country strategy	Sector strategy	Value of trades in £m	Frequency of trades
1997	Closed end	Value-added	single country	single sector	419	45
1998	Closed end	Core	single country	single sector	219	2
1998	Closed end	Core	single country	single sector	742	4
1999	Closed end	Core	single country	single sector	473	18
2000	Closed end	Core	single country	single sector	330	59
2000	Closed end	Core	multi country	single sector	174	1
2001	Closed end	Value-added	single country	single sector	933	82
2001	Closed end	Core	single country	single sector	260	42
2001	Closed end	Value-added	single country	single sector	20	6
2002	Closed end	Core	single country	single sector	725	17
2002	Closed end	Core	single country	single sector	472	1
2003	Closed end	Core	multi country	single sector	175	2
2004	Closed end	Value-added	single country	single sector	222	21
2005	Closed end	Core	single country	single sector	659	31
2005	Closed end	Core	single country	single sector	690	23
2005	Closed end	Value-added	single country	single sector	713	11
2005	Closed end	Value-added	single country	single sector	16	4
2005	Closed end	Core	single country	single sector	2	14
2010	Closed end	Value-added	single country	single sector	469	2
2010	Closed end	Value-added	single country	single sector	213	1
					7926 (Total value)	

Table 3 shows the monetary value of the secondary trades in each of these closed end funds, for each whole year 2010 to 2015, in sterling.

Some interesting points stand out:

- Trading volumes are concentrated in just four funds, each of which has generated over £200 million
- A small number of funds have traded in just one year, but most funds experience secondary trading across several years
- Within any given fund, trading is highly variable from year to year

Most funds experience secondary trading across several years.

Table 3: Secondary trading annual volumes in closed end funds

Launched	Style	Trading volume per year (£m)						Total (£m)
		2010	2011	2012	2013	2014	2015	
1997	Value-added	35	35	35	46	17	59	226.5
1998	Core	-	5	-	-	-	-	5.2
1998	Core	-	18	-	-	1	-	18.5
1999	Core	7	15	25	7	3	-	56.7
2000	Core	21	32	7	72	20	75	227.3
2000	Core	-	-	-	-	5	-	4.8
2001	Value-added	11	21	23	103	64	41	263.2
2001	Core	32	7	26	27	73	45	209.2
2001	Value-added	-	-	5	-	-	14	18.9
2002	Core	11	4	6	29	-	-	49.8
2002	Core	2	-	-	-	-	-	2.40
2003	Core	-	-	31	-	-	-	30.5
2004	Value-added	17	17	5	9	8	7	63.9
2005	Core	4	12	22	22	19	-	79.3
2005	Core	2	-	-	-	-	-	2.3
2005	Value-added	1	3	23	8	-	22	56.8
2005	Value-added	-	-	1	1	-	-	1.9
2005	Core	7	1	21	-	-	15	90.9
2010	Value-added	-	-	-	-	-	6	5.9
2010	Value-added	-	-	5	-	-	-	5.4

Table 4 shows the same trades but also includes (i) total value of those trades and (ii) total value of trades divided by the latest available net asset value (NAV). Five years' worth of trading can amount to as much as 27% of NAV, or as little as 1% of NAV.

Table 5 shows the same trading data, but sorted by fund maturity (specifically, by how many years are left before the fund's planned termination date) rather than by calendar year. The idea is to identify whether trading volumes are concentrated at certain points in the lifetime of a closed end fund.

Table 4: Secondary trading patterns as a percentage of NAV in closed end funds

Launched	Style	Trading volume per year (£m)						Total (£m)	Total trades /NAV
		2010	2011	2012	2013	2014	2015		
1997	Value-added	35	35	35	46	17	59	226.5	14%
1998	Core	-	5	-	-	-	-	5.3	2%
1998	Core	-	18	-	-	1	-	18.5	6%
1999	Core	7	15	25	7	3	-	56.7	5%
2000	Core	21	32	7	72	20	75	227.3	18%
2000	Core	-	-	-	-	5	-	4.8	1%
2001	Value-added	11	21	23	103	64	41	263.3	18%
2001	Core	32	7	26	27	73	45	209.3	21%
2001	Value-added	-	-	5	-	-	14	18.9	5%
2002	Core	11	4	6	29	-	-	49.8	18%
2002	Core	2	-	-	-	-	-	2.4	2%
2003	Core	-	-	31	-	-	-	30.5	27%
2004	Value-added	17	17	5	9	8	7	63.9	11%
2005	Core	4	12	22	22	19	-	79.3	10%
2005	Core	2	-	-	-	-	-	2.4	0%
2005	Value-added	1	3	23	8	-	22	56.8	13%
2005	Value-added	-	-	1	1	-	-	1.9	2%
2005	Core	7	1	21	-	-	15	90.9	17%
2010	Value-added	-	-	-	-	-	6	6.0	7%
2010	Value-added	-	-	5	-	-	-	5.5	2%

Figure 9: Secondary trading annual volumes and years remaining to termination for closed end funds

