

# PROPERTY AND PENSION FUNDS

The case for an increased allocation  
to UK commercial real estate in  
pension fund portfolios

MARCH 2019

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## A BRIEF HISTORY

The allocation by pension funds to direct property has varied over time and has been influenced by the relative performance of the asset class and the investment characteristics demanded by the funds themselves. In the late 1970's and early 1980's pension funds had allocations to real estate of 15% - 20%. In 2018 property represents 5% of all Pension Funds including both Defined Benefit (DB) schemes and Defined Contribution (DC) schemes.

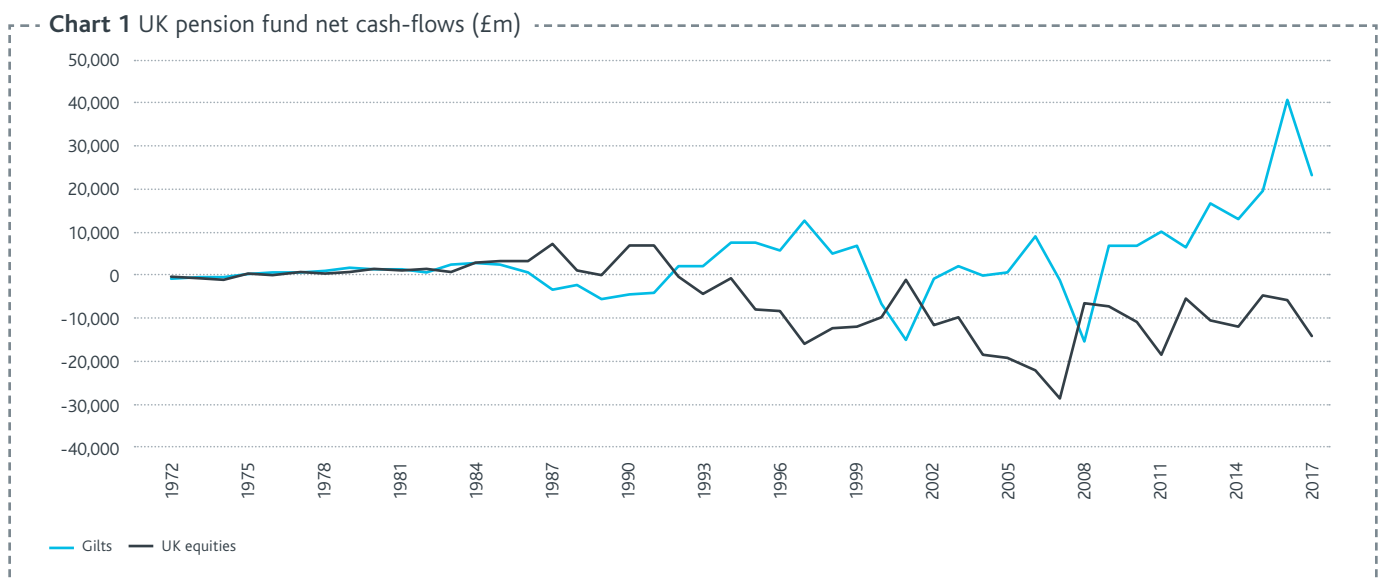
This paper looks to explore some of the issues facing pension funds and why we believe a case can now be made for increased allocation to real estate from the current average pension scheme allocation of 5% to between 10% and 15%.

As interest rates rose in 1972/3 in response to rising inflation property prices came under pressure endangering the viability of a number of lightly regulated Secondary banks who had acted as mortgage lenders. The Bank of England's "Lifeboat" operation of the time encouraged UK institutional investors including pension funds to support these banks. In exchange for the rescue loans the institutions took control of the property portfolios owned by the failing banks. These assets were kept off the market to prevent a further collapse in property values and assimilated into institutional investment portfolios resulting in the 15%-20% allocation noted above.

Deregulation of the City of London in 1986 known as "Big Bang" and a looser development planning process in the City of London and further east along the River Thames in Canary Wharf, encouraged the world's largest investment banks to open offices in London. This marked the start of the "cult of equity". Ever since the late 1970's, there has been a steady downward trend in property asset allocation, distorted by the rapid increase in equity valuations of the 1980's and 1990's, resulting in the current much lower allocation of between 5% and 8%.

The asset allocation of a typical DB pension scheme in the UK has changed over the last 25 years. Equity dominated institutional investment portfolios until the dot.com crash. In the early nineties a typical scheme would likely have been heavily invested in equities (>80%), with a small allocation to fixed income assets and other asset types, notably property. But from the mid 1990's pension funds were disinvesting from UK equities year on year and putting the proceeds into UK gilts (see Chart 1).

