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Real Assets House View 2022

The intelligence that guides our investment decisions

AVIVA INVESTORS

Contents

Foreword

by Daniel McHugh

Daniel McHugh
Chief Investment Officer, Real Assets, Aviva Investors

Welcome to the latest edition of the Aviva Investors Real Assets House View, which brings together the views and analysis of our investment teams in real estate, infrastructure and private debt.

The Real Assets House View serves two purposes. First, it provides a comprehensive, future-focused framework for discussion and decision-making among our investment teams; secondly, it allows us to share and explain our thinking on trends and asset allocation to clients and other interested parties.

Overseen by the Real Assets Research team, we canvass opinions from across the division on the key themes, opportunities and risks likely to impact real assets investment markets at an individual and cross-asset class level.

After another year of twists and turns, from the continued impact of COVID-19 to surging inflation, the release of this report could not be timelier.

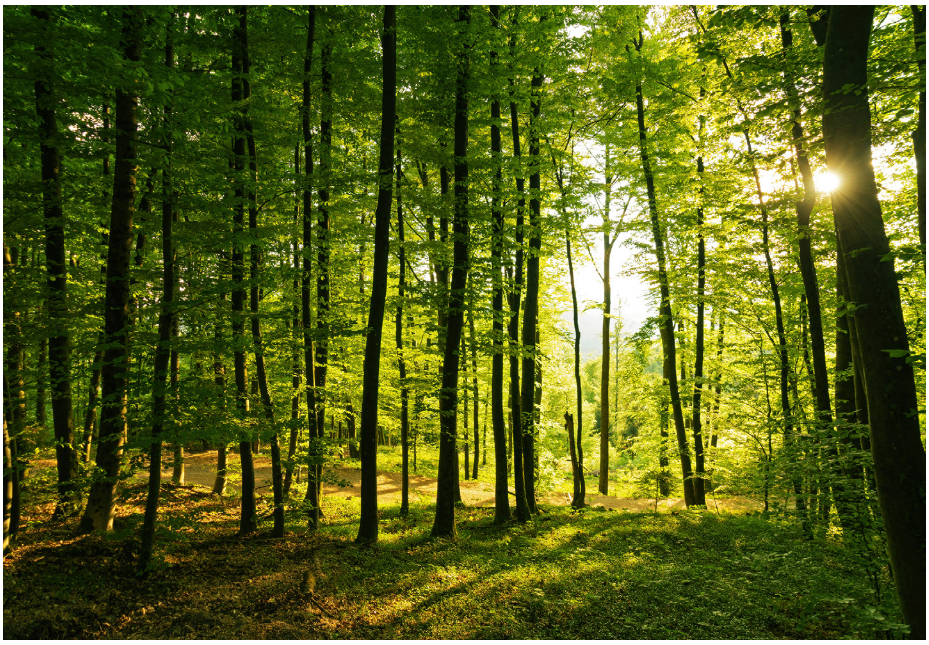
Our analysis has identified the following key themes for real assets in 2022 and beyond:

1. **UK real assets expected to offer more growth than Europe**
   The broad reopening of the economy, stronger GDP growth prospects and supportive monetary policy gives greater room for capital value growth, especially in the case of UK real estate.

2. **Private debt and RELI continue to be attractive for defensive investors**
   Long-income real estate and fixed-rate private debt will continue to be an integral part of portfolios focused on stable long-term risk-adjusted returns.

3. **The race to net zero is intensifying and will have an increasing influence on real assets**
   Already, we are seeing strong demand in renewable energy and forestry; investors also want more clarity from governments on the funding mechanisms and policy support for nascent technologies.

Not everyone will agree with the assumptions made or conclusions reached. No-one ever said predicting the future was easy, but this report represents our best collective judgement on the current and future investment themes we believe will shape real asset markets.



Mohamed Ali
Associate, Real Assets Research,
Aviva Investors

Our methodology provides a quantitative assessment of the risk-adjusted attractiveness of each sector, which addresses the lack of historical price transparency by offering a forward-looking view.

Our methodology and central scenario for 2022

by Mohamed Ali

Measuring risk and return: Assessing relative value in real assets

There have been significant changes since our last House View, and new sectors introduced as well as portfolio construction elements.

Private markets lack transparency

A common challenge facing most sectors in real assets is the lack of a transparent pricing history to measure and track risk and return at a sophisticated level. Most firms prefer to keep transactional data private and buy in supplementary data from external providers, who themselves are often missing key information to build a consistent view of the market.

New data and benchmarks have been developed over the past five years and the push for greater transparency is likely to continue, driven by greater scrutiny from investors and regulators. However, the availability of quality quantitative data remains inadequate, especially when compared to liquid markets. This needs to be addressed as investor appetite for real assets grows, necessitating sophisticated solutions to build robust portfolios.

Our framework assesses relative value

As part of our efforts to address this, we have developed a methodology to compare return and risk across real assets on a consistent, forward-looking basis. We analyse the fundamentals of each sector to understand the factors driving performance. Some of these, such as inflation and interest rates, are relevant across multiple sectors, while others, such as credit defaults and recovery rates, are only relevant in specific sectors. We then craft 5,000 forecasts for each factor, which feed into the cashflow models at a sector level.

We run 5,000 simulations for each sector, pulling in relevant factors to end up with a range of 5,000 possible returns. The mean of this distribution is the expected return of the sector. We also calculate the standard deviation of all the calculated returns to measure risk. We define riskier sectors as those with a wider distribution of returns at the end of the holding period, rather than volatility of returns from year to year. We believe this is the most relevant measure of risk for most of our clients.

Risk-adjusted approach

Our methodology provides a quantitative assessment of the risk-adjusted attractiveness of each sector, which addresses the lack of historical price transparency by offering a forward-looking view. We can also identify key risk drivers for each sector to understand their diversification benefits. All factors feeding the models are correlated, meaning the return and risk of all sectors are also correlated. This enables us to build portfolios and optimise allocations, bridging the gap between the needs of increasingly sophisticated clients and the opacity of the real assets market.

The results produced by this methodology enable a comparison of the risk and return of different sectors at a generic, market level. Manager skill and the specific characteristics of the investment strategy will contribute to returns that could be significantly lower or higher than those presented at these sector levels.

Last year, we developed sector models for leveraged and unleveraged strategies. For our 2022 House View, we have increased sector coverage and focused on portfolio construction and optimisation.

Our central scenario for 2022

Despite the exceptional challenges of COVID-19, real assets have delivered robust income streams. These have been underpinned by consistent returns and lower volatility relative to other asset classes, bringing further recognition of the all-round qualities real assets can provide to a portfolio beyond diversification. Consequently, the market continues to attract significant capital inflows, but we believe the best investment opportunities can be captured by a nuanced appreciation of the different aspects of real assets.

Our central scenario has been updated to reflect the changed economic landscape. The main changes are summarised below and illustrated in Appendix 2.

a) Both UK Libor and European Euribor rates are now lower over one and two years than the previous House View, however trend higher from there onwards. We expect both UK and European rates to slowly revert to their long-term average over a ten-year period, with UK rates reaching a level 140 basis points (bps) higher than Europe from year ten onwards.

b) Ten-year gilt and bund yields are higher across the full life relative to the last House View, with the greatest changes occurring at the start of this period.

c) Our central inflation assumptions see significant increases over the short term compared with last year. These are slightly more pronounced in Europe but follow a similar pattern to the UK, where they converge over time to the same historical average as the last House View.

d) We expect corporate credit default rates to return to their “through-the-cycle” trend. Most of the negative economic impacts from the pandemic have already been felt; companies have adapted accordingly and will be increasingly focused on growth strategies. This trend is also reflected in our assumptions for defaults and recovery rates for both real estate and infrastructure debt.

e) In real estate, vacancy levels are expected to be elevated over the next three years and higher capital expenditure will also be required. This is exacerbated by the increase in the price of construction materials, leading to higher capital costs for the sector.