	Years remaining before planned termination												Total value of trades in £m	
	More than 10	10	9	8	7	6	5	4	3	2	1	0		After planned termination
Annual volumes in £m	-	21	32	7	72	20	75	-	-	-	-	-	-	227
	11	21	23	103	64	41	-	-	-	-	-	-	-	263
	-	-	-	-	-	-	-	-	17	17	5	9	16	64
	-	-	-	-	-	-	32	7	26	27	73	45	-	210
	-	-	-	-	-	-	-	-	-	5	-	-	-	5
	-	-	-	-	-	-	4	12	22	22	19	-	-	79
	-	-	-	-	-	-	2	9	14	19	32	8	-	84
	-	-	-	-	-	-	-	-	-	-	31	-	-	31
	-	-	-	-	-	-	-	-	-	-	-	-	5	5
	-	-	-	-	-	-	-	-	-	-	7	15	35	57
	-	-	-	-	-	-	-	-	-	6	-	-	-	6
	-	-	-	-	-	-	-	1	3	23	8	-	22	57
	-	-	-	1	1	-	-	-	-	-	-	-	-	2
	-	-	-	-	-	-	-	-	-	-	-	-	14	14
	-	-	-	-	-	-	-	-	-	-	11	4	35	50
	-	-	-	-	-	-	-	-	-	18	-	-	1	19
	-	-	-	-	35	35	35	46	17	59	-	-	-	227
	-	-	-	-	-	-	-	-	-	-	-	-	2	2
	-	-	-	-	-	5	-	-	-	-	-	-	-	5
	-	-	-	-	-	-	7	1	21	-	47	15	-	91
		Overall total												

‘Much of the trading occurs when funds have five years or less remaining.’

It is noticeable that in terms of both frequency and monetary value, much of the trading occurs when funds have five years or less

remaining. The busiest years are the three in the lead up to planned termination.

There is also a considerable amount of trading done when a fund has already passed its planned termination data, indicating that funds are trading post an extension.

For those funds that experience isolated trading (that is, in one year only), the trade is usually occurring late in the fund's life.

Turning now to open end funds, Table 6 brings together vehicle characteristics for those 24 open end funds that are in INREV's dataset and have traded on the PropertyMatch platform in the period 2009 to 2016. There are no German open end funds in this sample.

Some things are striking: the dominance of core funds; the dominance of multi sector funds (in contrast to the closed end sample); the longevity of these open end funds, with an average age of 24 years. Another salient feature is the high degree of trading in a handful of funds, including one fund with 128 trades to its name.

‘High degree of trading in a handful of funds’

Table 5: Trading frequency for open end funds

Structure	Style	Launched	Country strategy	Sector strategy	Frequency
Open end	Core	1967	single country	multi sector	30
Open end	Value-added	1967	single country	multi sector	57
Open end	Core	1967	single country	multi sector	78
Open end	Core	1971	single country	multi sector	35
Open end	Core	1972	single country	multi sector	11
Open end	Core	1982	single country	multi sector	128
Open end	Core	1984	single country	multi sector	6
Open end	Core	1988	single country	single sector	1
Open end	Core	1990	single country	multi sector	1
Open end	Core	1990	single country	single sector	1
Open end	Core	1994	single country	multi sector	10
Open end	Core	1994	single country	multi sector	13
Open end	Core	1998	single country	single sector	1
Open end	Core	1998	single country	single sector	3
Open end	Core	1998	single country	single sector	1
Open end	Core	2000	single country	multi sector	22
Open end	Core	2005	multi country	multi sector	1
Open end	Core	2006	multi country	multi sector	6
Open end	Value-added	2006	single country	single sector	76
Open end	Value-added	2006	multi country	multi sector	1
Open end	Core	2007	single country	multi sector	12
Open end	Core	2007	multi country	single sector	2
Open end	Core	2008	single country	single sector	1
Open end	Core	2010	multi country	multi sector	1

Table 6 shows the same information and, in addition, the monetary value of the secondary trades in each of these open end funds, for each whole year 2010 to 2015, in sterling. Some interesting points stand out:

- Trading volumes are concentrated in just five funds, each of which has generated over £150 million
- A small number of funds have traded in just one year, but most funds experience secondary trading across several years¹⁴
- Within any given fund, trading is very variable from year to year

Table 6: Secondary trading annual volumes in open end funds

Launched	Style	Trading volume per year (£m)						Total (£m)
		2010	2011	2012	2013	2014	2015	
1967	Core	-	20	27	32	16	2	98
1967	Value-added	2	33	3	87	22	49	197
1967	Core	8	27	84	86	56	54	315
1971	Core	-	21	6	38	25	69	159
1972	Core	-	16	8	-	2	3	30
1982	Core	21	20	39	119	128	88	415
1984	Core	-	2	14	6	-	-	22
1988	Core	-	-	-	-	-	-	-
1990	Core	-	-	3	-	-	-	3
1990	Core	-	-	-	-	-	-	-
1994	Core	8	2	-	4	2	13	31
1994	Core	-	-	-	3	12	9	25
1998	Core	-	-	-	-	-	4	4
1998	Core	-	-	-	-	-	18	18
1998	Core	-	-	-	-	5	-	5
2000	Core	-	11	25	9	12	9	65
2005	Core	3	-	-	-	-	-	3
2006	Core	-	4	9	23	19	-	55
2006	Value-added	17	59	51	58	30	4	219
2006	Value-added	-	3	-	-	-	-	3
2007	Core	-	-	-	20	49	5	73
2007	Core	-	-	-	-	-	46	46
2008	Core	-	-	-	-	24	-	24
2010	Core	-	-	-	-	-	41	41

¹⁴ One fund had secondary trading in 2009 but not subsequently, and as such does not have any monetary value to display in the whole years 2010 to 2015 inclusive.