The dot.com crash of 2000/02 ushered in the so-called "lost decade" for equities when bonds comprehensively outperformed as stock markets endured a long and painful correction. In fact, the FTSE100 index peaked at 6,930 in December 1999 and did not trade consistently above that level until December 2016 having fallen to 3,600 in March 2003 and 3,800 during the Global Financial Crisis (GFC).



## PENSION FUNDS IN 2019

UK DB pension funds contain enormous capital. Pension funds make up 44% of the £6.9 trillion of assets managed in the UK.<sup>1</sup> But demographic changes and poor investment returns have created sizeable funding problems for DB pension schemes.

In 2010, 35% of DB pension fund members were in Open schemes; 57% in schemes that were closed to new members; and 6% in schemes closed to future accruals, where existing members can no longer accrue new years of service. By 2018, only 19% of DB pension fund members were in Open schemes. Members in schemes closed to future accruals had risen to 25%.<sup>2</sup>

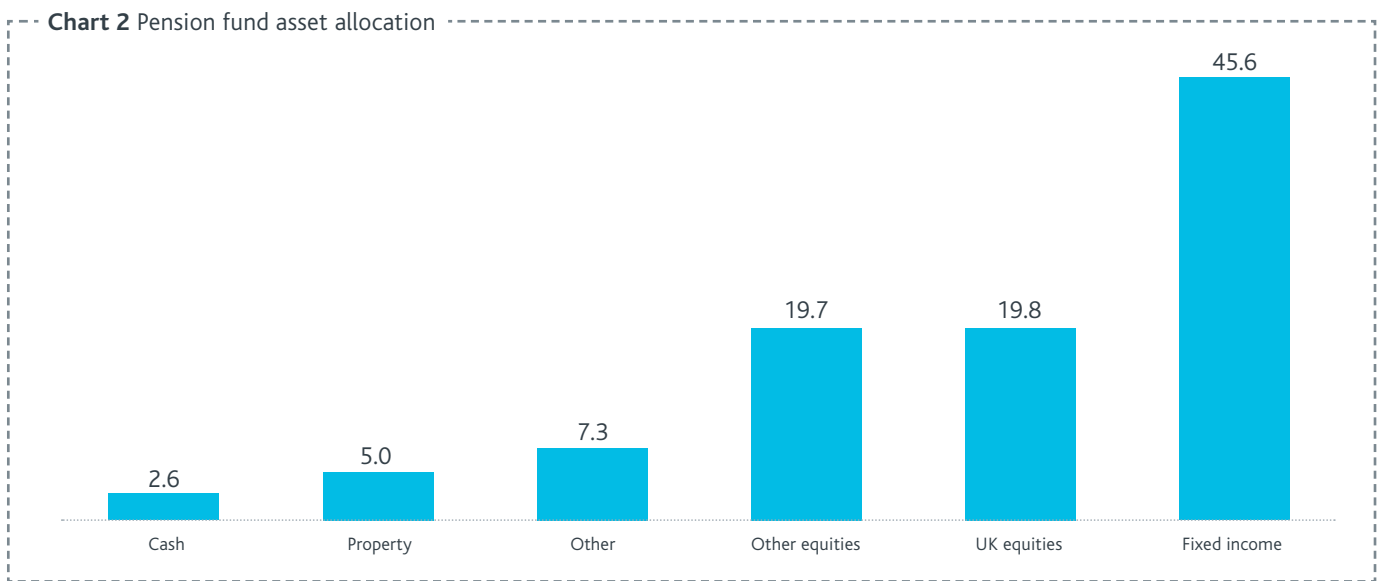
In 2018, DB schemes had assets worth £1,650bn and liabilities valued at £1,802bn. Schemes in surplus had assets of £484bn and liabilities of £458bn; whilst schemes in deficit had assets of £1,166bn and liabilities of £1,343bn.<sup>3</sup>

The growing need to hold assets that behave in a similar way to their liabilities has led schemes to a re-assessment of investment strategies. The shift out of equities into fixed income is well established and has been going on since the early 1990s. By 2017 all Corporate and Local Government pensions funds managed by members of the Investment Association had 46% allocated to Fixed income but still had 20% allocated to UK equities and a further 20% to Other equities (see Chart 2).

