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# Where does real estate fit in pension scheme de-risking plans?

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**De-risking has been a key trend for UK pension schemes over the last 10 years. In an attempt to attain and retain higher funding levels, allocations to growth assets such as equities and real estate (property) have been reduced, whilst holdings of bonds have been on the rise. However, is blanket de-risking across growth assets, or even a move wholly out of real estate, necessarily the best way to reduce risk?**

In this paper we look at the contribution which real estate can make in helping pension funds meet their de-risking objectives. We conclude that:

- On average UK pension scheme deficits have increased, with recovery plans extending accordingly. Long-term growth assets like real estate should therefore still have a place in many pension scheme portfolios as part of their de-risking strategy
- Real estate yields are at relatively attractive levels for schemes seeking an asset to outperform their pension liabilities and close deficits over the long term
- Investors are likely to be rewarded with an illiquidity risk premium
- Real estate offers a sensitivity to inflation that can be useful in matching the inflation-linked cashflows of pension schemes. It has both liability matching and growth characteristics, making it a hybrid somewhere between equities and bonds
- Real estate offers some diversification against other asset classes
- The long-term outlook for real estate remains attractive. Although total returns are likely to vary from year to year, the income return is relatively predictable over time

Our overall conclusion is that real estate can be maintained in schemes' "flight path" de-risking plans. Its high and stable income can help match liability cashflows and offers the potential to deliver steady growth to close deficits as pension schemes mature.

## Time to re-assess real estate

Pension schemes usually have an objective to grow their assets to meet liabilities valued on a conservative, low-risk basis. Once full funding is achieved, assets can be managed self-sufficiently to meet liabilities as they fall due. Alternatively the assets can be transferred to an insurance company which undertakes to make the necessary payments to pensioners, a transaction known as a pension buyout. Unfortunately, over the last couple of years, many scheme deficits have widened, mainly as a result of lower than expected interest rates. For schemes which have conducted a valuation over the last year, this means their recovery plans are expected to be extended by an average of 3.5 years[1] (Figure 1).

With longer recovery plans and longer time horizons to full funding, this is a very good time to look again at longer-term asset classes. Assets like real estate that are projected to achieve attractive returns over extended periods may be more appropriate than ever to help close deficits.

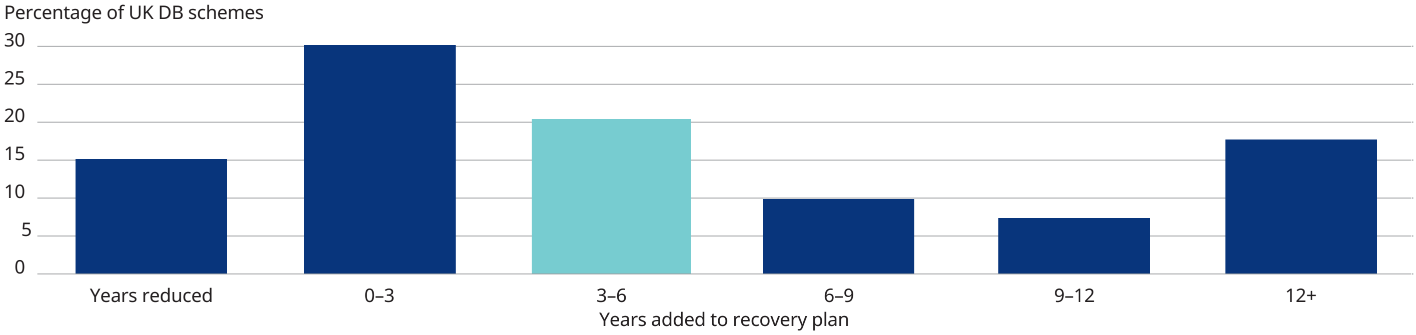
## Real estate's growth potential

The value of pension schemes' liabilities and deficits depends heavily on the underlying assumptions used. The latest data from the Pensions Regulator show that the average actuarial assumption used to discount liabilities is the yield on index-linked gilts plus 1.05%[2]. If assets outperform index-linked gilts by 1% a year over the long term, then this should help close deficits. In fact, Figure 2

1 Source: The Pensions Regulator's Annual Funding Statement, May 2015 (Tranche 10 expected positions) www.thepensionsregulator.gov.uk/doc-library/statements.aspx

2 The Pensions Regulator Annual Funding Statement analysis for schemes with valuation dates in the year to 21 September 2013. The median outperformance of the real discount rate over the 20 year real government spot rate is shown.