Table 7 shows the same trades but also includes (i) total value of those trades and (ii) total value of trades divided by the latest available net asset value (NAV). Five years' worth of trading can amount to as much as 28.7% of NAV, or as little as 0.1% of NAV.

Table 7: Secondary trading annual volumes as percentage of NAV for open end funds

Launched	Style	Trading volume per year (£m)						Total (£m)	Total trades/NAV
		2010	2011	2012	2013	2014	2015		
1967	Core	-	20	27	32	16	2	98	6%
1967	Value-added	2	33	3	87	22	49	197	29%
1967	Core	8	27	84	86	56	54	315	19%
1971	Core	-	21	6	38	25	69	159	6%
1972	Core	-	16	8	-	2	3	30	2%
1982	Core	21	20	39	119	128	88	415	10%
1984	Core	-	2	14	6	-	-	22	1%
1988	Core	-	-	-	-	-	-	-	-
1990	Core	-	-	3	-	-	-	3	-
1990	Core	-	-	-	-	-	-	-	-
1994	Core	8	2	-	4	2	13	31	13%
1994	Core	-	-	-	3	12	9	25	3%
1998	Core	-	-	-	-	-	4	4	2%
1998	Core	-	-	-	-	-	18	18	4%
1998	Core	-	-	-	-	5	-	5	2%
2000	Core	-	11	25	9	12	9	65	3%
2005	Core	3	-	-	-	-	-	3	1%
2006	Core	-	4	9	23	19	-	55	5%
2006	Value-added	17	59	51	58	30	4	219	12%
2006	Value-added	-	3	-	-	-	-	3	1%
2007	Core	-	-	-	20	49	5	73	2%
2007	Core	-	-	-	-	-	46	46	3%
2008	Core	-	-	-	-	24	-	24	11%
2010	Core	-	-	-	-	-	41	41	3%

Impact of secondary trading on funds

The INREV Annual Index database contains a field where fund managers can record the size of secondary trades in relation to the overall equity of a fund. For closed end funds, the trades represent on average 3% of total equity. For open end funds, the trades represent on average 2.5% of total equity.

Another field in the INREV Annual Index records the number of investors in a fund, and it is interesting to track movements in the investor base in a fund against larger secondary trades (large meaning 1% or more changing hands). There are sixteen instances where larger trades are accompanied by a change in the investor base. In twelve cases the investor base reduced in number, which may indicate that the buyers in a secondary trade already have a stake in that fund and are seeking to increase their holding. In four cases the investor base increased in number, which could indicate that existing investors are selling part of their stake to a new investor, or selling all of their stake to more than one investor, or doing both.

‘Buyers in a secondary trade may already have a stake in that fund and seek to increase their holding’

7. Examples of secondary trading strategies for closed end funds

This section now turns to the investment strategies and approaches that secondary trading enables. The examples are illustrative rather than exhaustive, and one approach, the use of secondary trades in defined contribution (DC) default strategies, is deliberately omitted because DC will be the subject of a new INREV study in 2017. The examples are for closed end funds only, focusing on strategies that can be employed at different points in the J-curve. Examples of secondary trading of open end funds have already been given in Section 3.

Before looking in more detail at the use of secondary trading within closed end funds, it is useful to reflect on the nature of closed end funds themselves¹⁵. In Europe, closed end funds tend to fall into two broad categories: private equity style funds and longer-term vehicles.

First, there are funds usually called private equity funds that generally have very clear terms relating to the life of the fund. In their documentation, these funds often state the proposed length of the fund, giving a date for termination. Usually, some flexibility at the end of fund life is provided by the possibility of two one-year extensions; the first is at the fund manager's discretion while the second is by investor agreement. Any further extension is

not permitted. All investors exit the fund on a wind-up at the same time.

The second category comprises longer term vehicles. Their documentation will state the length of the fund life, with provision for a longer-term extension, of say, five years. It is typical that one or two years before the end of the fund, investors can vote with a 75% majority to extend the life for a fixed period. Those voting against have the right to exit at the original term end. When this style of fund became popular around 2001 to 2004, it was not envisaged that an extension would lead to a restructuring of the fund that could be potentially contentious or take so long. However, it was envisaged that providing an exit route to some investors via asset sales could be challenging. Hence, emphasis was given allowing secondary trades and allowing time to dispose of assets.

Table 8 shows the launch date and planned termination date of the 20 closed end funds that are common to the INREV and PropertyMatch datasets, showing clearly that many of them are already past (yellow flag) their planned termination dates.