Both fully funded and under-funded pension schemes need to acquire assets that:

1. Reduce the level of portfolio risk by having lower levels of volatility and are weakly correlated to other assets in the portfolio.
2. Provide returns that will grow the asset base.
3. Provide income that will match their future liabilities that are typically linked to wage growth or inflation.

Generally, as schemes continue to mature quickly, many schemes will have put in place a funding and investment strategy to reach a prescribed low-risk end point within a specified time period. As part of this, many schemes have already taken specific actions to manage and mitigate their risks. Examples of this are moving from return-seeking to matching assets and diversifying their assets. And more specifically, 86% of DB schemes that have closed to accrual in the last two years wish to reduce scheme risks and 65% of DB schemes currently open to accrual wish to de-risk.<sup>4</sup>



Source: Asset Management in the UK 2017. The Investment Association

<sup>1</sup> Asset Management in the UK 2017. The Investment Association.

<sup>2</sup> DB Pensions Landscape 2018, The Pensions Regulator

<sup>3</sup> DB Pensions Landscape 2018, The Pensions Regulator

<sup>4</sup> 2018 UK Pension Strategy Survey; Willis Towers Watson

The EU referendum and the surrounding economic uncertainty have meant growth forecasts have fallen sharply. The detrimental effect on inflation and interest rate predictions has had a knock-on effect on the expected yields from index-linked gilts with gross redemption yields on 15 year gilts now standing at a negative 1.85%. Despite this, government backed securities still offer an attractive investment, as investors become more risk averse in times of uncertainty. However, as pension funds look to further manage capital volatility through a reduced exposure to global equities aligned with the need for increased income to match liabilities, the search for an alternative proxy for index-linked gilts has become more focused.

With real estate assets with index-linked 15 year leases trading at between 4% and 5%, depending on the quality of the covenant supporting the cashflow, the current yield arbitrage of 5.85% to 6.85% before inflation looks attractive against the conventional wisdom that the real estate risk premium should be 2% over the redemption yield on the same term gilt.

There is certainly now a case to be made that an increased allocation to real estate can assist with all of the above requirements through a reduction in volatility relative to global equities and providing a stable, long-dated and index-linked income at a yield premium to gilts.

## BENEFITS OF INVESTING IN REAL ESTATE

### RETURN PROFILE

In many regards, property has out-performed all other mainstream asset classes in the last 20 years (see Charts 3 & 4). Unsurprisingly, it turns out that equity markets throughout the world are highly correlated, and, importantly for asset allocation, property markets respond in a different or possibly lagged manner to economic events.

**1999-2003** property out-performed over the turn of the millennium as equities suffered the outfall from the dot.com bust and the US recession of 2001 when economic growth for the year was less than 1%. The annualised total return on the S&P 500 for 2000-2002 was -14.6%. In the UK economic growth over these 3-years continued at trend rates or better; nevertheless, the annualised return on UK equities was -14.1%.

**2004-2008** Property underperformed fixed income during the GFC as interest rates were cut to 0.5% boosting the performance of UK gilts. Property values fell 40% and rental values declined 10%. But real total returns of 1.1% boosted by a nominal income return of more than 5% nevertheless bettered the return to equities of 0.3% annualised over the 5 years between the end of 2003 and 2008.

**2009-2013** All Central Banks adopted loosened monetary policy aggressively to mitigate the damage wrought by the GFC and encourage economic recovery. The Bank of England cut interest rates from 5.0% to 0.5% and purchased £435bn of gilts through its Quantitative Easing programme. The yield on gilts was driven to historic low levels. In the almost 10 years since the first QE purchases were announced in November 2009 medium to long gilt yields have averaged 2.2% and are currently 1.2%. Over the same length of time before the introduction of QE gilt yields averaged 4.6%.

Low returns on Government bonds encouraged investors to seek yield advantages from other assets. Equities were an early beneficiary from this behaviour.

