AVIVA INVESTORS
WHAT IS THE IMPACT OF A RISING INTEREST RATE ENVIRONMENT ON REAL ASSETS?

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Main responsibilities

Vivienne is responsible for developing market views, forecasts and strategic advice with a primary focus on Europe.

Experience and qualifications

Prior to joining Aviva Investors, Vivienne was a senior Analyst in the International Market Reseach team at Knight Frank. Her experience also spans to include the real estate industry in Australia. She holds a BA in Business Management and a BA in Science from the University of Queensland.

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EXECUTIVE SUMMARY

The economic backdrop of the past ten years or so has been highly unusual; characterised by weak growth, very low inflation in the developed economies and extremely low interest rates. In investment markets, bond yields have dropped to unprecedented lows and equity markets have hit record highs despite an uninspiring earnings backdrop.

As a result, many investors have increasingly turned to real assets to try to achieve their required returns and match their cashflows to liabilities. This has resulted in considerable growth in real assets[1].

There are now, however, growing signs that the major economic indicators are normalising. Growth is running above trend, inflation has risen, and central banks are removing the exceptional monetary supports of recent years.

While bond yields have moved up from their record lows, their future path remains a critical factor when assessing the prospects for other asset classes. This paper looks at the outlook for global interest rates and how this might affect real assets.

We conclude that:

- Record low yields are not just due to extremely loose monetary policy; global yields have in fact been on a secular downward trend since the 1980s;
- Yields from here are likely to rise, but to a significantly lower "new norm";
- Investors will continue to seek income and value the illiquidity premium real assets offer;
- Real assets will remain important as investors seek to achieve their required returns and manage their cashflows;
- The real asset space comprises a diverse, complex and illiquid range of assets – meaning experience and expertise are vital to harnessing its portfolio construction benefits;
- Rising yields will affect the various classes of real assets differently.

[1] Real assets include real estate, long income real estate, real estate debt and infrastructure. Source: Preqin, 2018.

BOND YIELDS ARE NORMALISING...BUT WHAT IS "NORMAL" NOW?

With government bond yields used by many investors as an anchor for valuations in other asset classes, record low yields have been a factor behind rising asset prices. For instance, in addition to supporting real assets, many equity markets have risen to record highs, despite often-muted underlying financial results.

There are now signs, however, that the major economic indicators are returning to more "normal" levels. Growth is running above trend in most major developed economies and inflation is generally moving towards target. As a result, the monetary cycle is turning. Tightening is most advanced in the US where the economic recovery is strongest. However, the prospect of tightening in the Euro-zone and in Japan is also coming into view.

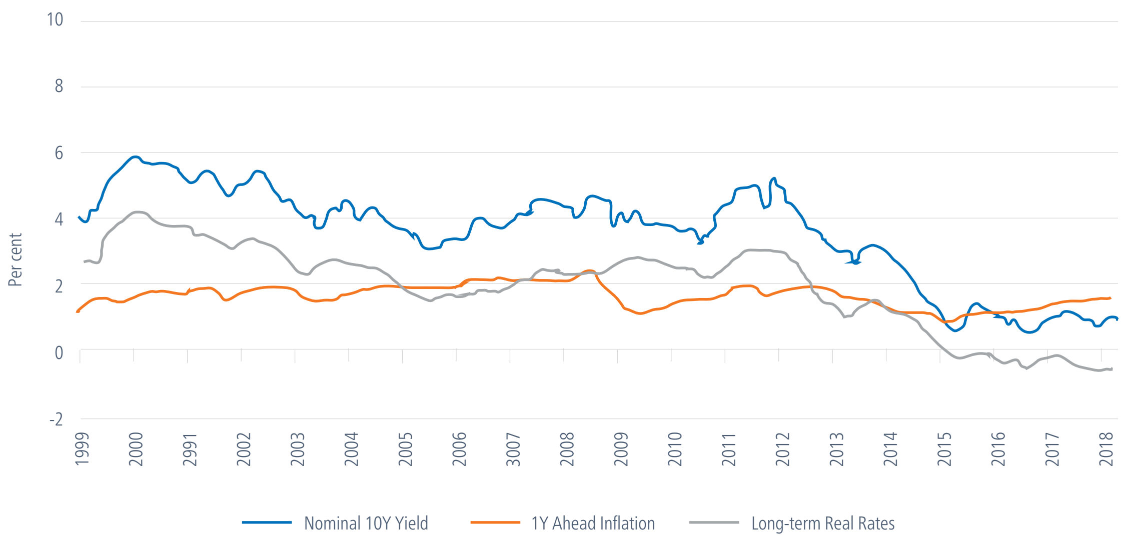
So, if economic and monetary conditions are normalising, what does this mean for bond yields?