Table 8: Longevity of closed end funds

Launched	Planned termination year	
2000	2020	●
2001	2021	●
2004	2013	●
2001	2015	●
1998	2013	●
2005	2015	●
2005	2015	●
2003	2013	●
2000	2011	
1999	2011	
2010	2017	●
2005	2014	●
2005	2020	●
2001	2011	
2002	2017	●
1998	2013	●
1997	2017	●
2002	2008	
2010	2018	●
2005	2015	●

● = planned termination in future

● = planned termination in past

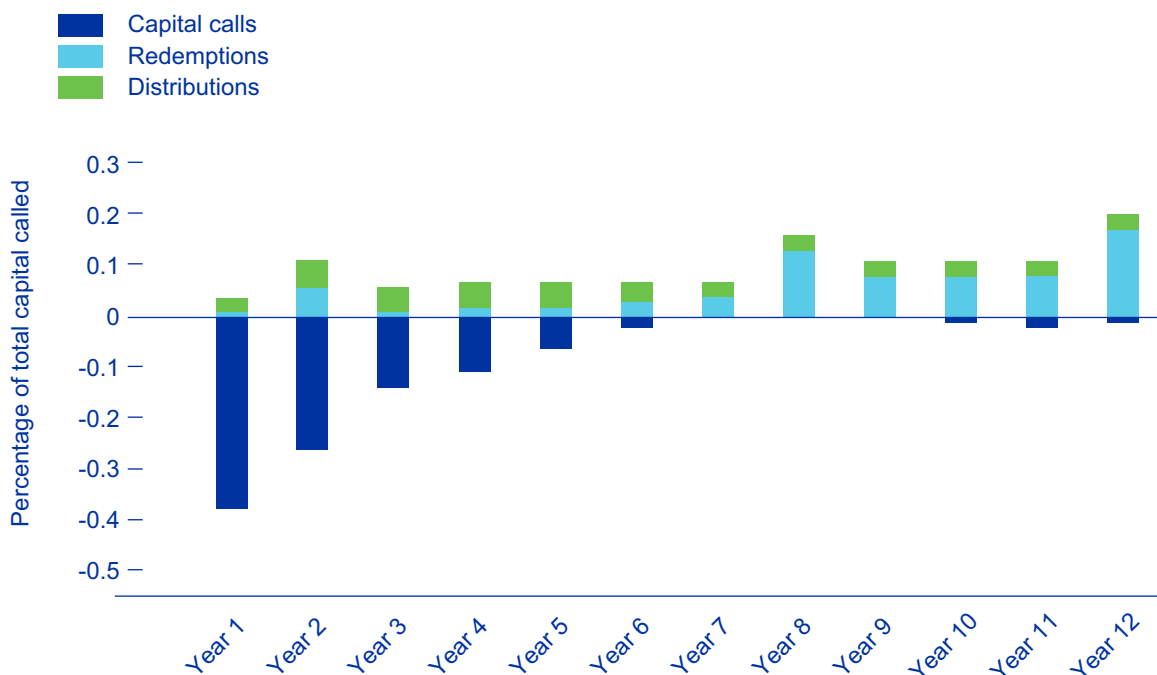
¹⁵ See the End of Fund Life report (2016), sponsored by INREV, AREF and the IPF

For secondary sellers, the ability to do a secondary trade can fundamentally change the duration and the liquidity profile of closed end funds, and as such could lead to different asset allocation decisions. For secondary buyers, the picture is also very different from the norm. Rather than the investor experiencing the familiar J-curve effect, secondary buyers may experience one single negative cash flow followed relatively soon by a stream of positive cash flows.

‘The ability to do a secondary trade can fundamentally change the duration and the liquidity profile of closed end funds’

Secondary trading can be deployed at any point but one approach is particularly interesting: it is an ‘inflection point’ strategy – buying into a closed end fund at or near the bottom of the J-curve.

Figure 10: Representative cash flows from closed end funds



Source: INREV Annual Index

Figure 12 shows the average cash flow patterns of a sample of closed end funds drawn from INREV's database. (The funds have different vintage years but this is ignored for the purpose of illustrating typical cash flow patterns).

Each annual cash flow, whether it is a capital call, a redemption or a distribution, is calculated as a percentage of total capital called. This gives a better sense of how cash flow patterns relate to initial outlay, and it stops larger funds from dominating the sample. Capital calls are negative cash flows and therefore fall below the horizontal line; redemptions and distributions are positive cash flows and therefore rise above the horizontal line. It can be seen that in years five to seven the positive cash flows start to exceed the negative cash flows, echoing the familiar J-curve pattern. This is the inflection point, and an interesting point for a secondary trade to occur.

Inflection point strategy

This is an example of an inflection point strategy based on the actual secondary trading and actual cash flow history of a closed end fund. The trading data comes from the PropertyMatch dataset and the cash flows come from the INREV dataset.