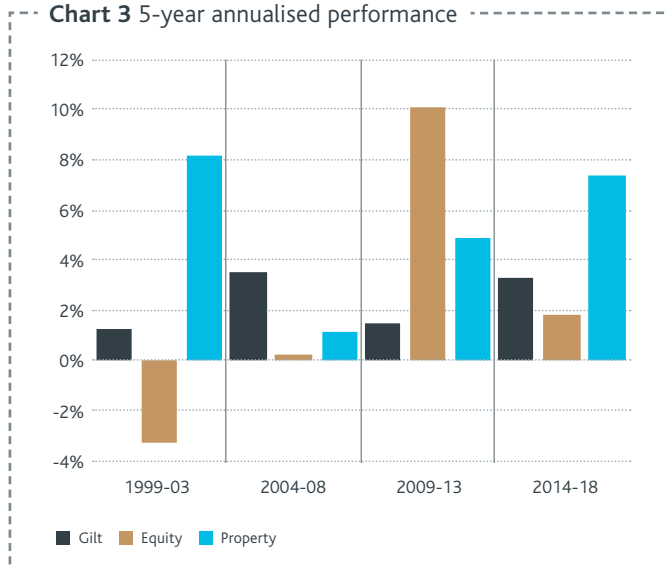
In **2013** the FTSE All World Index ended the year on a new high. It was up almost 20% over the 12 months – its biggest annual advance since 2009. On Wall Street, the S&P 500 was up almost 30% on the year. London's FTSE 100 closed the year with gains for 2013 of 14.4%. The FTSE 250 index, more exposed to the UK domestic economy than the FTSE 100, ended the year 29% higher.

In **2014-2018** UK commercial property produced strong performance as it benefitted from the support given by a domestic economy that finally appeared to be recovering from the damaging effects of the GFC and the self-inflicted wound of austerity.

Rental growth of 3.1% together with yield compression of 76 bps meant that All Property total returns amounted to 17.8% in **2014**. In **2015** rental growth rose to 4.2%, the highest in any 12-month period since mid-2001, as yields compressed by a further 35 bps. The outcome being that All Property total returns amounted to 13.8%.

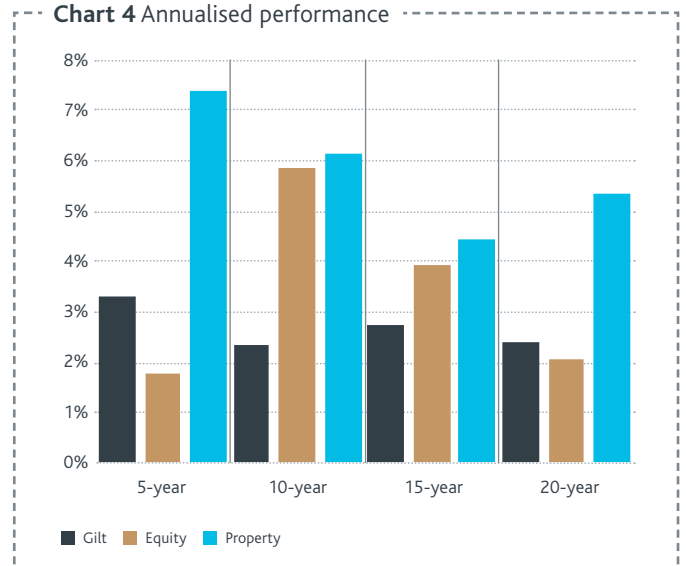
Domestic politics continued to provide the biggest downside risk facing UK investment markets in **2018** as Brexit dominated the news. Globally, Trump's trade wars and rising interest rates provided the head winds. The Dow Jones declined 5.6%; the S&P500 was down 6.2% and the NASDAQ fell 4%, making 2018 the worst year for stock markets since 2008. Taking a lead from the USA markets, the FTSE 100 index fell 12.5% in 2018 and European Bourses also followed this trend. Germany's Dax declined 18% over the course of 2018, and the Dax Tech index slipped 3%. France's CAC fell 11% and Italy's FTSE MIB was down 17%. In the Far East, China's Shanghai Composite shrank 25% and the Nikkei fell 12%.

Chart 3 5-year annualised performance



Source: Equity Gilt Study, Barclays & MSCI

Chart 4 Annualised performance



Source: Equity Gilt Study, Barclays & MSCI

However, rental growth of 0.7% and yield compression of 14 bps resulted in 2018 All Property total returns of 7.5% in 2018. An outcome that was more than respectable given the losses in mainstream markets.

## REDUCED VOLATILITY

Bond investors measure the risk of their portfolios using Duration which is a measure of a bond's price sensitivity to changes in interest rates. A long bond carries a larger interest rate risk than a short bond and will have a larger Duration.

Equity investors measure the risk of their portfolios using standard deviation, beta or value at risk. Standard deviation measures the degree of volatility exhibited by an asset class or individual asset relative to its long run average return.

Beta measures the amount of systematic risk an individual share or market segment has relative to the whole market. Whilst value at risk measures the level of risk associated by a portfolio. It attempts to answer the question; "what is the maximum expected loss over a specified period for a given confidence interval".

Direct or private real estate seems to have settled on a more qualitative approach and looks at a variety of factors (see Table A). Property portfolios with various characteristics and risk profiles can be constructed focusing on these metrics.