The market continues to attract significant capital inflows, but we believe best investment opportunities can be captured by a nuanced appreciation of the different aspects of real assets.

Impact of higher inflation

The conflict between Russia and Ukraine has raised concerns inflation will be higher in the near term than forecasted in the relative-value model. The war is likely to lead to higher commodity and energy prices, disruption to international commerce and lower consumer confidence. Rising uncertainty has resulted in a considerable increase in the cost of hedging against inflation via traditional liquid markets.

Real assets may offer a viable solution for investors seeking to hedge inflation risk. This is because real assets have historically performed better than most other asset classes during high inflationary environments.

However, it is important to note the degree of inflation protection will likely vary between sectors. Long-lease real estate typically provides a good hedge against inflation due to rent reviews being inflation-linked. In direct real estate, the office, industrial and residential sectors generally tend to provide a better hedge, while retail usually underperforms due to a slow response to inflation movements.

Insights for growth-focused investors

by James Tarry and David Gaffney

We expect the UK to see stronger growth (2.4 per cent per annum) than the euro area (1.9 per cent) over the next five years.

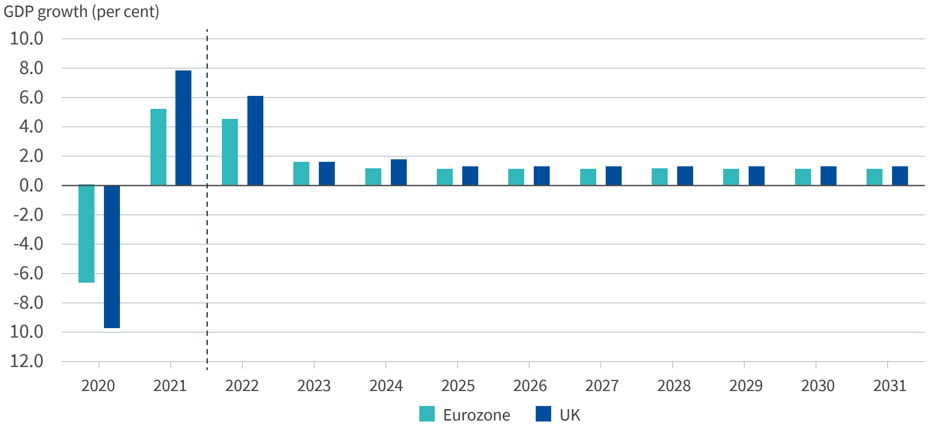
Real assets have historically been a valuable addition to portfolios for investors seeking long-term stable income while retaining diversification benefits. However, real assets can also generate strong returns for growth-seeking investors, which has been an integral reason why more investors are allocating towards the market.

UK to outperform Europe over the next five years

COVID-19 has had a significant impact worldwide over the past two years, and the underlying rhythm of macroeconomic swings during the pandemic has been broadly similar in most developed-market economies. At the same time, the degree of impact has been felt differently across countries.

The UK suffered a larger GDP fall than many other nations in 2020, but thanks to swift vaccination efforts, saw a sharper rebound last year. The country's GDP output has surpassed pre-pandemic levels and we expect the UK to see stronger growth (2.4 per cent per annum) than the euro area (1.9 per cent) over the next five years (see graph below).

Figure 1. **GDP growth projections**



Source: Aviva Investors, as at February 2022.

Another crucial driver in the relative attractiveness of the UK is favourable monetary policy. Between 2018-2020, UK ten-year gilt yields fell significantly by c.110bps, while ten-year bund yields decreased c.70bps.

Historically, there has been a strong positive correlation between government bond yields and real asset yields, albeit with a lag. This is due to real asset markets typically being slower to reprice than public markets. As a result, we expect greater yield compression in the UK as the fall in rates is yet to be fully reflected in real asset yields.

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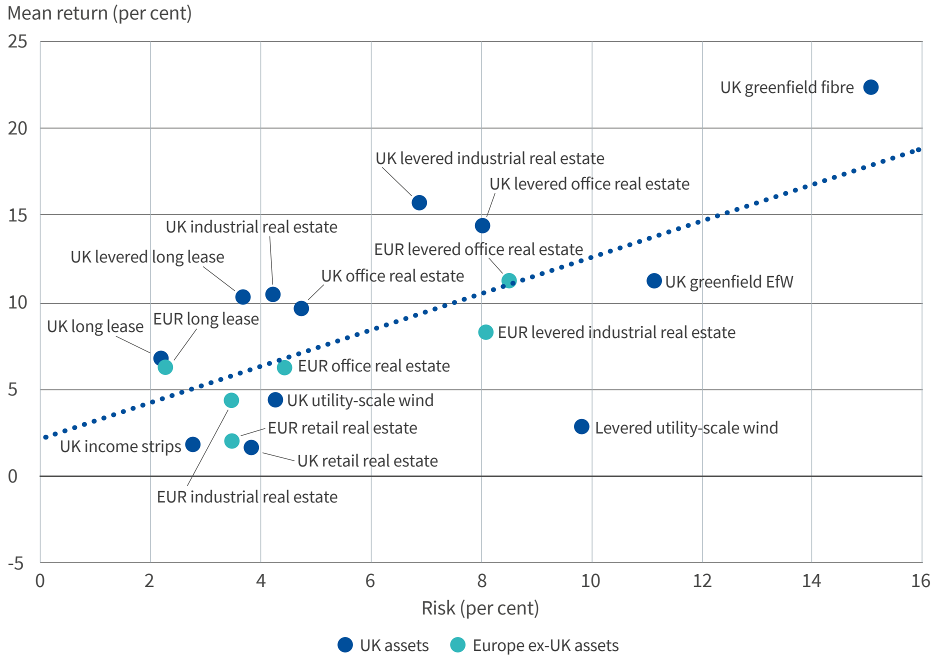
UK real estate expected to deliver superior risk-adjusted returns

When assessing the relative attractiveness of real asset sectors on a five-year basis, we expect UK real estate to outperform on a risk-adjusted basis (as shown below).

Figure 2. **Five year return (IRR) versus risk**



Source: Aviva Investors, as at February 2022.

This is largely a result of better pricing in the UK and more room for yield compression relative to Europe, where prices are at all-time highs in many asset classes and sectors.

This attractive pricing stems from UK real estate yields remaining broadly flat between 2016-2020 due to Brexit uncertainty, while European yields continued to compress on the back of a fall in government bond yields. All UK real estate markets, except for retail and income strips, offer good value and will likely see yield compression over the next five years as markets re-price.

UK greenfield fibre attractive for those seeking high returns

UK greenfield fibre is another asset class that looks attractive on a five-year basis, especially for investors looking to move up the risk curve for higher returns. COVID-19 and the consequent lockdown measures have highlighted the importance of digital connectivity.

Increased appetite for data should lead to massive investment in digital infrastructure to support transmission, presenting opportunities for investors. This strategy is expected to deliver the highest total return of the entire pool of real asset markets over five years. While this high expected return comes with additional risk, we can take comfort that the asset sector offers a superior risk-adjusted return on a relative basis (see Figure 2).