1. LOW YIELDS NOT JUST ABOUT QE, IN FACT THEY'VE BEEN DECLINING FOR DECADES

While the extreme monetary policy of the past ten years has certainly been a big driver of record low bond yields, when turning to the outlook for yields, it is worth taking a longer view. This is because yields on long-term government bonds have been declining for decades, since the 1980s in fact. Understanding the drivers of this secular downward trend in yields can help us to form a view of how far yields might rise in the coming period of monetary tightening.

Of course, the drivers of this downward trend are heavily debated among economists, but some feature more prominently than others. A recent Bank of England staff paper[2] suggest that some of the decline in nominal bond yields reflects declining inflation expectations due to the adoption of inflation targeting by central banks. A much greater factor, however, is the sustained decline in real yields over this period. With inflation expectations appearing well anchored, it is the outlook for real yields that is most relevant for bond yields in the period ahead. Rachel & Smith estimate that long-term real interest rates across the world have fallen by about 450bps since the 1980s.

Figure 1: Real Rates in Advanced Economies



Source: IMF

[2] "Secular drivers of the global real interest rate" Staff Working Paper No.571, Lukasz Rachel & Thomas D Smith, December 2015.

2. SECULAR DRIVERS OF THE DECLINE IN REAL YIELDS

The drivers analysed in the Bank of England paper fall into two categories:

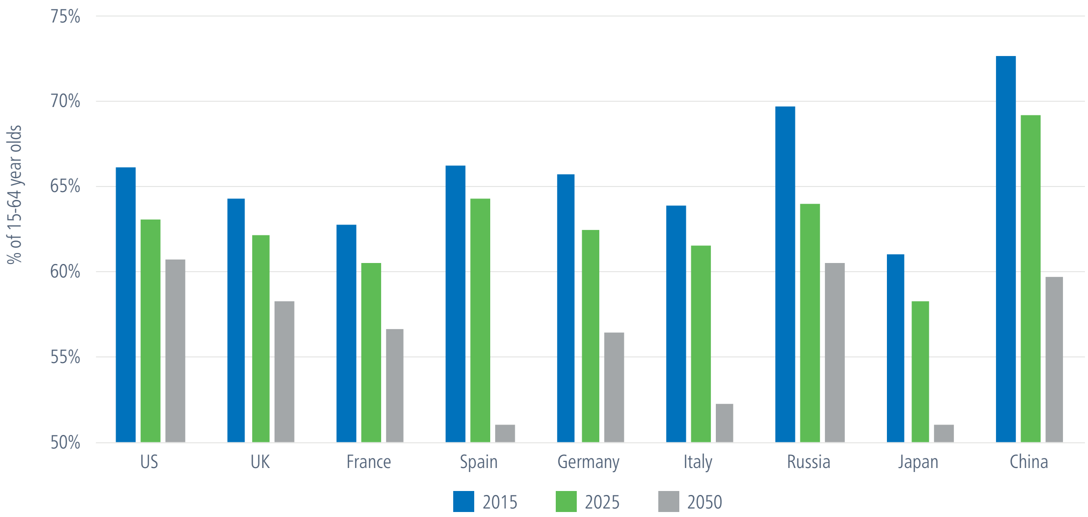
a) Slower global growth;

b) Shifts in preferences for savings and investment.

Slower trend growth is one of the most commonly cited explanations for lower real yields – the so-called "secular stagnation" hypothesis. In its various guises, lower productivity growth and slower population growth are given prominence as factors behind the downshift in trend growth.

In fact, Rachel & Smith find little evidence that slower growth was relevant to the decline in yields seen before the GFC. They do believe, however, that the GFC may have led to a re-appraisal of growth prospects and that this could explain some of the more recent decline in real yields. They also expect this effect to persist. Productivity growth could be hampered by slowing gains in educational attainment, rising inequality, public indebtedness and a slower pace of technological progress. Population and labour supply growth also look set to slow considerably in the period ahead. In the coming decade, Rachel & Smith estimate global trend growth could slow by up to 1 percentage point as a result of these various factors. They estimate that expectations of slower trend growth could account for 100 basis points (bps) of the fall in real rates seen recently.