**Figure 1: Recent actuarial valuations will almost certainly show that schemes have to extend recovery plans**




The Pensions Regulator's estimate of how many years will be added to pension scheme recovery plans for those carrying out actuarial valuations in the year to September 2015. Source: www.thepensionsregulator.gov.uk/doc-library/statements.aspx. The Pensions Regulator's Annual Funding Statement May 2015 (Tranche 10 expected positions), Schroders, for illustration only.

shows that UK real estate has outperformed index-linked gilts by around 2% per year since 1982 and over the long term has achieved real total returns of around 4% per year.

Furthermore, although the equivalent yield on UK real estate[3] has fallen since 2009 and now stands at 6%, the gap between it and long-dated gilts is still high by historical standards at between 3.5% and 4% (see Figure 3). Furthermore, the Investment Property Forum (IPF), an industry body, currently expects the return on UK real estate over the next four years to be 5.9%[4] per annum, or over 3% per annum above long-dated gilt yields. That is compelling in its own right, but real estate yields are also currently at relatively attractive levels compared with other assets such as equities and corporate bonds. Real estate therefore looks like a useful asset to help schemes close their deficits over the long term.

3 The IPD UK all property equivalent yield which makes an assumption regarding the re-letting of property at the end of leases. The equivalent yield is used over the initial yield because, from an actuarial perspective, it is judged comparable to the redemption yield on a bond. The income received from a property investment may differ from the equivalent yield because of the impact of fees and gearing.

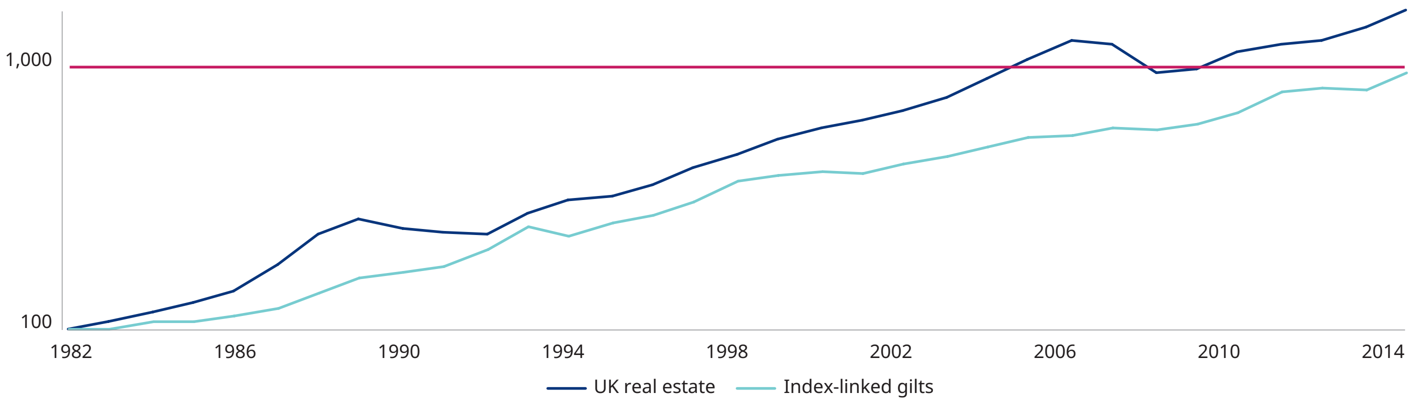
4 Investment Property Forum UK Consensus Forecasts August 2015. www.ipf.org.uk/resourceLibrary/investment-property-forumuk-consensus-forecasts-summary-report--august-2015-.html

We would argue that this is a return that is hard to find anywhere else, given the high premium attached to the illiquidity of real estate assets. A recent 2014 study by Pedersen, Page and He[5] analysed whether the holders of real estate and other "alternative" assets were rewarded with such a premium for holding them over the long term. They found that returns from some alternative asset classes, such as hedge funds, could be replicated by holding liquid exposures to commonly traded indices, but that this was not possible for real estate. As shown in Figure 4, real estate investors were found to be rewarded with a significant illiquidity risk premium over the long term that could not be easily replicated. Real estate can also offer some useful diversification benefits, which may be helpful for schemes looking to reduce the volatility of their funding ratio[6].