Increased appetite for data should lead to massive investment in digital infrastructure to support transmission.

Zoe Austin
Portfolio manager, Aviva Investors

The sector has proven an effective inflation hedge with little correlation to mainstream asset classes.

Real assets that capture carbon and provide returns

by Zoe Austin

For real asset investors, forestry is one of the few established commercial investment options that provides a natural carbon sink.

The sector has proven an effective inflation hedge with little correlation to mainstream asset classes. With returns underpinned by biological growth and timber prices, the S&P Global Timber & Forestry Index has seen annualised returns of 8.95 per cent over the past ten years, around one per cent less per year than the S&P Global Broad Market Index. But for those with an eye on sustainability and net-zero targets, the total return may be less important than wider environmental and sequestration considerations.

With timber demand growing in emerging and developed markets, conditions are in place for long-term return generation while providing a hedge against the risk of rising carbon credit prices.

Although there are risks, and individual forests have lumpy cashflows that require allocations over a long-term horizon, the investment is asset-backed, and hazards like fire can be mitigated through careful management.

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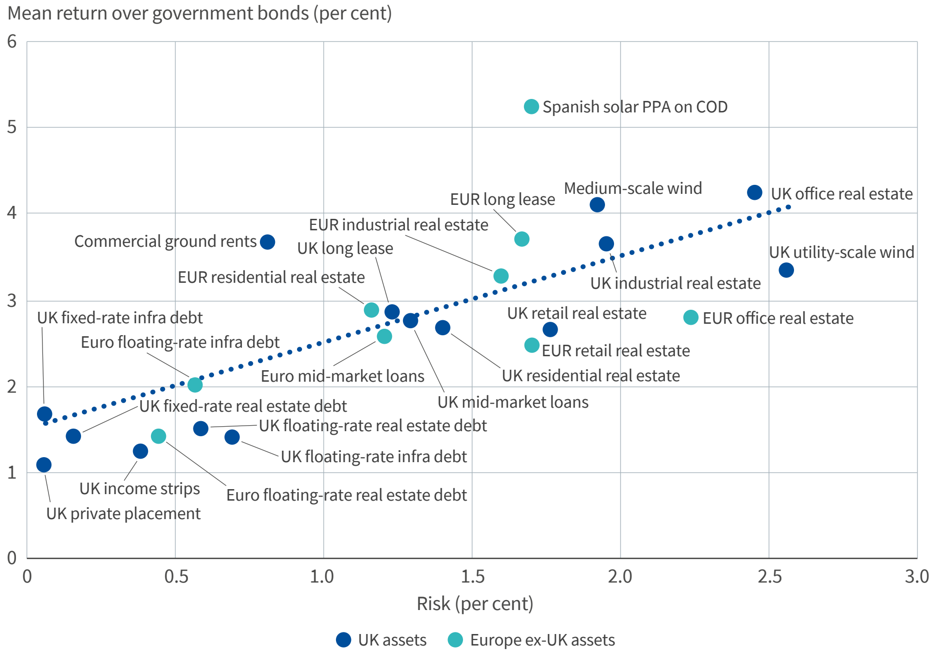
Insights for buy-and-hold investors

by Luke Layfield and Mohamed Ali

Real asset sectors share common features that make them particularly attractive to buy-and-hold investors, including relatively low liquidity, steady income streams and high transaction costs. Here, we discuss the relative attractiveness of different sectors on a buy-and-hold basis from the perspective of two investor groups: those looking to match long-term liabilities with a low-risk tolerance, such as mature defined-benefit pension schemes and insurance companies; and long-term investors that are less constrained by regulatory factors or impending fixed liabilities, such as defined contribution pension schemes and sovereign wealth funds.

Figure 3. **Full-life return versus risk**



Source: Aviva Investors, as at February 2022.

Private debt and RELI continue to be attractive to defensive investors

In the UK, fixed-rate private debt offers access to long-duration, low-risk sources of income that are not widely available from public bonds, except for low-yielding gilts. This asset class continues to offer a 30-50bps illiquidity premium over liquid bonds of similar creditworthiness, as well as more control and higher recovery rates, making it an attractive way for investors to match long-term liabilities. Combined with the higher return per unit of risk (see *Insights for a long-income real estate investor*), fixed-rate private debt will continue to be an integral part of portfolios focused on long-term, low-risk assets.

This asset class continues to offer a 30-50 basis points illiquidity premium over liquid bonds of similar creditworthiness.

Meanwhile, long-lease real estate in the UK and continental Europe continues to look attractive, carrying less risk than traditional real estate but similar returns. These returns are predictable inflation-linked income streams, making the asset class more defensive. This is particularly true in the UK where leases tend to be longer than in continental Europe and because all costs are passed on to tenants.

Investors should remain selective and seek opportunities that benefit from the structural trends accelerated by the pandemic, particularly within the industrials sector.

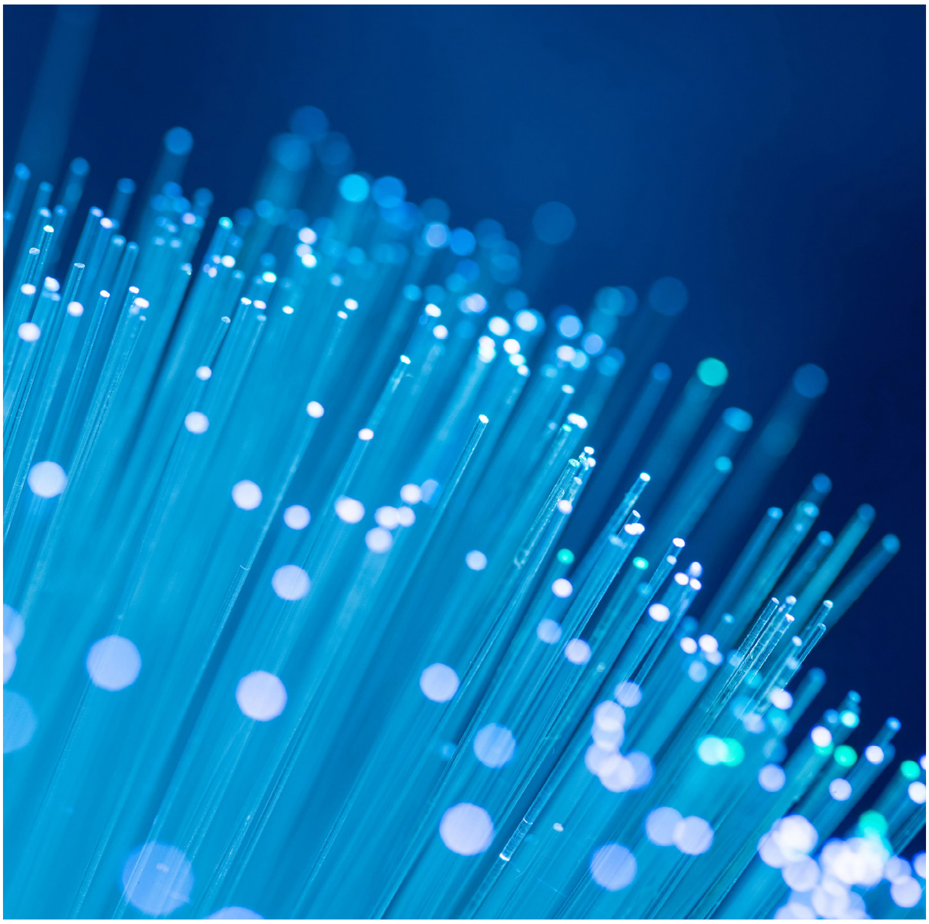
Long-duration government bond yields have fallen across Europe in 2021, while the pricing of long-lease real estate has become more expensive. Bond yields have fallen more in continental Europe than in the UK, making matched-duration long-lease assets more attractive. However, this has not gone unnoticed by investors who have increased allocations to the asset class. Should demand continue to rise, pricing competition could increase, which will impact relative value.