**Table A** Property risk measures

Portfolio risk factors	Asset risk factors
Asset concentration	Development exposure
Location concentration	Vacancy rate
Company concentration	Unexp'd lease term
Structural difference	Risky covenants
Segment volatility	
Income return	

Source: MSCI

**Table B** Risk and Return 1999 – 2018

	Cash / T-Bills	Gilts	Property	Adj. Property <sup>5</sup>	Equities
Return	3.0%	6.4%	8.8%	8.8%	6.5%
Standard Dev.	2.6%	7.9%	8.8%	13.4%	15.3%
Risk adj. Return <sup>6</sup>	0.0	0.43	0.66	0.44	0.23

Source: Equity Gilt Study, Barclays & MSCI

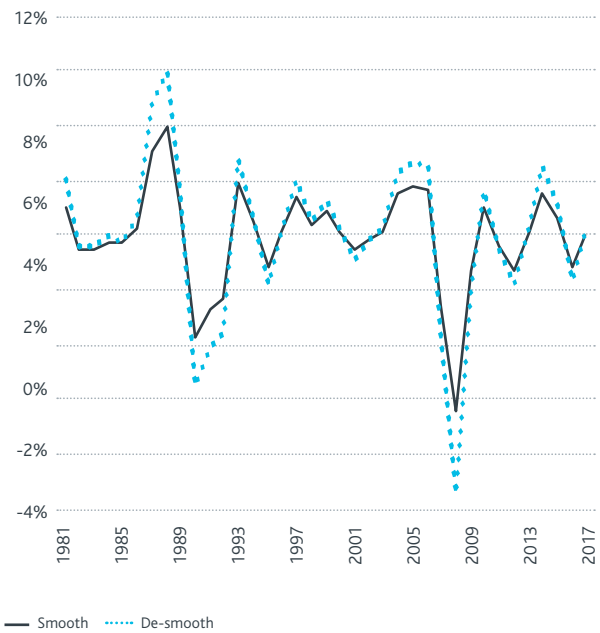
Standard deviation or volatility, however, has been adopted as the universal measure of risk across all asset classes because of its use in asset allocation modelling. Looking at the various published performance indices, the volatility of private real estate appears low relative to other asset classes (see Table B).

The indices commonly used by fund managers in the UK and published by MSCI (formerly IPD) are compiled from valuation data rather than transactional prices. This method of construction suffers from serial correlation or valuation smoothing which dampens the volatility of the asset class. This can result in very high levels of exposure to the asset class when used in Mean Variance Optimisation or Asset Liability Model.

Adjustments can be made to the indices to account for the bias and de-smooth the data (see Chart 5). This is discussed in detail by the Investment Property Forum in Index Smoothing and the Volatility of UK Commercial Property. UBS suggest that despite using de-smoothed data the benefits from holding real estate in a multi-asset portfolio still remain.<sup>7</sup>

Valuation smoothing is more prevalent in monthly or quarterly data. However, the data used in this paper are all derived from annual data.

**Chart 5** De-smoothed property returns



Source: MSCI & Alexander Property Research

<sup>5</sup> Property returns have been de-smoothed using annual data and the Lag 1 autoregressive methodology detailed in Brown and Matysiak, Real Estate Investment pp.371-387.  
<sup>6</sup> Risk adjusted returns are using the Sharpe Ratio and T-Bills as the risk free rate.

## INCOME

A key factor in real estate’s relatively low volatility is the key contribution to total returns made by income. In the last 20 years, 70% of real estate’s total return comes from income (see Chart 6).

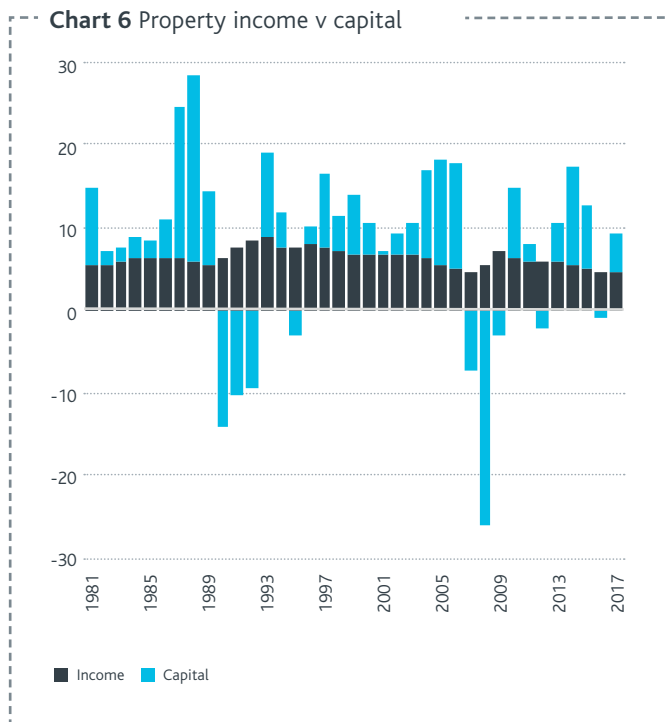
In the 1970’s and early 1980’s property investments benefitted from strong levels of rental growth in an era of high inflation and property was valued off a lower yield than gilts. This was known as the reverse yield gap. During this period, property yields were at the same level or below those of equities.