5 The Financial Analysts Journal. May/June 2014, Volume 70 Issue 3. Asset Allocation Risk Models for Alternative Investments. Niels Pedersen, Sébastien Page, CFA, and Fei He, CFA. www.cfapubs.org/doi/abs/10.2469/faj.v70.n3.4.

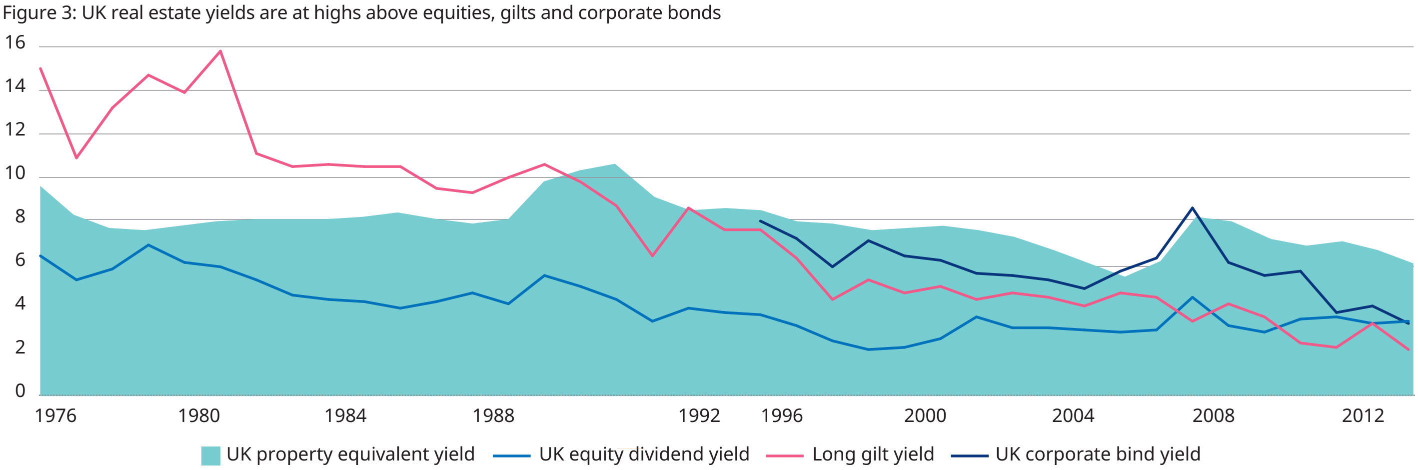
6 The correlation between real estate and UK gilt total returns between 1971-2014 is 0.06. The correlation between real estate and UK equity total returns between 1971-2014 is 0.27. Barclays Equity Gilt Study, MSCI/IPD Annual Index, Schroders, March 2015.

**Figure 2: UK real estate has outperformed index-linked gilts over the long term by 1.9% per year**



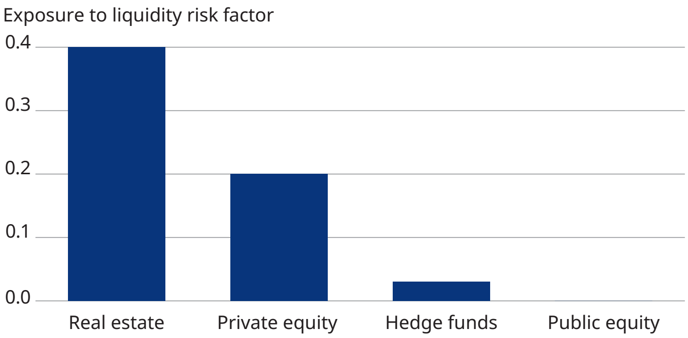

Sources: UK index-linked gilt total returns from the Barclays Equity Gilt Study 2015. UK Real Estate returns from the IPD UK Total Return Index, Schroders, for illustration only

## Figure 3: UK real estate yields are at highs above equities, gilts and corporate bonds




Source: MSCI IPD, Barclays Equity Gilt Study 2015, Bank of America Merrill Lynch, for illustration only.

## Figure 4: Real estate has offered investors a larger than average liquidity premium




Source: Pedersen, Page, He (2014) Asset Allocation: Risk Models for Alternative Investments, Schroders. For illustration only. The exposures of the asset classes public equity (S&P 100 index), private equity (Cambridge Associates Private Equity Index), real estate (NCREIF Property index) and hedge funds (HFRI index) to the liquidity risk factor defined by Pastor and Stambaugh.