Selected opportunities in real estate and infrastructure equity markets

Traditional real estate appears to be fairly priced in aggregate on a long-term basis, but there will be wide dispersions between and within sectors. Investors should remain selective and seek opportunities that benefit from the structural trends accelerated by the pandemic, particularly within the industrials sector.

Increased investor appetite across Europe for infrastructure has led to increased competition and downward pressure on discount rates over the last few years. With almost half of the investors surveyed in our *2021 Real Assets Study*[1] stating renewables are "particularly important to include in their portfolio", this trend looks set to continue.

However, while prospective returns have reduced, the idiosyncratic nature of renewable power generation and power prices make renewables a strong diversifier to traditional assets in portfolios. Development of greenfield assets in less-commoditised sectors such as energy-from-waste and fibre broadband can offer a discount to operational assets in more established sectors and generate attractive yield premiums to compensate for construction risk (see *Insights for infrastructure investors*).



1. Real Assets Study 2021, Aviva Investors.

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Insights for infrastructure investors

by Sean McLachlan and Mohamed Ali

Greenfield fibre continues to be attractive

There has been a phenomenal increase in data usage in recent years, a trend accelerated by the pandemic, and this is expected to continue. As data demand has grown, the need for reliable digital infrastructure has increased with it. Fibre broadband has become an essential utility infrastructure and a key part in how we function as a society, at home and in the workplace.

The use case for full-fibre broadband continues to expand, offering high speeds as well as excellent capacity and reliability relative to legacy networks that rely on copper. At home, fibre networks support an increasing number of digital devices, from remote working to more sophisticated entertainment. The use of data in business also continues to expand rapidly.

Looking ahead, there are a number of structural tailwinds for the sector, with fibre likely to play a key role supporting smart cities, the energy transition, 5G, artificial intelligence and the Internet of Things.

There are a number of structural tailwinds for the sector, with fibre likely to play a key role supporting smart cities, the energy transition, 5G, artificial intelligence and the Internet of Things.

Approximately 8.2 million UK premises (28 per cent) have full-fibre coverage,[2] behind many developed economies, which presents a significant private sector investment opportunity. Build progress has been slow but accelerated over the last two years, with three million more premises receiving access to full fibre in the last 12 months, the highest year-on-year increase on record.

Nevertheless, there are challenges. Managing large civil construction programmes can be complicated and accessing and retaining skilled staff in a tight labour market will be critical to deliver scale and build consistency.

However, investor appetite for the sector continues to expand, with more players entering a market that has historically had modest competition. Targeted investment strategies and a first-mover advantage can help mitigate the risk of network overbuild and the expected increased competition for customers in the second half of the decade.

Strong demand for renewable energy

The intensifying focus on net-zero targets and ESG more broadly has led to strong investor demand for renewables. Low government bond yields and strong investor appetite makes operational assets, especially those benefitting from subsidies, keenly priced. In recent years, some investors have sought better returns by accepting project construction risk on the basis subsidised revenues will deliver relatively predictable cashflows once projects are fully operational.

Investors accustomed to the subsidised revenues of more traditional renewable energy assets such as wind and solar are now facing the prospect of investing into projects without such support, which has been phased out for many technologies, and having to think about different investment models. Both debt and equity investors are being challenged to understand and manage greater electricity market price exposure.

These investment model changes have come at a time when the pressure to deliver more renewable energy to support net-zero ambitions is increasing. Renewable energy is fundamental to the UK government's net zero policy, including the electrification of transport and heating.

Although there is the potential for revenue support mechanisms to return for onshore wind and solar – through contracts for differences, for example - developers are bringing projects to market and seeking investment on a fully-merchant (i.e., subsidy free) basis. For the right location and with lower construction costs, renewables projects have become more economical on that basis.

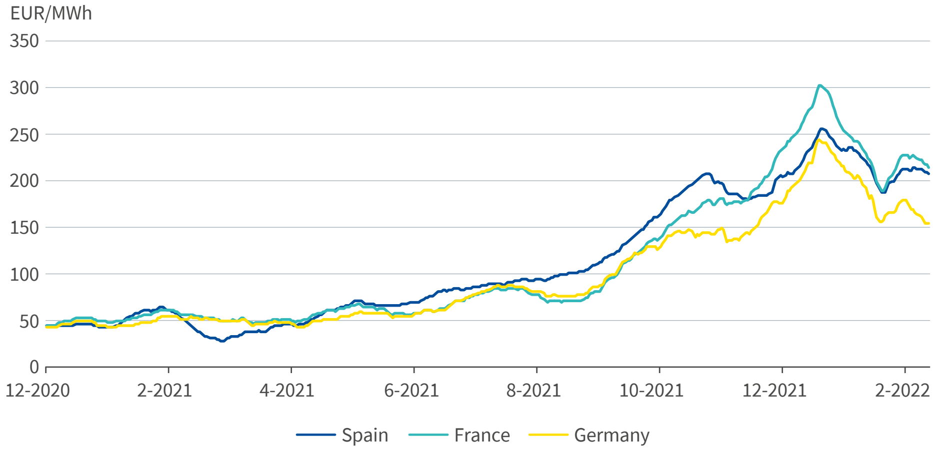
2. Ofcom Connected Nations 2021 UK Report, December 2021.

We have included Spanish solar in our analysis this year; with the high levels of solar irradiance, it is one of the most economical areas to develop unsubsidised renewables in Europe. Investors must assess the risk/return profile of subsidy free projects compared to other mechanisms like corporate power-purchase agreements (PPA), where there is risk transfer but potentially a disproportionate amount of value as well.

While Spanish wholesale power prices increased five-fold between December 2020 and December 2021, PPA prices only increased by around ten per cent in 2021.

While Spanish wholesale power prices increased five-fold between December 2020 and December 2021, PPA prices only increased by around ten per cent in 2021.[3] In this scenario, a corporate PPA locks in the power price for a portion of the asset's generation but at a material discount to that currently attainable when selling merchant power. According to the analysis, despite the higher risk, a subsidy free project can present an attractive investment profile within a well-managed portfolio.

Figure 4. **Wholesale baseload prices** (30 day moving average)



Source: Aviva Investors, as at February 2022.

Emerging technologies appearing on investment landscape

A number of emerging technologies, beyond established sectors like solar and wind, are making headlines, which could offer attractive opportunities for private sector investors. In the short term, energy storage and electric-vehicle infrastructure are examples of investable propositions, while hydrogen and carbon capture and storage are further away in terms of offering a clear investment case.

While there is an obvious focus on these sectors as part of longer-term net-zero ambitions, the commercial models need to be developed before they become economically viable and able to attract private capital at scale. Investors need clarity on the risks and returns for new sectors, which will require stronger collaboration with industrial sponsors and governments.[4]

3. Pexapark, "PPA Times, Monthly PPA News Digest, January 2022"
4. Darryl Murphy, Aviva Investors, 'That déjà vu feeling', January 2022.