However, poor relative performance and a reduction in institutional interest led to a structural de-rating of property yields in the early 1990’s. Since then the asset class has exhibited a positive yield gap or risk premium relative to the risk-free gilt rate; a situation that has prevailed until the present day (see Chart 7).

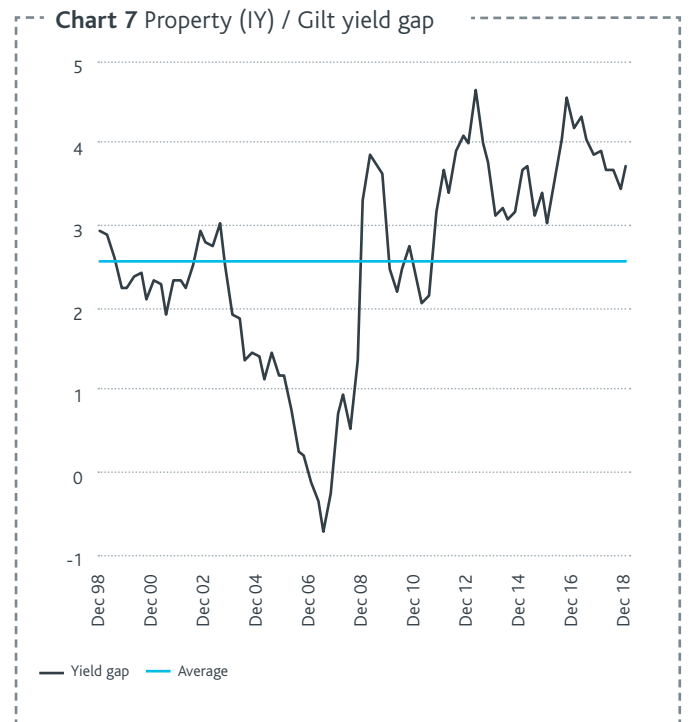
Long-lease real estate can leverage these characteristics of the asset class and satisfy the demand from pension schemes for

secure, long-dated cash flows that can match their long-term liabilities. The traditional approach to engineering long-lease real estate assets has been through sale and leaseback arrangements. But income strips and ground rents can also provide long-dated, secure and inflation protected income.

The risk and return available from long-lease real estate is now tracked by MSCI data over the period since December 2007 (see Table C). Whilst these numbers are not to be confused with the data above showing risk and return for the asset class in Table B over a 20-year time frame, they do illustrate that long lease real estate can provide higher returns and less risk than shorter leased real estate. This finding is corroborated by MSCI’s Long Income Property Fund Index, which is published as part of its Quarterly Fund Analysis. MSCI’s Long Income Index has produced an annualised return of 8.7% since 2009 compared to the All Fund average of 8.8% but at much reduced risk. The volatility as measured by standard deviation for the Long Income Funds is 4.0% whereas the volatility on the All Property Fund Index is 9.2%.



Source: MSCI



Source: MSCI & FT.com

**Table C Lease length varying risk and return 2007-2018**

	Long lease	Medium lease	Short lease
Return	5.4%	4.9%	4.3%
Standard Dev.	15.5%	15.8%	17.1%

Source: MSCI & Alexander Property Research



## DIVERSIFICATION

Two of the key inputs to portfolio optimisation are the expected returns and risk / volatility as measured by variance or standard deviation. The risk and return characteristics offered by real estate have already been discussed above.

The third key input is correlation. Modern Portfolio Theory proposes that adding assets to a diversified portfolio that have a low correlation can improve returns without taking on any further risk.

The discussion of various financial episodes in recent history above has highlighted that global equity markets are highly correlated. Adding exposure to USA, European or Far Eastern equity markets to a portfolio containing UK equities will not greatly assist risk reduction.