## Real estate has surprisingly good liability matching characteristics

The benefits of real estate don't stop at performance. A key benefit of the asset is that it has both growth and liability matching characteristics. As we have seen, real estate has attractive potential returns which are often superior to bonds – indeed, they are more like those from a growth asset such as equities. Yet real estate also has a stable income stream similar to that of bonds. Tenants have a legal obligation to pay the rent, whereas dividend payments on equities are at the discretion of company boards. In this regard, it can be thought of as something of a hybrid, lying somewhere between defensive and growth assets (i.e. bonds and equities).

A defined benefit pension scheme's liabilities are a mix of fixed and inflation-linked projected cashflows, often mainly the latter. Consequently, cashflows out of the scheme are projected to increase with expected inflation and these liabilities are often valued using index-linked gilts which also rise in value as inflation expectations rise. We suggest that real estate can also help match these inflation-linked cashflows.

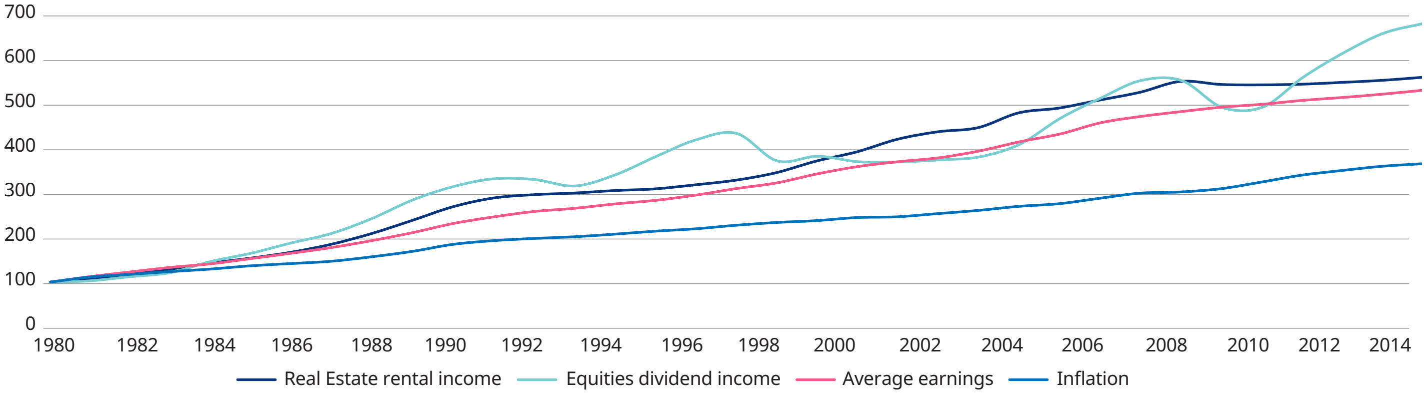
Over the long term the income from real estate has tended to rise faster than inflation (see Figure 5), but with less volatility than equities. The main reason for this is t hat the rents on existing leases are usually only reviewed every five years and most UK leases have an upward only clause, which prevents a downward adjustment during the term of the lease. These rental streams can be a good match for long-term inflation-linked pension payments which, like rents, often aren't revised downwards in periods of deflation.

These upward-only reviews mean that the rent received by landlords does not immediately reflect changes in open market rents, which are driven by the balance between occupier demand and the volume of new building. The rent received tends to follow upswings in open market rents with a lag of two, or three years and often remains quite stable during recessions. The landlord is only exposed to a fall in rent if their tenant goes bust, or if the lease expires after a downswing and has to be renewed at a lower open market rent. Even during the global financial crisis, when open market rents fell by 9% from peak to trough, the rent received on property portfolios only fell by 2%[7]. This year (2015) is seeing a small increase in rent received, following the upturn in open market rents which began in 2013.

To understand why real estate works as a matching asset it's worth looking at how it is priced. Commercial properties are valued by projecting the expected rental cashflows from leasing the building. They are then discounted using an equivalent yield determined by an independent valuer. Expectations of a property's future rent and rental growth therefore drive its projected cashflows and hence its value over the long term. Over the short term, market conditions are still an important consideration and can cause capital values to be more volatile. For instance, during the global financial crisis, real estate capital values fell sharply, along with most other assets, as shown by the "yield impact" grey bars in Figure 6 (the yield impact reflects market movements in equivalent yields and is a measure of investor sentiment). However, the consistency of rental income from commercial real estate over extended periods means that it provides a very stable underpinning to real estate returns (orange bars).