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Insights for real estate investors

by George Fraser-Harding and David Gaffney

UK remains more attractive than the rest of Europe

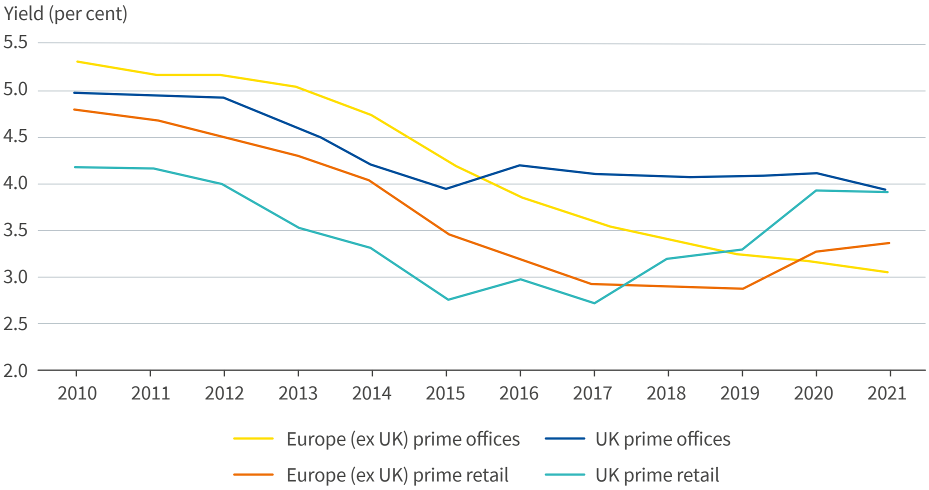
2020 was one of diverging fortunes. Although 2021 saw an upturn in confidence and investor appetite towards European real estate. While the retail sector remains generally challenged, the outlook for European real estate is positive in the short and medium-term, benefiting from a favourable monetary policy environment and low interest rates. This provides a healthy spread between property yields and ten-year government bond yields in the UK and euro area, enabling investors to achieve an attractive illiquidity premium.

The outlook for European real estate is positive in the short and medium-term, benefiting from a favourable monetary policy environment.

From a relative-value perspective, the UK looks more attractive than continental Europe at this point in the cycle. This is driven by property yields being higher in the UK, offering more room for yield compression. Continental European yields are very low by historical standards, especially in the office and retail sectors.

Nonetheless, UK real estate has become slightly less attractive over the last year due to ten-year gilt yields factoring in incremental interest rate increases in the near term. Given the strong correlation between bond and property yields, albeit with a slight lag, it is likely UK property yields will see less yield compression than previously anticipated over the next five years.

Figure 5. **Prime property yields**



Source: Aviva Investors, as at February 2022.

Acceleration of structural changes

From the rise in e-commerce to the wider adoption of flexible working, the pandemic has acted as a catalyst for structural change, causing differentiation in performance between asset classes.

Sustained periods of lockdowns and the closure of non-essential retail accelerated the already-evident shift by consumers online. This has led to increased appetite for logistics units so that retailers can meet the heightened demand.

One of the most significant structural changes is the rise in flexible working. This will almost certainly result in lower office utilisation in future with employees spending less time in the office. The last year has, however, seen improved sentiment towards offices and, instead of shedding space, most businesses are right-sizing and redesigning office space to accommodate hybrid working models.

Another trend accelerated by the pandemic is the flight to quality, with more focus on collaboration spaces, improved amenities and enhanced ESG credentials. As a result, we expect further polarisation between prime and secondary assets and believe 'best-in-class' assets, found in dense urban locations which have a clear carbon transition pathway, will be most resilient.

UK offices attractive for growth investors

The sector looks set to benefit from strong rental growth, stemming from a UK economy set to see robust GDP growth and high inflation in the next couple of years.

Despite structural headwinds due to the rise in flexible working, UK offices continue to look attractive over a five-year basis. The sector looks likely to benefit from strong rental growth, stemming from a UK economy set to see robust GDP growth and high inflation in the next couple of years. In addition, the sector will likely experience strong capital growth as we progress out of the pandemic and yields compress to a lower level than was seen pre-COVID-19. This is especially the case with prime office stock given the aforementioned flight to quality and focus on limiting building carbon emissions.

European offices look more expensive and consequently less attractive from an investment perspective in our relative-value framework. Nonetheless, it now appears prime and secondary assets are on different cycles in several European countries, offering an opportunity to exploit this gap by developing offices fit for purpose post-COVID (see Figure 2, p7).

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UK residential sector looks attractive on a risk-adjusted basis

The UK residential sector, whilst not expected to generate the same returns as other sectors, carries less risk, which could make it a valuable component to real estate portfolios. UK residential is only bettered by long lease and industrial assets when assessed on a five-year risk-adjusted basis, with the UK single-family housing market especially attractive.

Regulatory changes over the last 30 years have exacerbated affordability issues in the for-sale market, and we anticipate these to persist. This creates opportunities for investors where there is a clear demand for 'affordable' quality homes. We believe the best opportunities will occur where population and employment growth support demand. As the single-family investment market matures, we expect capital values to increase as more risk-averse investors seek stable income returns.

It is also worth noting that while European residential looks relatively less attractive, there are pockets of value. The Spanish residential market as offers strong potential returns, underpinned by higher yields and strong rental growth expectations. Like the UK, residential property in Spain's largest cities is becoming increasingly unaffordable in the for-sale segment, and this has led to a growing share of renters over the last five years. Given strong economic growth prospects and the lack of an institutional presence, this offers great opportunities to enter the market.

More broadly, we believe the delivery of new residential developments with top ESG credentials, reinforced by strong economic and structural fundamentals, will deliver attractive risk-adjusted returns for investors.

UK industrial sector looking strong, but entry point is crucial

The industrial sector has produced exceptional returns in recent years and remains one of the most attractive sectors in our relative-value framework. Industrial assets are supported by strong occupational and investor demand and tight supply, especially for well-located space.

Given this lack of supply and the sharp rise in the price of construction materials, the sector is likely to sustain strong rental growth in the coming years – at least until supply catches up with demand. We continue to be positive about the industrial sector but have become more cautious due to pricing moving dramatically higher in many locations. Pricing will become essential to generating value.

Industrial assets are supported by strong occupational and investor demand and tight supply, especially for well-located space.

Insights for long-income real estate investors

by Renos Booth and David Gaffney

Long income has long proved a valuable inclusion in portfolios for institutional investors, especially for defined-benefit (DB) schemes that require strong stable income for their long-dated liability matching. With bond yields remaining extremely low by historical standards, this has proved problematic for DB schemes as they move towards maturity, with over 2,000 schemes in fund-deficit territory.