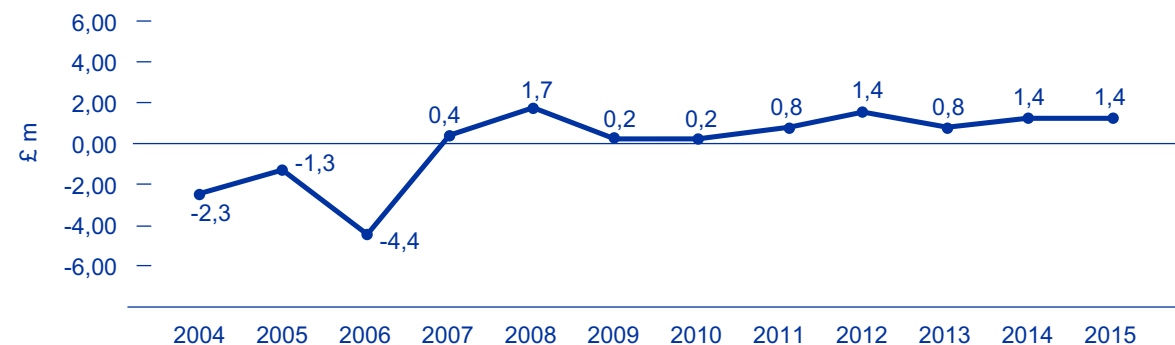
Figure 11 shows the historic net cash flows to an investor in a closed end fund. The investor is assumed to own 1% of the total NAV. If the investor joins the fund at launch and stays the course their net cash flows (that is,

distributions plus redemptions minus capital calls) looks like this in the period 2004 to 2015. Amounts are in £ million.

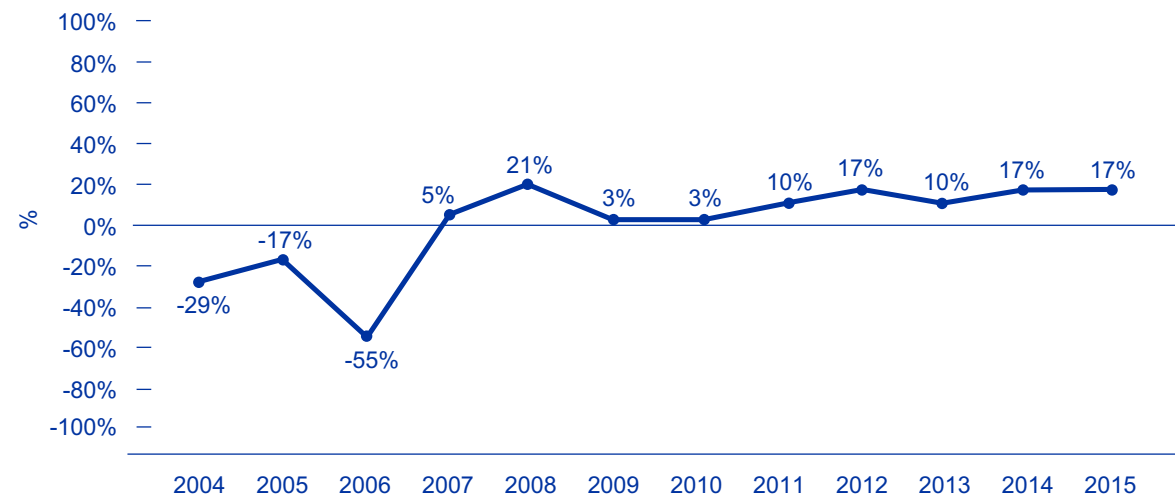
In the first three years, the investor supplies

£8.1 million, and over the course of the remaining nine years (which included the period of the Global Financial Crisis) the investors receive back £8.2 million in total.

Figure 11: Net cash flows in £m to investor who stays invested from launch



Net cash flows in % to investor who stays invested from launch



Source: INREV Annual Index

The second chart shows the same historic net cash flows to the investor, but shown as a percentage of the investor's total outlay (that is, capital called). If the investor joins the fund at launch and stays the course, their net cash flows (that is, distributions plus redemptions minus capital calls) come to a total of 102% in the period 2004 to 2015. In the period 2004 to 2006 inclusive, 100% of this investor's capital is called. In the period 2007 to 2015 inclusive, the investor receives 102% of their capital back.

Suppose this investor decides to sell their shareholding six years after launch. A willing secondary buyer is found. A large single payment of £6.73 million is made, and this investor's cash flows then cease. (The value of £6.73 million is calculated using a premium to NAV of 2%, which is the average secondary trading price for this fund in the year in question).

The overall picture of net cash flows to the seller (the exiting original investor) looks like Figure 12.

Figure 12: Net cash flows in £m to investor who sells on secondary market six years after launch