7 Source: The MSCI IPD Annual Index.

**Figure 5: The historic performance of UK real estate and equity income versus inflation and average earnings**




Source: Barclays Capital, FTSE, MSCI IPD, ONS and Schroders at February 2015, for illustration only.

## Schroders Where does real estate fit in pension scheme de-risking plans?

An example of a property's projected rental cashflows is shown in Figure 7. The cashflows are discounted at the yield expected to be earned in the future. They are compared with the discounted cashflows of a sample pension scheme. The figure shows that real estate can act as a reasonable cashflow match for liabilities. Both streams broadly increase with inflation over time. The liability cashflows are somewhat longer than those for the real estate income. However, to be conservative, only three ten-year leases have been assumed for the sample property. In practice the property's cashflows may well be longer if the building is kept refurbished to ensure that it doesn't become obsolete. Using more optimistic assumptions the cashflow match can be better still. And, as discussed earlier, these rental cashflows tend to be uprated periodically, so there is an in-built hedge against inflation.

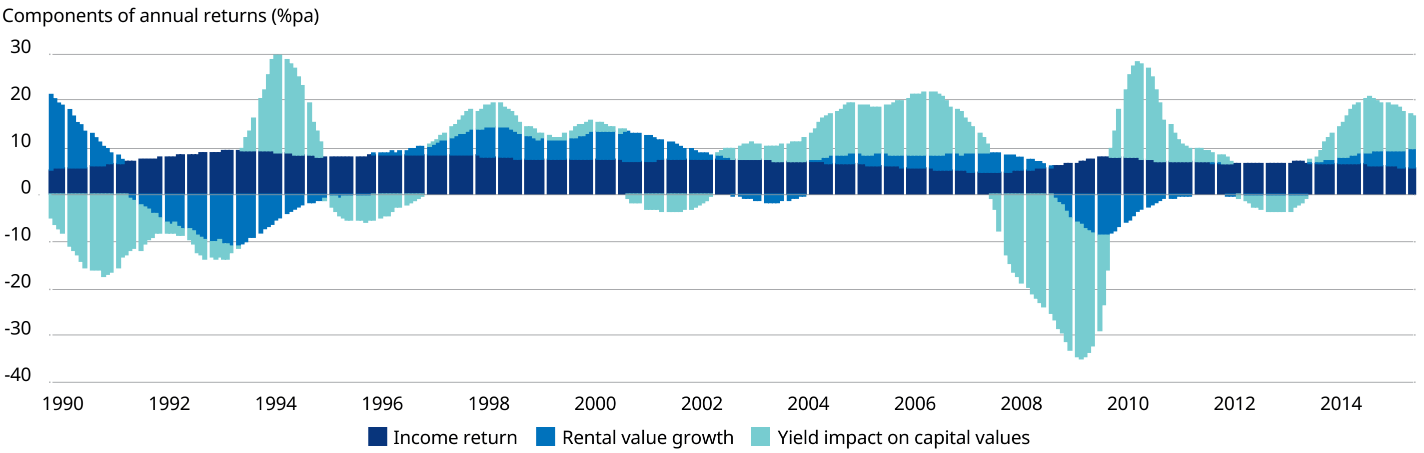
We acknowledge that the match between real estate and pension cashflows is not perfect. Rental cashflows are discounted using real estate equivalent yields, while liability cashflows are often discounted with reference to gilt yields. Over the short term, these yields can move apart, creating a mismatch. However, over the long term, gilts and real estate yields have moved broadly in parallel, so the matching ability of the latter works out reasonably well, particularly if real estate is held as part of a wider portfolio.

## Real estate measures up well against corporate bonds

Similarities can be drawn between real estate and corporate bond income streams, which are an asset also often deployed by pension schemes. Corporate bonds pay the owner regular coupons, along with the original value of the investment when the bond is redeemed at the end of its term. One of the risks associated with corporate bonds is default, i.e. a bond's issuer becomes bankrupt and can no longer afford to pay its coupons and the redemption proceeds. Clearly, owners of real estate face similar risks if their tenants get into financial difficulties. However, these risks are reduced with real estate as new tenants can be found. Furthermore, properties can also sometimes be redeveloped to improve their attractiveness, which can generate higher returns, but also entails greater risk.