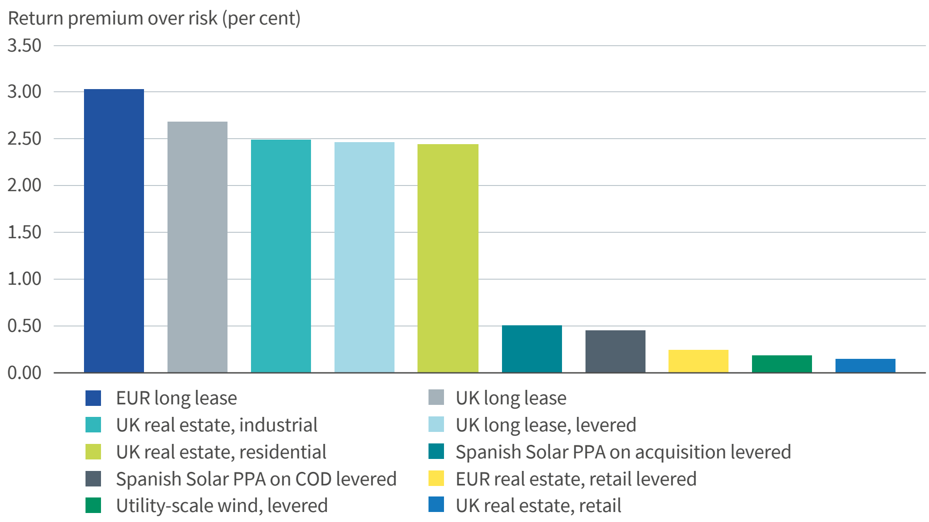
Long-income real estate has provided a strong yield premium over liquid market bonds with a similar risk profile and can therefore be a viable solution to this problem, enabling schemes to achieve attractive long-term income returns in a period where UK ten-year government bond yields are around one per cent.[5]

Given inflation is likely to be elevated in the next two years, long-income should benefit as it provides a hedge against the increased uncertainty as to the longer-term level of inflation.

The long-income sector has generally performed well during the pandemic as declining bond yields have increased the attractiveness of the long-duration, contractual income it provides. This reinforces the expectation that, when there is market uncertainty, long-income strategies outperform traditional real estate debt and equity markets. Assets that underperformed were let to less creditworthy tenants in sectors affected detrimentally by the pandemic. But more broadly, rent collection has been strong and investors continue to benefit from strong rental growth due to the inflation-linked nature of rent reviews.

Given inflation is likely to be elevated in the next two years, long-income should benefit as it provides a hedge against the increased uncertainty as to the longer-term level of inflation. As a result, a significant amount of capital has targeted the sector in the last year. Nonetheless, because the sector has endured significant yield compression over the course of 2021, this has made it more difficult to achieve pricing seen historically.

Figure 6. **Five year assets return premium over risk – top/bottom 5**



Source: Aviva Investors, as at February 2022.

5. https://www.ppf.co.uk/ppf-7800-index.

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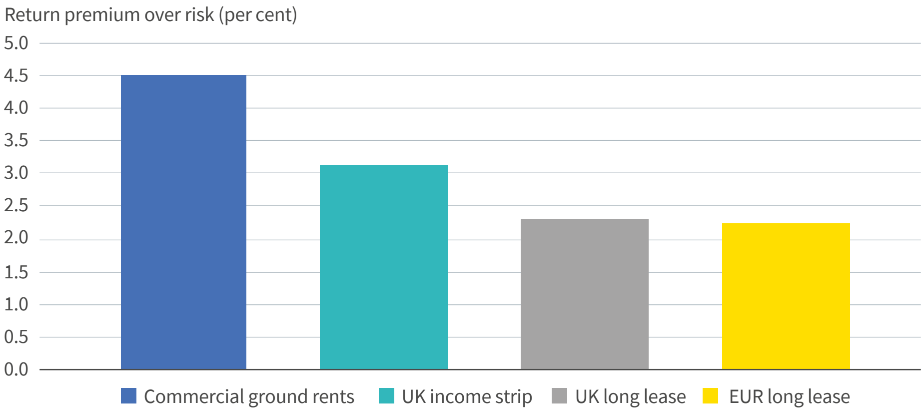
UK and Continental European long-lease the most attractive real asset class over the next five years

Over a five-year horizon, long-lease real estate looks the most attractive asset class within real assets on a risk-adjusted basis (as shown in Figure 6). High projected inflation for 2021 and 2022 will favour the inflation-linked leases typical of long-lease assets. In addition, traditional real estate investors currently face high capital costs due to supply and labour shortages, as well as repurposing assets to align with post-COVID and ESG requirements. This enhances the relative value of long-lease assets compared with traditional real estate. Both UK and continental Europe long-lease look attractive, providing strong rental growth with low associated risk for both growth and income-seeking investors.

Our analysis also shows that in long-income real estate, leverage should be more accretive on growth assets, whereas leverage should be kept more moderate for traditional real estate. Overall, long-income assets can play a valuable role in today's real estate portfolios.

Figure 7. **Long-income risk-adjusted returns (full-life)**



Source: Aviva Investors, as at February 2022.

Commercial ground rents look attractive for income investors

Commercial ground rents look the most attractive long-income sector when assessing on a full-life basis. Commercial ground rents benefit from security of income predominantly through their high-income collateralisation, with the ground rent typically representing 10-15 per cent of the property's rent/ operating income. This differs from other long-income sectors where security is gained from the creditworthiness of the tenant. The lack of investment-grade tenants and ultra-long duration of ground rents may make some investors perceive them as higher risk; however, in our analysis, the high level of collateralisation means few defaults occur in the first 50 years, during which time most of the return has already been achieved.

Commercial ground rents look the most attractive long-income sector when assessing on a full life basis.

Although yields have declined over the last decade, commercial ground rents still provide a higher expected return than long-dated real estate debt, as well as stronger collateralisation of income and value. In our analysis, the sector is expected to provide the strongest returns on a risk-adjusted basis, providing income investors with an opportunity to generate steady and predictable income for minimal risk.

It is, however, important to note the sector will be the most negatively impacted by the reform of the Retail Price Index (RPI) in 2030. This is due to the longevity of tenures, being over 100 years, and all commercial ground leases being linked to RPI. Nonetheless, even taking this into consideration, it remains the most attractive long-income sector on a risk-adjusted and full-life basis.

Given that CPIH has typically been around one per cent lower than RPI, there will clearly be ramifications for long-lease assets tied to this measure.

RPI reform will have a varied impact on real assets

From February 2030, the RPI will be aligned to the Consumer Price Index including owner occupiers' housing costs (CPIH). Although the majority of real assets will be unaffected, asset classes where leases are RPI linked, particularly long-lease real estate, will see varying impacts within sub-asset classes. Given that CPIH has typically been around one per cent lower than RPI, there will clearly be ramifications for long-lease assets tied to this measure. The impact on long-income fund returns will be a function of the duration; the proportion of RPI-linked leases; whether any costs are linked to RPI; and the caps and collars of RPI-linked leases.

In addition to commercial ground rents, income strips will also be impacted, although not to the same degree. Income strips generally have a tenure of between 30-50 years, with all cashflows RPI-linked; therefore, a significant proportion of the tenure will experience lower rental uplifts.

Long-lease real estate will be least impacted by RPI reform for two reasons; shorter lease tenures and duration relative to income strips and commercial ground rents, part of the return being generated from the terminal value that is not RPI-linked, and approximately only three quarters of assets' rent reviews being RPI-linked. This reform will imply some alterations to lease agreements; however, with long lease benefiting from inflation protection from this linkage, the risks are to the upside.

It is also important to acknowledge some assets will have protection measures embedded in the lease to deal with changes to RPI. Additionally, to mitigate the impact, some managers have actively negotiated changes to existing leases and created new leases on CPI, CPIH and CPIH + margins, as opposed to RPI.