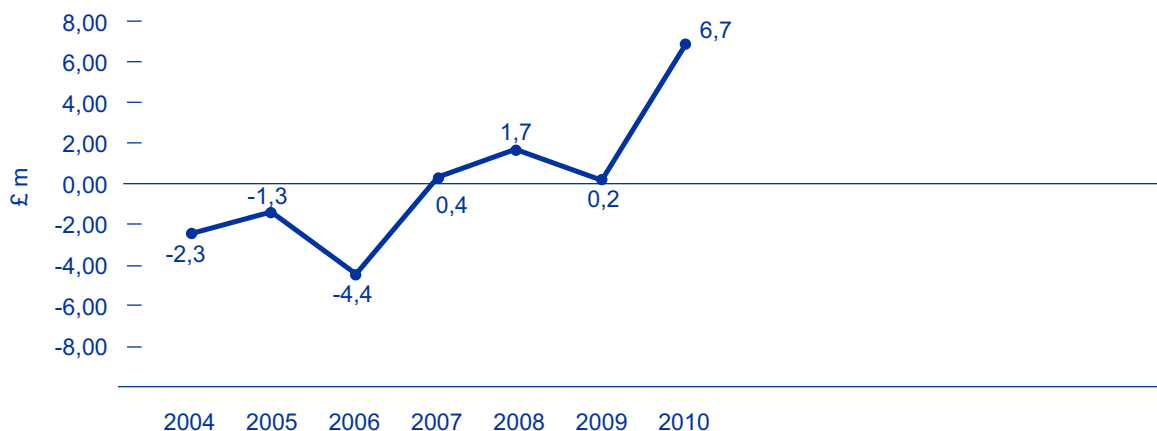
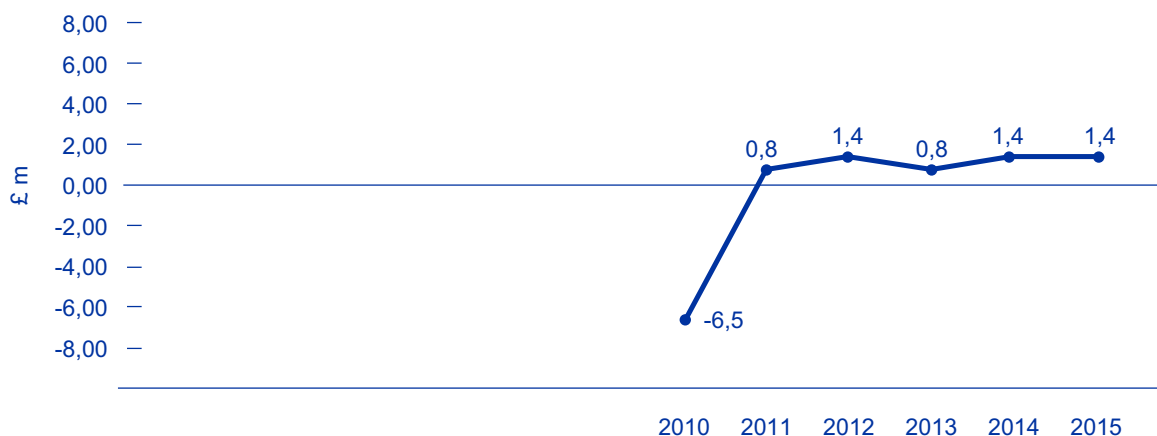


Figure 13: Net cash flows in £m to investor who buys on secondary market six years after launch



Source: INREV Annual Index, PropertyMatch

For the secondary buyer (the new investor who steps into the shoes of the exiting original investor), the cash flows look like Figure 13.

The first cash flow is a negative one of £6.5 million, reflecting the amount paid on the secondary market to the buyer. All cash flows from that point onwards go to the new investor. Note that the incoming investor is assumed to receive any distributions and redemptions accruing in 2010 (in equity jargon, the purchase is cum dividend). The outflow of £6.7 million is reduced to £6.5 million, as shown, because there is an inflow of £0.2 million in the year of purchase.

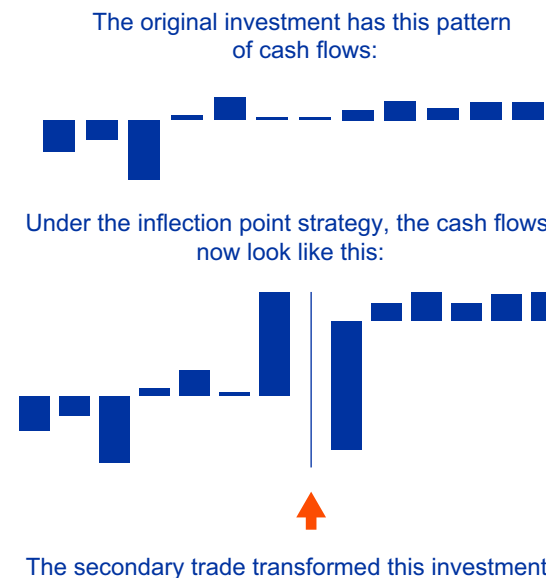
The secondary trade in Year 6 turns a single long term investment of at least twelve years' duration into two consecutive medium term investments. The original investor would have broken even by 2015 but thanks to the secondary trade this investor breaks even in 2010. The incoming secondary buyer is on track to break even in 2016 if the distributions and redemptions continue as before. Therefore, a twelve-year payback period is now broken into two six-year payback periods.

Inflection point strategies such as the one illustrated offer advantages to each party. The seller's circumstances may have changed since the original purchase, or investment strategy may have been revised, or a better opportunity may simply have materialised.

For the buyer, the inflection point strategy offers access to a portfolio that is already established, whereas joining a new closed

end strategy would mean waiting several years for this to be assembled. The buyer can look forward to positive cash flows for several years.

Figure 14: How the inflection point strategy affects cash flows



What motivates buyers and sellers?

Table 9 below shows the potential motivations of buyers and sellers.

Table 9: Motivations of buyers and sellers¹⁶

Sellers' motivations	Buyers' motivations
Liquidity needs	Discount
Dissatisfaction	Repayment speed
Regulation	Visibility versus 'blind pools' ¹⁷
Asset allocation	Portfolio diversification
Change of group strategy	J-curve mitigation
Active portfolio management	Commitment pace and exposure

There is another benefit in purchasing at the inflection point rather than earlier, and it relates to behaviour known as loss aversion.