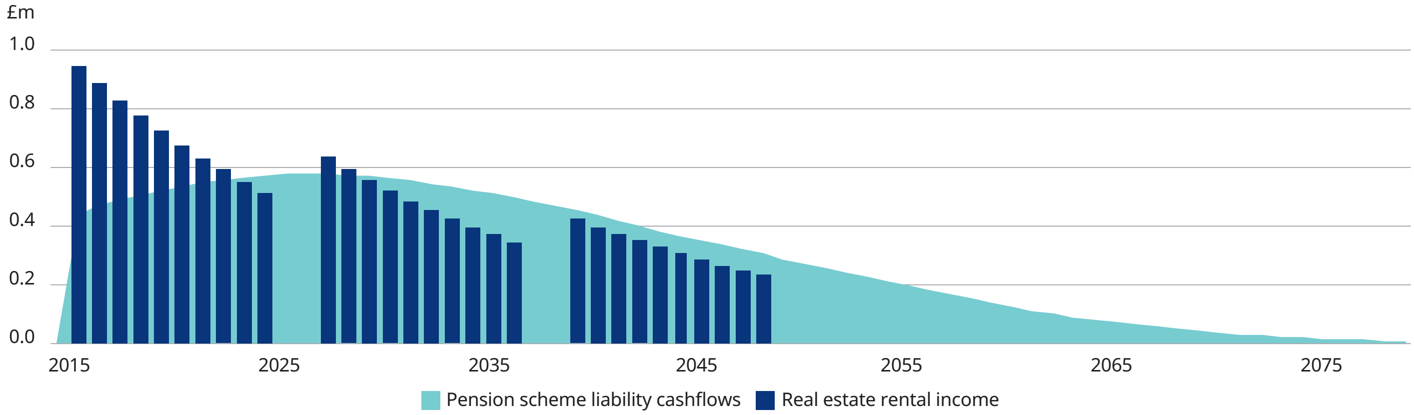
The story of 25 Bank Street in Canary Wharf, East London, illustrates these defensive characteristics of a physical asset compared with financial assets. The office was originally

**Figure 6: Rents can drive long-term real estate returns, although the market can affect them in the short term**




Source: MSCI IPD UK Property Monthly Index, Schroders, August 2015, for illustration only.

**Figure 7: Real estate cashflows can provide a reasonable match for pension scheme liabilities**




Source: Schroders, for illustration only. Example liability cashflows are shown for a pension scheme with a duration of 20 years discounted on a gilts + 1% basis. The example property's income of three ten year leases is discounted using a property yield.

designed for Enron, the former US energy group. Following its collapse, the property was re-let to Lehman Brothers, the ill-fated investment bank, until it too collapsed during the financial crisis. Despite this apparent catalogue of disaster, the building was successfully re-let to JP Morgan, the investment bank, which is still in occupation. It is clear that, even if tenants fail, desirable properties in good locations can still generate an income, whereas bond holders and shareholders can lose most or all of their capital, as happened to lenders and investors to Enron and Lehman.

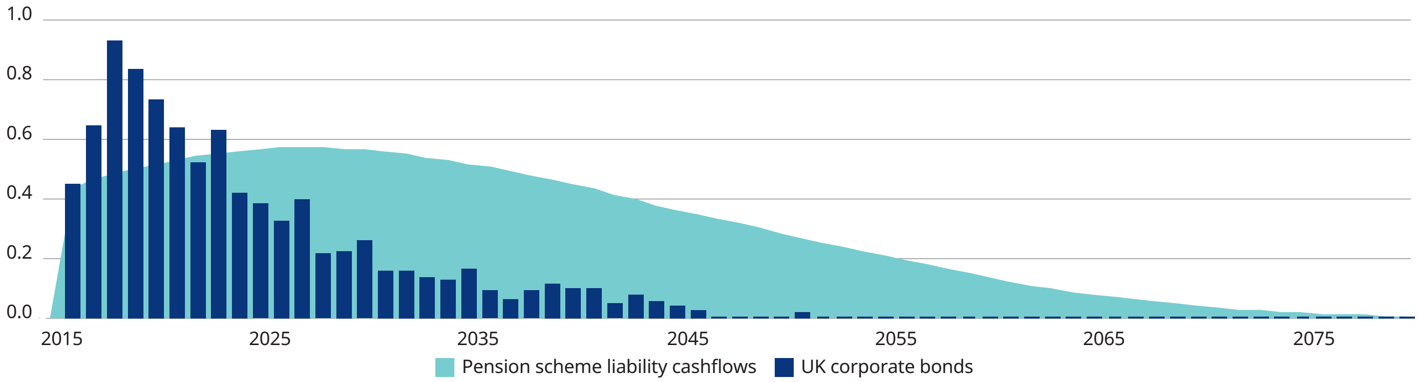
Moreover, the potential cashflow matching of real estate assets may be more suitable for pension schemes than that of corporate bonds. The shape of real estate rental cashflows is closer to pension scheme cashflows than that of the UK corporate bond universe, as illustrated by Figure 8. Furthermore, as the majority of UK corporate bonds are not inflation-linked, real estate offers much better inflation sensitivity. And, right now, the yield on real estate of around 6% is substantially higher than the 3.5 to 4% available from UK investment grade corporate bonds, as shown in Figure 3.