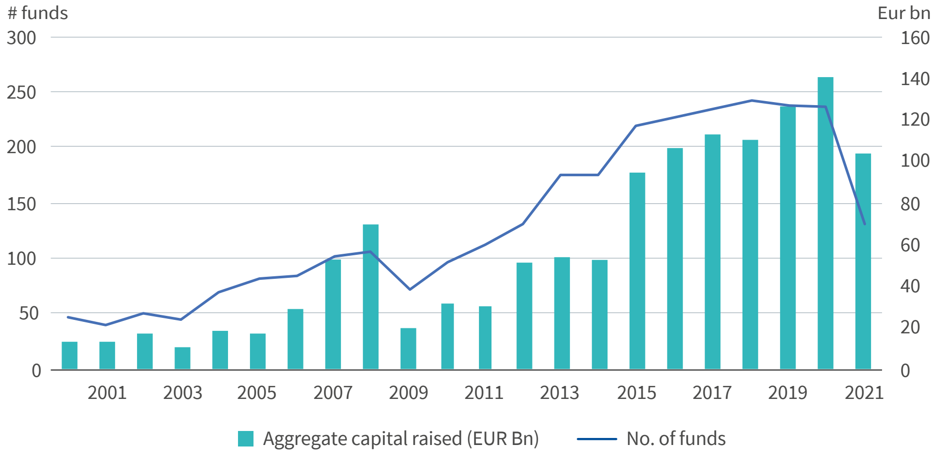
Insights for private-debt investors

by Zoe Austin and Mohamed Ali

Private debt has demonstrated its resilient characteristics and delivered strong performance over the last decade, cementing its position as an important component and focus for institutional investors.[6]

Despite concerns over the impact of lockdowns and other restrictions in response to COVID-19, investor appetite has continued to grow year-on-year, with 2020 fundraising doubling the peaks reached prior to the global financial crisis (See Figure 8). Given the lower-than-expected impact of the pandemic on private debt and increasing appetite from investors for attractive risk-adjusted returns from growth and income strategies, we expect fundraising will continue to grow.

Figure 8. **Private debt historic fund raising**



Source: Aviva Investors, as at February 2022.

Corporate loans remain attractive despite COVID-19 concerns

Corporate loans are typically seen as particularly sensitive to economic stresses. Mid-market loans, generally rated BB to B, are most exposed to higher credit defaults and loss rates. Furthermore, the magnitude of the impact from COVID-19 has been highly dependent on the sector, government support, duration and number of lockdowns.

Most developed economies provided significant fiscal policy and other support measures to soften the impact of lockdowns.

Most developed economies provided significant fiscal policy and other support measures to soften the impact of lockdowns. Sectors such as retail, which were hit relatively hard, saw the release of pent-up consumer demand once restrictions were lifted. These factors have cushioned the impact of the pandemic, with overall corporate and sub-investment grade corporate defaults at 3.1 per cent and 6.7 per cent in 2020, compared to five per cent and 12.1 per cent in 2009.

6. The case for private debt 2021, Aviva Investors.

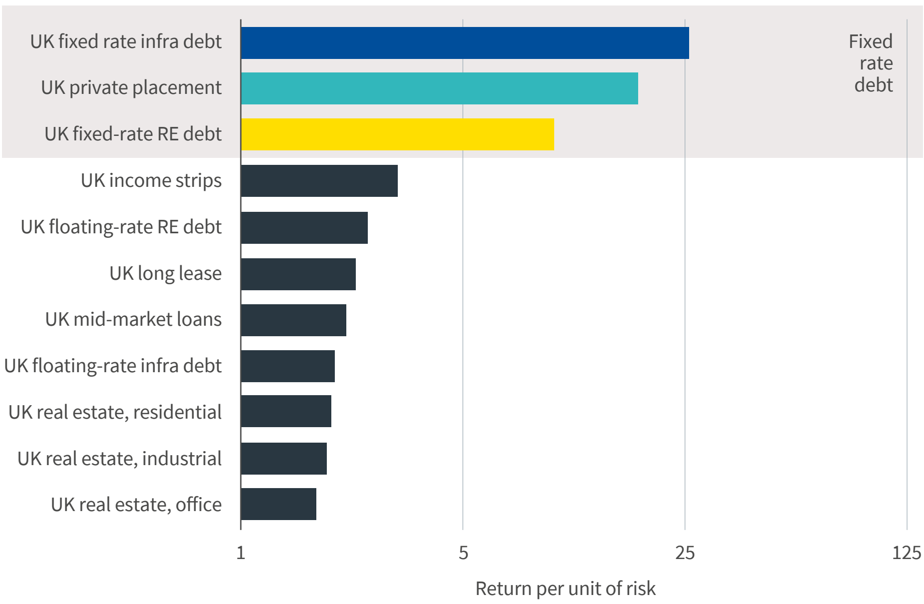
Our relative-value analysis shows fixed-rate infrastructure and real estate debt will continue to provide some of the lowest volatility of returns compared to other sectors.

Losses from defaults have been compensated by increased margins in private corporate debt, which makes the asset class attractive on a risk-adjusted basis. However, potential headwinds remain and could impact future returns. While more lockdowns to the degree experienced during the first year of the pandemic are unlikely, any new restrictions are likely to again impact sectors such as hospitality, retail and transport. Nevertheless, as economies recover, we believe there will be increased investment opportunities as banks and borrowers refinance the government-guaranteed loans that supported the economy but came with restrictions.

Fixed-rate debt continues to look attractive to cautious investors

Income investors that prioritise lower volatility of returns within private debt will naturally be attracted to fixed-rate debt, which has consistently demonstrated these characteristics, particularly in periods of increased market stress. Our relative-value analysis shows fixed-rate infrastructure and real estate debt will continue to provide some of the lowest volatility of returns compared to other sectors; per unit of risk, fixed-rate debt across corporate, infrastructure and real estate provide the highest expected returns (see Figure 9).

Figure 9. **Return per unit of risk**



Source: Aviva Investors, as at February 2022.

Concluding remarks

1. **UK real assets expected to offer more growth than Europe**
   The broad reopening of the economy, stronger GDP growth prospects and supportive monetary policy gives greater room for capital value growth, especially in the case of UK real estate.
2. **Private debt and RELI continue to be attractive for defensive investors**
   Long-income real estate and fixed-rate private debt will continue to be an integral part of portfolios focused on stable long-term risk-adjusted returns.
3. **The race to net zero is intensifying and will have an increasing influence on real assets**
   Already, we are seeing strong demand in renewable energy and forestry; investors also want more clarity from governments on the funding mechanisms and policy support for nascent technologies.

Appendix

Appendix 1: The real asset universe

The real asset universe is vast, and includes real estate, infrastructure, and private debt. Other than property, aggregate market data is not available to model the entire universe. We have modelled representative portfolios within each sub-sector, as outlined below.