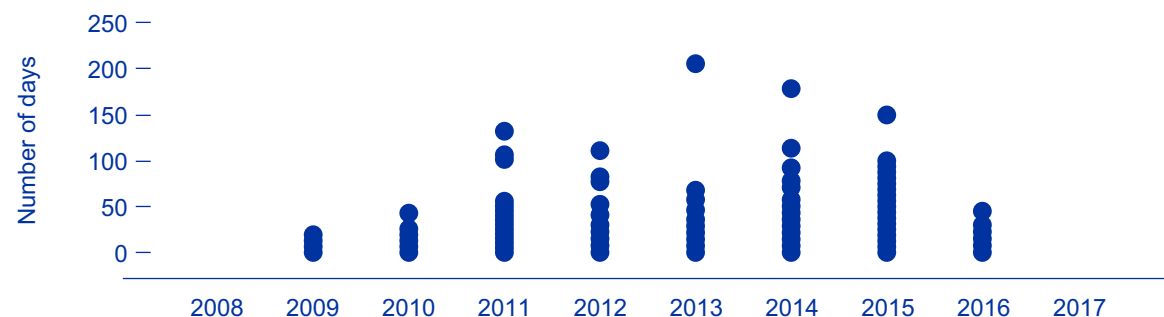
¹⁶ See Cornelius, 2014. The Secondary Market: A Panacea for the Illiquidity in Private Equity Investments?

¹⁷ Secondaries can increase transparency for the buyer. Whereas a primary investment in a closed end fund will involve a blind or partially blind pool, with a secondary trade the buyer can perform due diligence on an existing real estate portfolio

Sellers facing a loss tend to ask for higher prices than sellers facing a gain. Research in the US indicates that loss aversion plays a significant role in the behavior of investors in commercial real estate, and the degree of loss aversion is higher the more sophisticated or experienced the investor is.¹⁸

¹⁸ Bokhari, Sheharyar, and David Geltner. 'Loss Aversion and Anchoring in Commercial Real Estate Pricing: Empirical Evidence and Price Index Implications.' Real Estate Economics 39.4 (2011): 635–670.

Figure 15: Settlement cycle for secondary trades



Source: PropertyMatch

Liquidity budgeting

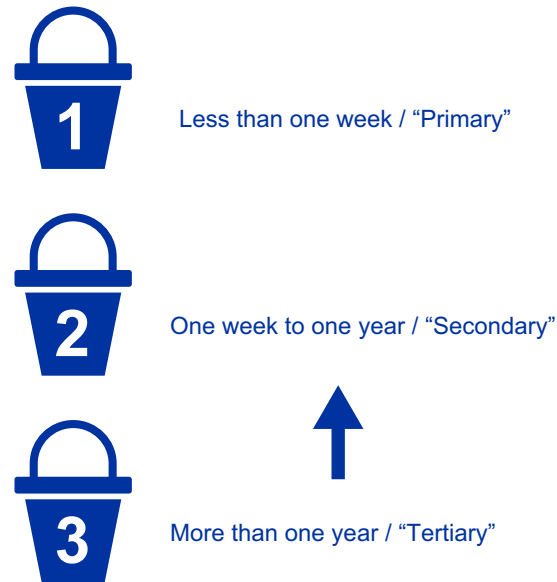
Institutional investors may manage their liquidity using the 'liquidity bucket' approach, which means they categorise all assets (not just real estate) according to the time taken to liquidate. Sovereign bonds and large cap equities are liquid, and go into Bucket 1, called Primary. Assets taking more than one week but less than one year to liquidate go into Bucket 2, called Secondary. The least liquid assets are placed in Bucket 3, called Tertiary, as they take one year or more to liquidate.

A liquidity budget might stipulate that at least (say) 70% of the portfolio is held in Bucket 1 assets, no more than 20% in Bucket 2 assets and no more than 10% in Bucket 3 assets. Clearly, if non-listed real estate qualifies as a Bucket 2 asset it can enjoy an allocation that is twice as big as that of Bucket 3 assets.

Secondary trading does not increase or decrease liquidity of the fund's underlying portfolio, but the investor's portfolio is more liquid. The trading cycle for secondary trades is, according to the general consensus, considerably less than one year, and in such cases a non-listed real estate fund should arguably be considered Bucket 2.

Trades on the PropertyMatch platform settled within an average of 19 days.

Figure 16: There's a hole in the bucket dear Liza



8. Conclusions and further research

Non-listed vehicles are one of several ways to invest in European real estate market, and their liquidity as vehicles has been discussed at length elsewhere. Secondary trading is about investor liquidity – the ability of individual investors to enter, exit or rebalance their exposure to non-listed real estate at a time of their choice, and this area has received less attention. Secondary trading is not a panacea to the inherent illiquidity of real estate but it is an extremely useful tool for investors.

For open end funds, secondary trading complements the established and familiar subscription and redemption process. It can bypass the subscription and redemption queues that are sometimes in place, and it facilitates buying and selling at prices that are not prescribed by fund documentation if this is of interest to the parties.