## Real estate can offer resilience against rising rates

While the income from real estate may be a good match for inflation-linked liability cashflows, the match is not so good for general interest rates. However, this tends to be the case whatever asset is used to match pension scheme liabilities, bar gilts. Assets such as infrastructure debt, ground rents and long lease property are often invested in for their abilities to match long dated cashflows, but offer a weaker fit when it comes to interest rates and all are typically lower yielding than mainstream commercial real estate. Consequently we believe schemes that invest in general real estate assets are able to obtain broad cashflow matches and still give the manager the flexibility to pick sectors and buildings where they see value to help deliver performance.

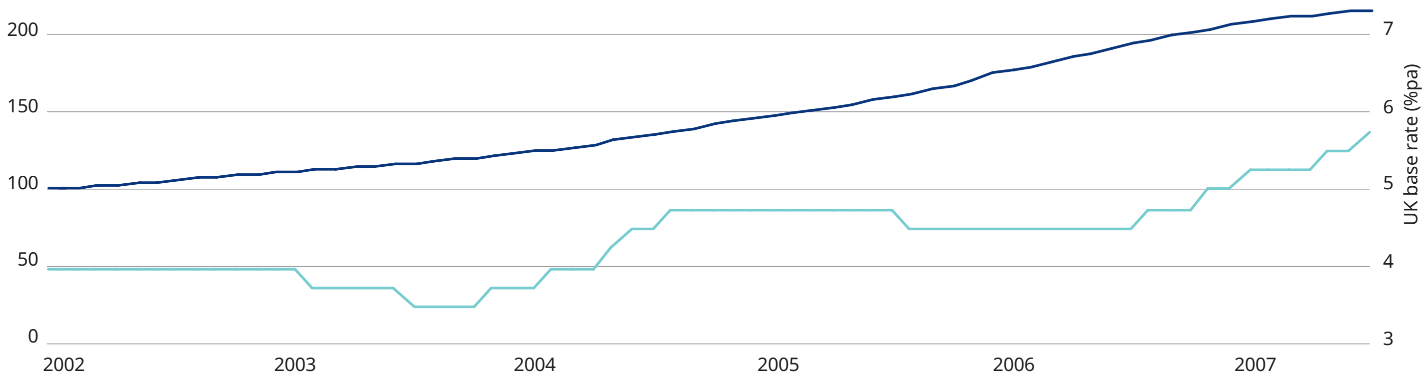
Although real estate yields and long-dated gilt yields tend to move in a similar direction over the long term, the relationship is much weaker over the short term. A key reason for this is that real estate yields are also heavily influenced by investors' expectations of future changes in rental income. Thus, if the economy is growing rapidly, real estate yields might fall irrespective of what

**Figure 8: UK corporate bonds are a weak match for pension scheme liabilities**




Source: Bank of America Meriill Lynch, Schroders, for illustration only. Example liability cashflows are shown for a pension scheme with a duration of 20 years discounted on a gilts + 1% basis. The example UK corporate bond cashflows are based on the consitituents of the UR00 UK Corporate Bond Bank of America Merrill Lynch index, as at 29 September 2015

**Figure 9: UK real estate did well in the rising interest rate environment of the mid-noughties**




Source: The Bank of England, MSCI IPD, Schroders, for illustration only

happens to interest rates and gilt yields, as investors become more optimistic about the prospects for an increase in rent. Real estate yields may fall, boosting capital values. This in part explains what happened in the mid-noughties (see Figure 9), when capital growth and total returns accelerated in an environment when interest rates were rising. Conversely, if the economy goes into recession, real estate yields may increase even if interest rates are simultaneously cut. Investors may no longer expect an increase in rents and become more worried that some tenants could fall into insolvency. Real estate yields would rise, depressing capital values. These qualities should leave investors well positioned in the current environment, we would argue, whether interest rates stay low, or start to rise to what many expect to be a relatively low peak.