Figure 2: Projected Change in Working-Age Population 2015 -2050

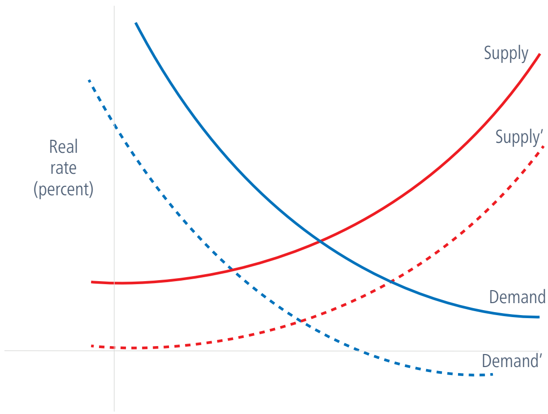


Source: United Nations Population Division, 2017 Revision

SHIFTS IN DESIRED SAVINGS AND INVESTMENT

The second category of drivers requires a brief detour into economic theory. This suggests interest rates are the outcome of economic actors' savings and investment decisions. Depicted graphically below in a form analogous to the familiar supply and demand curves of elementary economics, the savings curve ("Supply") depicts desired savings at each interest rate. It slopes upwards as desired saving will tend to increase as interest rates rise, all other things equal. The investment curve ("Demand") depicts desired investment at each interest rate. Desired investment will tend to fall as interest rates rise. The market interest rate is where they intersect.

Figure 3: Desired Savings Curve



Source: IMF staff illustration

It is important to understand that we are looking here at desired savings and investment. In fact, the quantity of actual savings and investment globally have been remarkably steady in recent decades[3,4] and what we are seeking to explain is how these have stayed essentially stable even as interest rates have declined so much. The model allows for this by positing an outward shift in the savings schedule and an inward shift in the investment schedule.

The question then is what might have caused an increase in desired savings and a simultaneous decline in desired investment? Rachel & Smith suggests three factors behind the outward shift in the desired savings schedule:

1. DEMOGRAPHICS

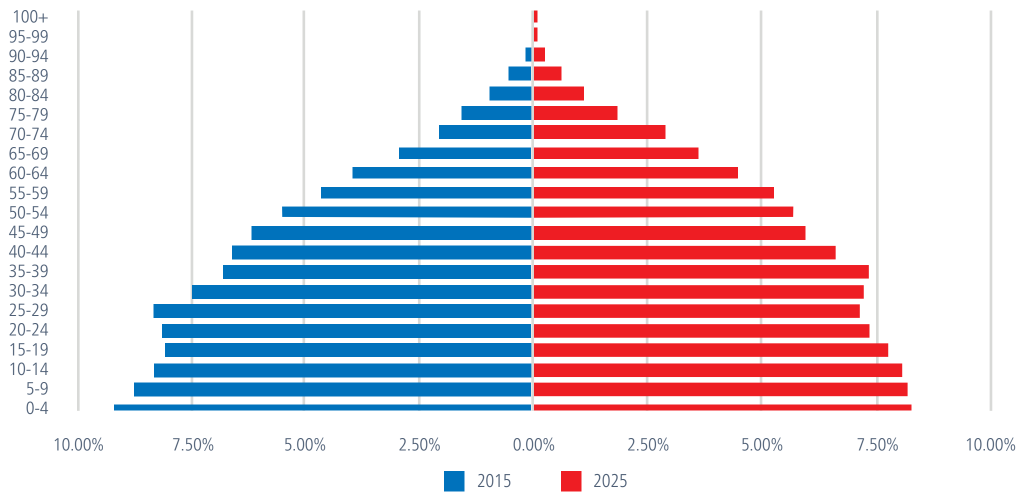
The life-cycle hypothesis suggests that changes in the population age structure can affect savings behavior over time with people of working age tending to save the most. The lower the proportion of dependents (those not of working age, either young or retired), the higher desired saving will be. Over the past 30 years, there has been a pronounced decline in the proportion of dependents in the global population, down to 42% from around 50%, driven predominantly by a fall in the proportion of young dependents. This has more than offset the rise in old-age dependency in ageing societies. Rachel & Smith estimate that this driver can account for 90bps of the 450bps fall in real rates.