‘Secondary trading is about investor liquidity – the ability of individual investors to enter, exit or rebalance their exposure to non-listed real estate at a time of their choice’

For closed end funds, secondary trading offers an entirely new flexibility to buyers and sellers, allowing adjustments to be made as required by regulation, restructuring or a new

investment strategy. Fixed terms can be unfixed; long time horizons can be shortened; rebalancing is facilitated; and manager relationships can be streamlined.

‘Secondary trading offers an entirely new flexibility to buyers and sellers’

In INREV’s Investor Perspectives on Indirect Real Estate Liquidity Study (2015) investors in non-listed real estate mentioned timing as a key driver. Entry timing is constrained by capital queues in popular unitised funds and the pace of deployment of capital of closed end funds. Exit timing is impacted by the lock up periods of closed end funds and the ability of open end funds to meet or suspend redemptions.

Secondary trading can help unlock parts of the investor universe where non-listed real estate finds it difficult to gain traction, such as pension investors concerned about illiquidity, and defined contribution default strategies.

Secondary trading continues to evolve. Hints of what may be ahead can be seen in the world of private equity, where secondary trading was worth an estimated €36 billion in 2015 (compared to €9 billion for real estate). US public pension funds have become comfortable with the secondary market and this will have a major impact, both in terms of volumes and profile. Secondary trading in

non-listed real estate seems likely to grow, at least if the private equity market is any indicator.

The usefulness of secondary trading guarantees its continued growth in Europe. The UK market is well established and other markets will follow at different speeds.

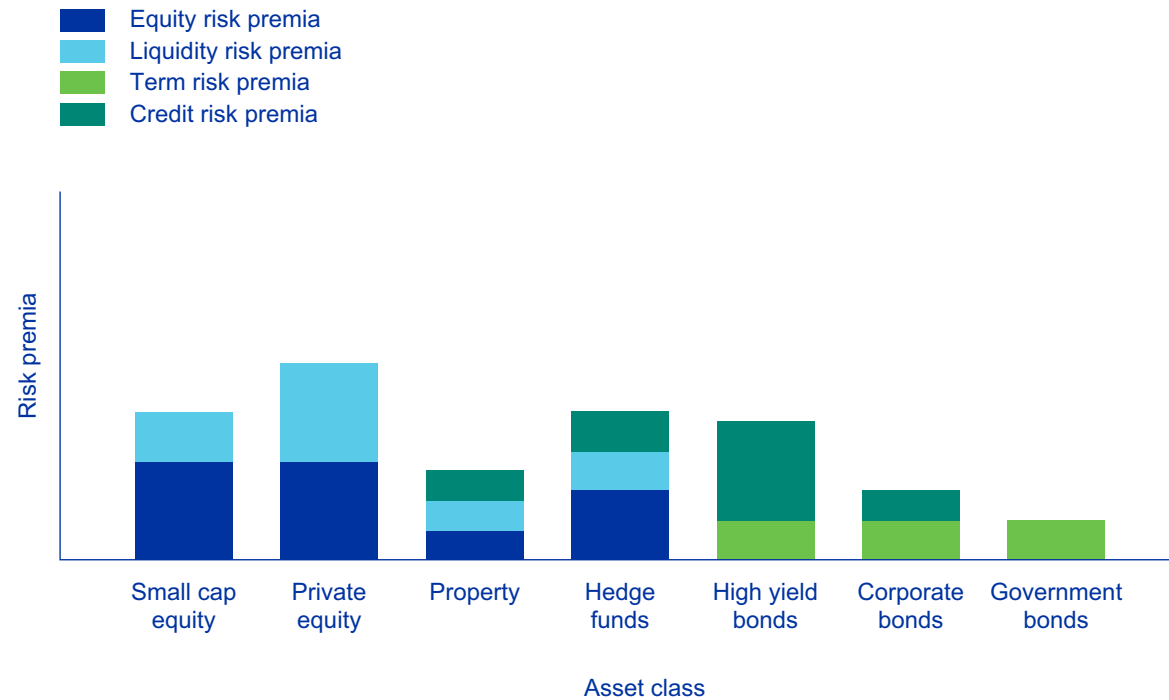
Further research would be beneficial in these areas:

- Links between NAVs of all types and pricing of secondary trades
- A closer look at secondary trading in the US and how it compares to Europe
- Implications for asset allocation
- The evolving due diligence required to do a secondary trade
- Do certain vehicle structures lend themselves better to secondary trading than others
- Obstacles to further growth of secondary trading in non-listed real estate.

In addition to research, there is a need for greater education and awareness around the existence and benefits of secondary trading. Not all institutional investors are aware that this facility may be available. Secondary trading works best where there is transparency, and full adoption of INREV’s Guidelines certainly helps in this regard.

The conclusion is that secondary trading opens the tantalising possibility of a free, or at least cheap, lunch – being rewarded with an illiquidity premium without suffering the fullest extent of that illiquidity. The ex-ante illiquidity premium is sizeable (estimated to be 3% per year on average¹⁹), so this is not a small matter. Secondary trading increases investor liquidity, but the illiquidity premium still accrues – too good to be true?

Figure 17: Liquidity risk premium



Source: *The Future of Long-term Investing*, World Economic Forum 2011

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