## Positive outlook for UK real estate

Even against a tighter background for interest rates, the outlook for a further increase in UK open market rents and hence rental income, is fairly promising. Open market rents are on course to increase by 3–4% in 2015 and we expect that growth to continue through 2016–2017, assuming the UK economy maintains its recent progress and that banks remain reluctant to finance new buildings, thus keeping development fairly subdued. Although the increase in open market office rents in central London will probably slow after two years of rapid growth, we expect that other parts of the market, such as regional offices and warehouses, will see an acceleration. The one weak spot is likely to be retail, reflecting the structural challenge to physical stores from online sales.

However, we are a little more cautious about the short term outlook for capital values and total returns. We expect interest rates to rise, dragging long-dated gilt yields to 3–3.5% by 2017–2018 in their wake, and putting a brake on immediate progress. On a positive note, it seems unlikely that real estate yields will increase in parallel with gilt yields, because rental incomes should continue to grow and real estate is not a fixed income asset. However, we also recognise that one of the main reasons why investors have been attracted to real estate over the last few years has been the "hunt for yield" and some of that appetite is likely to wane once long-dated bond yields increase.

Our central view is that the yield on UK real estate[8] will probably hold steady in 2016 at around 5.75%, but then increase by between 0.25–0.50% over the following two years. We anticipate that those parts of the market with good rental growth prospects and those properties which are reversionary (where the open market rent is above the current rent) will be relatively defensive. However, all in all, we see no reason why real estate should not continue to deliver long term real returns of 4% per annum.

## Real estate's role in de-risking plans

So how should trustees view real estate in the light of these arguments? The direction of travel in recent years for UK defined benefit pension schemes has been to de-risk out of growth and into matching assets. Indeed, many schemes have "flight path" de-risking plans in place where the switch is made automatically as funding levels hit specified thresholds. Clearly, it would be tempting simply to sell and move into bonds, thereby cashing in on the rise in real estate values and apparently reducing risk at the same time. But we believe that that would be to lose the very valuable – and rare – growth and matching characteristics of real estate in the de-risking process.

One option instead would be to recognise that real estate covers both sides of the equation and therefore maintain current allocations through the de-risking plan. Another possibility is to build into the plan a progressive move out of assets with high expected total returns into those that offer a better cashflow match and have attractive yields. In the former category we might put assets such as equities, which can provide high total returns, but relatively low levels of (dividend) income. This can make assets such as real estate with higher levels of income more attractive, despite their lower expected return relative to equities, particularly as this higher level of income can be relied on to be more stable. This stability of return may help pension schemes to close their deficits in the later phases of their "flight paths" in a more measured way. And, as we've discussed, real estate also offers a reasonable match with pension liability cashflows.

8 THE MSCI IPD UK all property equivalent yield.

## Conclusion

**With expanded deficits and extended time horizons, we believe that longer-term assets such as real estate should remain firmly on the menu for pension schemes, despite the widespread de-risking trend. We conclude:**

- **Real estate has a long-term time horizon and attractive yield that should be appropriate for many schemes' investment strategies and recovery plans**
- **Yields are at attractive levels compared to gilts, corporate bonds and equities**
- **Overall returns can be expected to outperform liabilities over an extended term**
- **Holders of real estate can be rewarded with an illiquidity premium over long periods which can't be replicated by other investments**
- **Real estate offers diversification against other asset classes**
- **The long-term outlook for real estate remains attractive. Although total returns are likely to vary from year to year, the income return is relatively predictable over time**
- **Real estate has both liability matching and growth characteristics, placing it somewhere between equities and bonds. Both aspects should be considered before de-risking out of growth assets.**

**Taking these arguments together, we believe that real estate's higher level of income, greater stability of returns and better prospects than many other asset classes can make it a good asset to hold in order to close deficits in the later phases of "flight paths", whilst providing a broad match for liability cashflows.**