In the period ahead, the decline in dependency looks set to reverse as a growing share of the global population reaches retirement age. This factor then is likely to put upward pressure on real rates though the extent is uncertain and is dependent on trends in longevity and how individuals and governments respond in terms of effective retirement ages.

[3] Ibid.

[4] Though the composition and source of actual savings have changed over time, an important factor in some explanations of lower real yields such as the "savings glut" hypothesis, see below.

Figure 4: World Population Profile



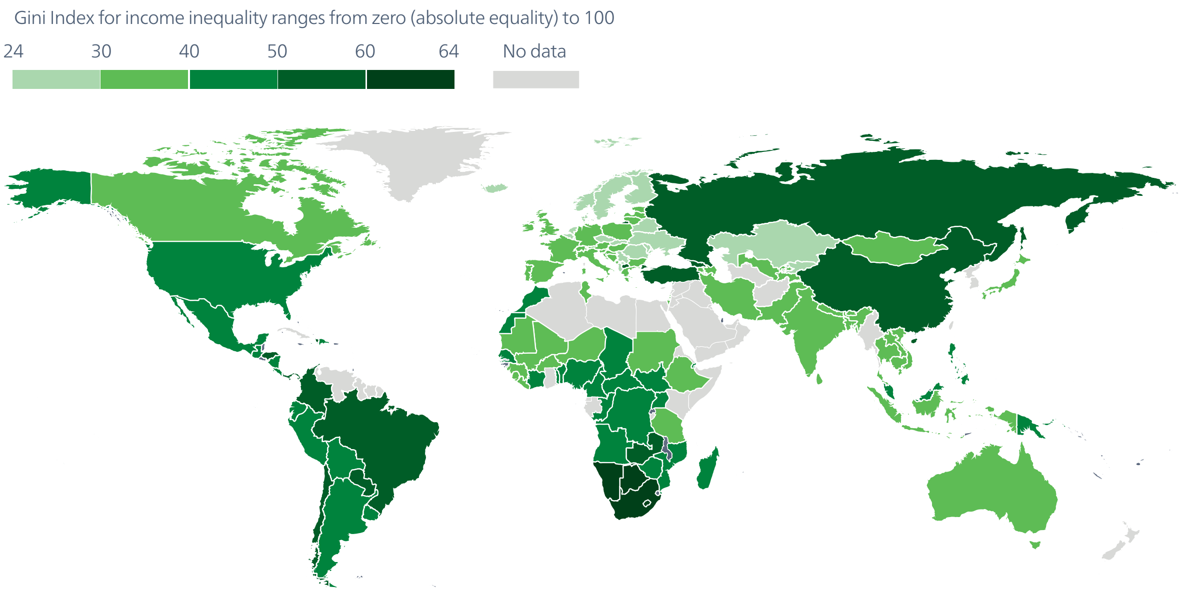
Source: United Nations Population Division, 2017 Revision

2. RISING INEQUALITY

Changes in the distribution of income can affect desired saving because the rich tend to save a higher proportion of their income than the poor. Since the 1980s, two distinct trends pertaining to inequality have taken hold.

The first is that inequality between countries has fallen as many developing economies, notably in Asia and Eastern Europe, have been catching up with the developed economies. On the other hand, inequality within countries has been rising . This implies that income has become more concentrated and Rachel & Smith estimate this factor accounts for 45bps of the fall in global real rates, about half the magnitude ascribed to demographics. They expect this factor to continue to put mild downward pressure on rates in the period ahead.