Figure 10. **Asset classes modelled for this report**

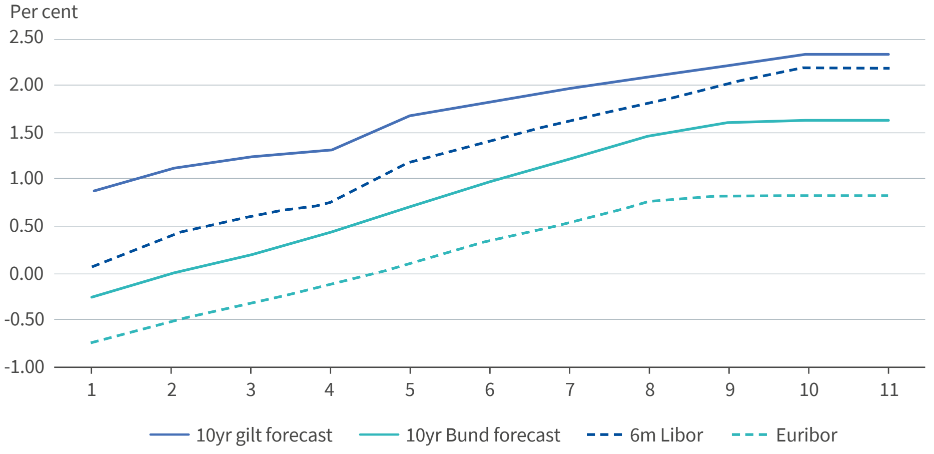
	UK	Europe ex-UK	
Real estate	UK institutional real estate. We have separately modelled office, retail, residential and industrial properties.	European prime institutional real estate. Separate model provided for office, retail, residential industrial properties.	Equity
UK rooftop solar	Brownfield rooftop solar portfolio in the UK supported by Feed-in-Tariffs.		
Spanish solar		We have separately modelled Spanish solar merchant, PPA on COD as well as PPA on acquisition.	
UK utility-scale wind	Brownfield, onshore utility scale wind portfolio in the UK benefitting from Renewable Obligation Certificates.		
UK medium-scale wind	Brownfield, onshore medium scale wind portfolio in the UK benefitting from Feed-in-Tariffs.		
Greenfield EFW	New-build energy-from-waste plant.		
Infrastructure: greenfield fibre	New-build rural broadband network.		
Long-lease real estate	Real estate let to investment-grade tenants on twenty-year inflation-linked, fully-repairing and insuring leases.	Real estate let to investment-grade tenants on fifteen-year inflation-linked leases.	
Income strips	Inflation-linked thirty-year income strips with high-quality tenants (with no terminal value).		
Ground rents	Commercial ground rents with 100-year lease term and RPI-linked annual reviews.		
Senior-secured fixed-rate infra debt	Fixed-rate senior-secured debt of investment-grade quality with twenty-year maturity backed by infrastructure.		Debt
Senior-secured fixed-rate real estate debt	Fixed-rate senior-secured debt of investment-grade quality with fifteen-year maturity backed by commercial real estate.		
Senior-secured floating-rate infra debt	UK senior-secured loans backed by infrastructure (crossover credit quality, twelve-year maturity).	Senior-secured loans to western European borrowers backed by infrastructure (crossover credit quality, twelve-year maturity).	
Senior-secured floating-rate real estate debt	UK senior-secured loans backed by commercial mortgages (BBB credit quality, five-year maturity).	Senior-secured loans to western European borrowers backed by commercial mortgages (BBB credit quality, five-year maturity).	
Private placement	Covenanted fixed-rate debt (single-A credit quality, thirty-year maturity).		
Mid-market loans	Covenanted loans to small and mid-sized corporates (Single-B credit quality, seven-year maturity).	Covenanted loans to small and mid-sized corporates (Single-B credit quality, seven-year maturity).	

UK inflation to be high over the next couple of years but revert back to a historical mean level.

Appendix 2: Central scenario assumptions

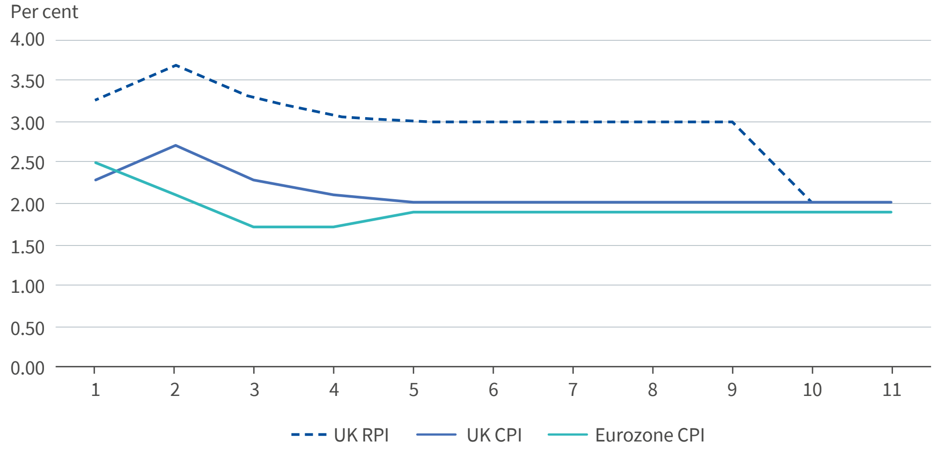
When modelling returns at the asset-class level, we have run different simulations around a central scenario. Our central macroeconomic assumptions are presented below.

Figure 11. **Interest rates**



Source: Aviva Investors, as at February 2022.

Figure 12. **Inflation**



Source: Aviva Investors, as at February 2022.

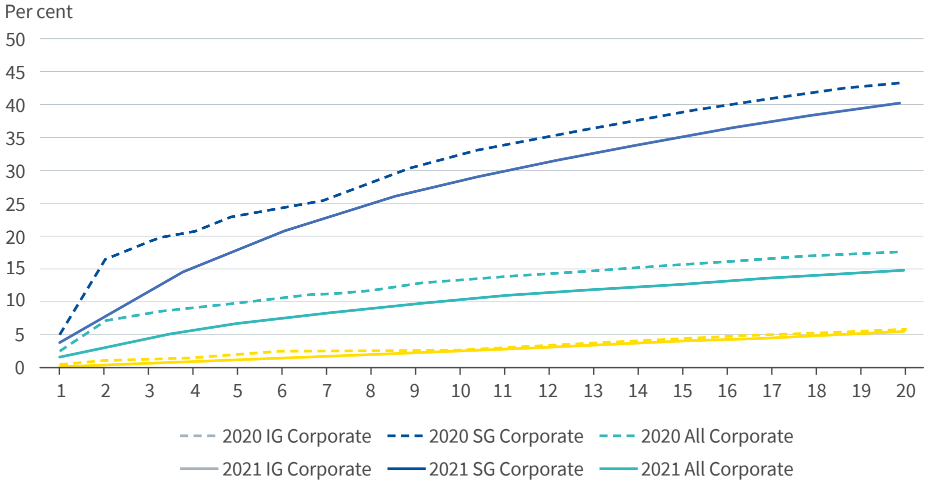
UK inflation is expected to be high over the next couple of years but revert back to a historical mean level. Eurozone CPI to be higher in year one and then more or less revert back to a historical mean level. We have also factored in the reform of RPI to align with CPI in 2030.

Defaults

Our previous Real Assets House View was modelled on the basis default rates could potentially rise to levels seen in the Global Financial Crisis for corporate loans and commercial mortgages, while we scaled infrastructure defaults by only 30 per cent of those levels given the lower sensitivity of infrastructure defaults to recessions. However, unprecedent government support during the pandemic has reduced the potential impact on default rates and we expect the trend to return to through-the-cycle defaults.

Unprecedent government support during the pandemic has reduced the potential impact on default rates and we expect the trend to return to through-the-cycle defaults.

Figure 13. **Assumed future default probability**



Source: Aviva Investors, as at February 2022.

Further reading

Real Assets Study 2021

Real assets: An alternative way to hedge inflation risk

The time for action is now: Incorporating carbon into private markets

That déjà vu feeling: The outlook for UK infrastructure

An investor’s perspective on the UK’s Net Zero Strategy

Disclosures, trade-offs and green premia: The future of sustainability in real assets

How to build an office: Post-pandemic

COVID and beyond: Why the greenfield data infrastructure boom is set to continue

Measuring the mythical: Quantifying the green premium in real estate

Five charts that show Copenhagen is a city of the future

The case for private debt

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