There is a reasonably strong relationship between interest rates, gilt yields and equity yields. As interest rates are raised to cool the economy, short gilt rates would also rise and equity prices would be expected to fall in anticipation of weaker company profits. Obviously, the mechanism works in reverse when interest rates are cut. Whilst movements in interest rates influence property yields the linkage is much less direct and immediate.

Table D shows historical correlations between the performance of cash, gilts, UK equities, global equities and UK real estate. Correlations below one, between property and the other asset classes, indicate that the addition of property to a portfolio can reduce the portfolio's exposure to volatility and increase risk-adjusted returns.

## ECONOMIC LINKAGES

The health of the UK's commercial property market is inextricably linked to that of the UK's economy. The returns to commercial property correlate strongly with current GDP growth; the returns to other assets do so weakly at best (see Table E).

The key link is through rental value growth. Open market rental values quickly adjust lower in periods of recession or economic weakness; and recover, albeit with a lag, as the economic cycle turns up (see Chart 9). Open market rental values in turn feed through into capital values. This movement is compounded by the behaviour of yields, which tend to respond in a lagged fashion to rental signals.

Consequently, real estate assets provide a good hedge for pension fund liabilities linked to inflation or wage growth in the UK economy.

**Table D** Asset correlation matrix

	Cash	Gilts	UK equities	Global equities <sup>8</sup>	Property
Cash	100%	20%	-16%	-22%	-6%
Gilts		100%	-34%	-55%	-7%
UK Equities			100%	83%	50%
Global equities				100%	54%
Property					100%

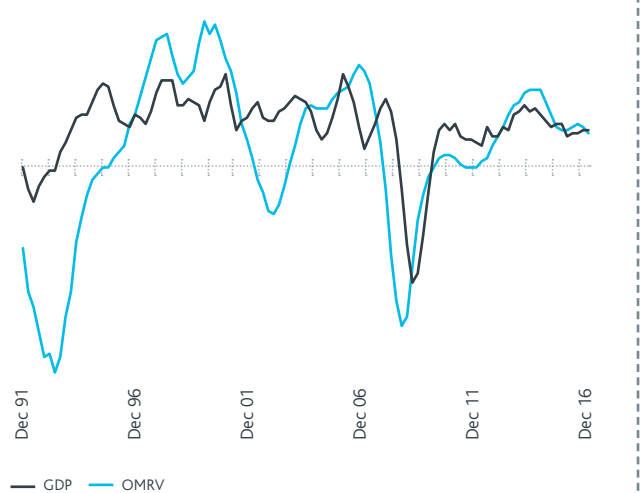
Source: Equity Gilt Study, Barclays, MSCI & Alexander Property Research

**Table E** Asset correlations with GDP

	Property	Equities	Gilts	T-Bills
GDP	60%	15%	-14%	5%

Source: MSCI, ONS & FT.com

**Chart 9** All property OMRV & GDP



Source: ONS & MSCI

8 MSCI World Index (USD) 2005-2018 adjusted for currency movements.

## THE OUTLOOK

Property yields are low by absolute standards, but they are not low by relative standards. Property as an asset class is currently cheap relative to gilts (see Chart 7 above).

As soon as the end of last year, the expectation was for interest rates around the world's major economies to be moving higher. In December the strength of the US economy caused the Fed to raise interest rates for the ninth consecutive time since 2015 from 2.25% to 2.5%.

In the UK, the MPC noted that inflation was above its target, the squeeze on pay was starting to ease and employment was at a record high and opted to raise interest rates to 0.75%. MPC guidance indicated that rates would rise further but on a limited and gradual basis. The forecasts in November's Inflation Report imply that rates could be 1.5% by the end of 2021.

But just 3 months into 2019 the expectation is that interest rates will stay lower for longer.

The US Federal Reserve cited a weaker global outlook due to elevated trade tensions, Brexit, the US government shutdown and developments in financial markets at the end of 2018. It said in a press statement that there was no longer a bias towards tightening rates. In addition, the moves towards unwinding the asset purchase programme known as Quantitative Tightening could cease if the US economy were to deteriorate sharply.

In the UK, the MPC's February Inflation report warned of a weakening outlook for the economy caused by Brexit uncertainties and indicated that interest rates could be trimmed if households, businesses and financial markets responded negatively to any Brexit outcome.

Data subsequently issued by the Office for National Statistics indicated that annual economic growth amounted to 1.4% in 2018 and was the lowest since 2012; and year-on-year CPI inflation decreased to 1.8% in January from 2.1% in December.