Figure 5: Gini Index for Income Inequality



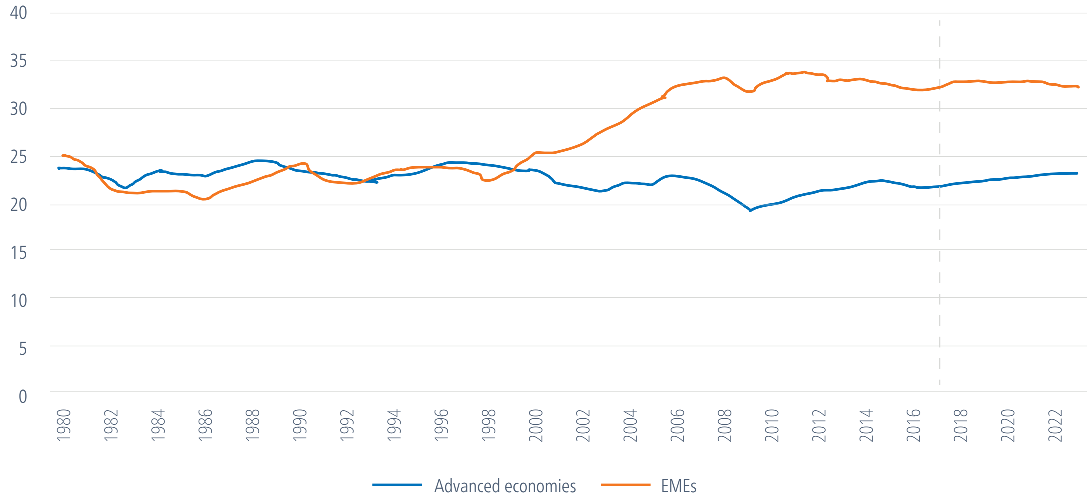
Source: World Bank Estimate. Map shows most recent Gini index estimates for 140 Countries

[5] "Metropolisation: Is Big Beautiful?", Aviva Investors Real Estate, June 2018.

3. EMERGING MARKET SAVINGS GLUT

This hypothesis was made famous by Ben Bernanke, former Chair of the Federal Reserve (Fed). In response to the 1998 Asian Crisis, many emerging market governments significantly increased their foreign exchange reserves as a precaution against another bout of capital outflows. At the same time, rising oil prices prompted an increase in saving among the oil producers. This increase in saving is thought to have pushed down on global interest rates. Rachel & Smith estimate that this may have contributed 25bps to the decline in yields. Looking ahead, they expect this factor to slowly unwind.

Figure 6: Nominal Saving to GDP Ratio (% of GDP)



Source: IMF 2018, World Economic Outlook Database

SECULAR TRENDS IN DESIRED INVESTMENT

Overall, Rachel & Smith estimate that an outward shift in the desired savings schedule can plausibly account for just over 150bps of the fall in global real rates since the 1980s. If this had been the whole story, actual savings should have risen, but this has not been the case. This suggests the desired investment schedule has also shifted and they put forward three trends to explain this inward shift.

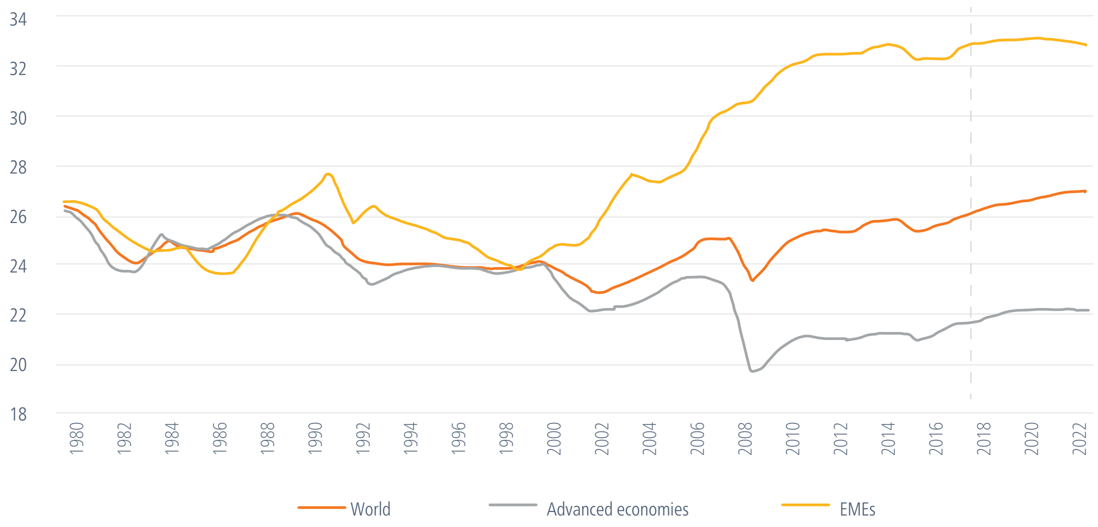
1. A FALL IN THE RELATIVE PRICE OF CAPITAL GOODS:

Since the 1980s, there has been a pervasive decline in the relative price of capital goods with the ICT revolution often cited as a major driver. Cheaper capital means that a given investment project costs less to pursue such that investment volumes can be maintained for a smaller share of nominal GDP. This factor is estimated to have delivered a 50bps fall in the real rate. In the period ahead, the authors assume a modest further contribution from this source.

2. LOWER PUBLIC INVESTMENT:

Since the 1980s, public investment has been a declining trend as a share of global GDP, particularly in the period prior to the GFC. Since 2007, public investment in emerging economies, notably China, has reversed this trend but the authors believe this to have been a cyclical response to demand weakness. They believe that this driver explains approximately 20bps of the decline in the global real rate.

Figure 7: Nominal Investment to GDP Ratio (% of GDP)



Source: IMF 2018, World Economic Outlook Database

3. RISE IN THE SPREAD BETWEEN THE RISK-FREE RATE AND THE COST OF CAPITAL:

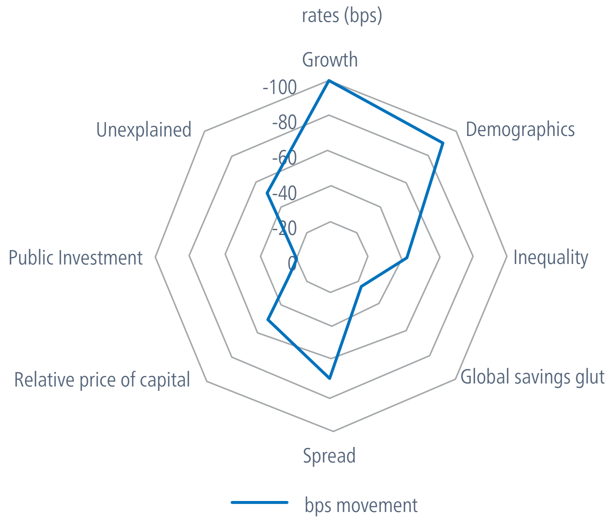
This is a somewhat abstract point, but the interest rate that matters for firms' investment decisions is the rate of return on capital, not the risk-free rate. There is evidence that the spread between these two rates has risen over time, which will tend to reduce the desired level of investment. The authors estimate that this factor can account for 70bps of the fall in the global real rate[6].

[6] The IMF constructed a weighted measure of the spread across bank credit spreads, fixed income spreads and equity market spreads for the world as a whole. The measure shows that the rate of return on capital has fallen since the early 1990s, but not by as much as the risk-free rate – the spread has increased by around 100bps. Market-by-market analysis supports this conclusion.

RATES TO RISE, BUT TO A SIGNIFICANTLY LOWER NEW NORM

In aggregate, the extremely expansive monetary policy of the last decade may not have reduced bond yields to the extent widely assumed. Rachel & Smith estimate that they can explain about 400bps of the 450bps decline in the global real rate since the 1980s, with slower trend growth responsible for around 100bps and the shift in desired savings and investment each contributing circa 150bps[7].

Figure 8: Relative Size of Factors Driving Fall in Interest Rates (bps)



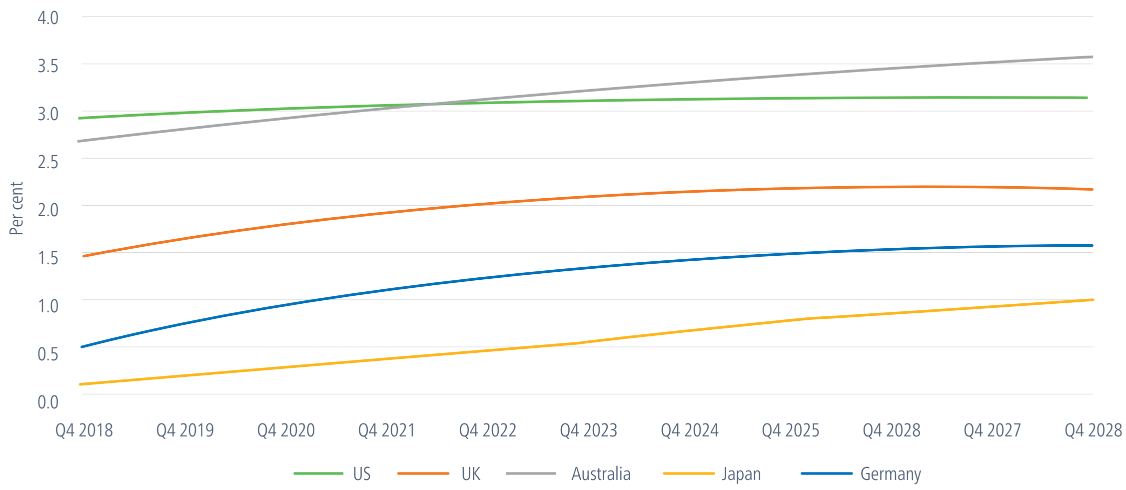
Source: Bank of England Working Paper No. 571