There would therefore seem to be very little external macro-economic pressure on property yields.

Indeed, subdued expectations for equities and bonds in 2019 have encouraged institutional investors to increase their property holdings. At least €72.4bn of new capital is expected to flow into real estate during 2019, according to a survey of 144 institutional investors and 10 fund of fund managers. European investors intend to increase their real estate exposure from 5.2% to 5.9% and investors in North America with 8.5% in real estate are targeting an allocation of 10.0%.

Unsurprisingly, Brexit has affected investors' thinking. Germany topped the list of preferred investment locations for 2019 after being selected by two-thirds of respondents. More surprisingly, the UK, which ranked first in 2018, held on to second spot, while France was the third most-favoured location. It is, however, unlikely that much of this new capital will be committed to retail real estate or to the UK before Brexit deadline day on 29th March 2019.

The Investment Property Forum's latest consensus forecast published in November indicates that UK real estate is expected to provide nominal returns 3.0% in 2019 and 3.5% in 2020 rising to 4.3% and 5.1% in the last two years of the forecast period (see Table F). In the very long-term UK real estate has provided a real annualised return of 3.7% over 45 years since 1973.

Table F All Property Forecasts

	2019	2020	2021	2022
UK All Property	3.0	3.5	4.3	5.1
UK CPI <sup>9</sup>	2.0	2.1	2.1	2.0 <sup>10</sup>

Source IPF & Bank of England

<sup>9</sup> MPC forecasts of annual CPI inflation based on market interest rate assumptions; February 2019  
<sup>10</sup> MPC forecast horizon extends to Q1 2022. This number is the MPC's target inflation rate.

## CONCLUDING REMARKS

In many regards, property has out-performed all other mainstream asset classes in the last 20 years (see Charts 3 & 4). Unsurprisingly, it turns out that equity markets throughout the world are highly correlated. And, importantly for asset allocation, property markets respond in a different or possibly lagged manner to economic events.

In the last 20 years, real estate as an asset class has provided better returns than equities at a much-reduced level of risk (see Table G). A key factor in real estate's relatively low volatility is the key contribution to total returns made by income. In the last 20 years, 70% of real estate's total return comes from income.

Long-lease real estate can leverage this beneficial income characteristic and satisfy the demand from pension schemes for secure, long-dated, inflation-linked cash flows that can match their long-term liabilities.

In addition to the security of a long-term, index-linked income stream, pension schemes now find themselves in a stronger funding position, thanks to rising equity markets over recent years. For schemes looking to reduce their exposure to higher volatility associated with equities (as shown in table B above) a switch to property is prudent. History has shown that property has produced better returns than equities, with nearly half the volatility of returns. In today's environment, this is an attractive proposition.

Historical correlations between the performance of cash, gilts, UK equities, global equities and UK real estate indicate that the addition of property to a portfolio can reduce the portfolio's exposure to volatility and increase risk-adjusted returns.

Real estate assets on their own provide a good hedge for pension fund liabilities linked to inflation or wage growth in the UK economy. However, this attribute can be reinforced by explicitly index-linking long leasehold arrangements.

In the very long-term UK real estate has provided a real annualised return of 3.7% over 45 years since 1973. For a well-funded pension scheme, this supports our argument that a diversified portfolio of long term index-linked leases can produce a good alternative source of total return and should play a much larger part in a scheme's asset allocation than it has historically.

To conclude, we have outlined a compelling argument for a meaningful increase in pension funds' real estate exposure, from the current modest average allocation of around 5%, to somewhere above 10%, (depending on individual schemes' risk tolerances and liability profile). This would give plan sponsors exposure to very attractive long-term yield and capital growth opportunities, whilst lowering exposure to more volatile asset classes such as equities.

Table G Risk and Return 1999 – 2018

	Cash / T-Bills	Gilts	Property	Adj. Property	Equities
Return	3.0%	6.4%	8.8%	8.8%	6.5%
Standard Dev.	2.6%	7.9%	8.8%	13.4%	15.3%
Risk adj. Return <sup>12</sup>	0.0	0.43	0.66	0.44	0.23

Source: Equity Gilt Study, Barclays & MSCI

<sup>11</sup> Property returns have been de-smoothed using annual data and the Lag 1 autoregressive methodology detailed in Brown and Matysiak, Real Estate Investment pp.371-387.

<sup>12</sup> Risk adjusted returns are using the Sharpe Ratio and T-Bills as the risk free rate.

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