Importantly, the authors conclude that the majority of the driving forces behind the secular decline in the global real rate look set to persist in the period ahead. With inflation expectations appearing to be well anchored, this sets a ceiling to how far nominal bond yields can rise, even in the forthcoming period of monetary policy tightening.

This structural decline appears to be priced into current market expectations. In effect, it is believed that less central bank tightening than required in the past is necessary in order to meet their price stability and full employment objectives. For example, the German 10-year Bund yield is expected to rise to just 1.0% by the end of 2021, compared to an average of 4.3% between 2000-2007.

[7] Around 50bps of the fall in real rates remains unaccounted for and could be due to several factors including missing secular trends, an underestimation of the quantified trends, or global headwinds from the financial crisis pushing down on real rates.

Figure 9: Market implied forward curves for 10-year Government Bonds



Source: Bloomberg, 30 October 2018

Our Q4 2018 House View is largely supportive of these market expectations. In the near term, we expect significant divergence between the Fed and other major central banks. We expect multiple hikes by the Fed by the end of 2019, but expect no hikes from the European Central Bank or Bank of Japan before mid-2019. Overall, however, we expect policy rates to be raised slowly in coming years, and to levels materially lower than have prevailed in the past.

LOW-YIELD ENVIRONMENT MEANS DEMAND FOR REAL ASSETS TO STAY STRONG

With yields set to peak at relatively low levels, and the regulatory backdrop likely to stay supportive, real assets look set to remain an area of significant structural growth for institutional investors.

Regulatory changes have been an important driver behind the structural increase in demand from institutional investors in these asset classes. The introduction of Basel III regulations means that banks – the previously dominant players – are penalised for lending over the long term and this creates space for institutions to step in. In Europe, meanwhile, amendments to Solvency II have made alternatives more attractive to insurance companies.

However, real assets are a diverse, complex and illiquid asset class. The variety and breadth of infrastructure investments, for example, demonstrate the scale of this diversity and the need for vast experience and expertise when approaching the asset class. All infrastructure investments are income producing, but not all investment opportunities are alike.

RISING RATES MEANS DIFFERENT THINGS TO DIFFERENT CLASSES OF REAL ASSETS

The knock-on impact of lower 'normal' yields on the sub-components of real assets will vary.

REAL ESTATE

Equity investments in real estate encompass a broad spectrum of strategies to meet investors' needs from core to value-add through to opportunistic mandates.

As core real estate is valued for the stable income it produces, it tends to be priced with reference to government bond yields, along with a premium for the risks associated with the asset class, including illiquidity. And although movements in government bond yields take time to feed through to property markets, higher government bond yields do tend to lead to upward pressure on real estate yields and therefore downward pressure on values. Indeed, rising interest rates are historically associated with weaker real estate performance, especially from assets that are highly levered.

The fortunes of value-add and opportunistic strategies are less directly correlated with the pricing of bonds because such assets offer growth in addition to (or instead of) income. As increases in interest rates tend to occur when the economy is strong, such strategies can perform well as rates rise (as long as any leverage attached to them has been moderate).

As bond yields rise, investors tend to choose real estate assets that offer some exposure to growth and to reduce leverage.

LONG-LEASE

Arguably the most defensive part of the real estate space is long-lease real estate. This sector focuses on long-lease assets to strong tenants in the public sector or highly-rated companies. Inflation-linked or fixed uplifts are often available to maintain the real value of distributions. These assets can offer an attractive match for institutional investors' liabilities. As such, long-lease real estate provides a good proxy for the income stream provided by government bonds (including inflation-linked bonds), but with a meaningful premium for illiquidity.

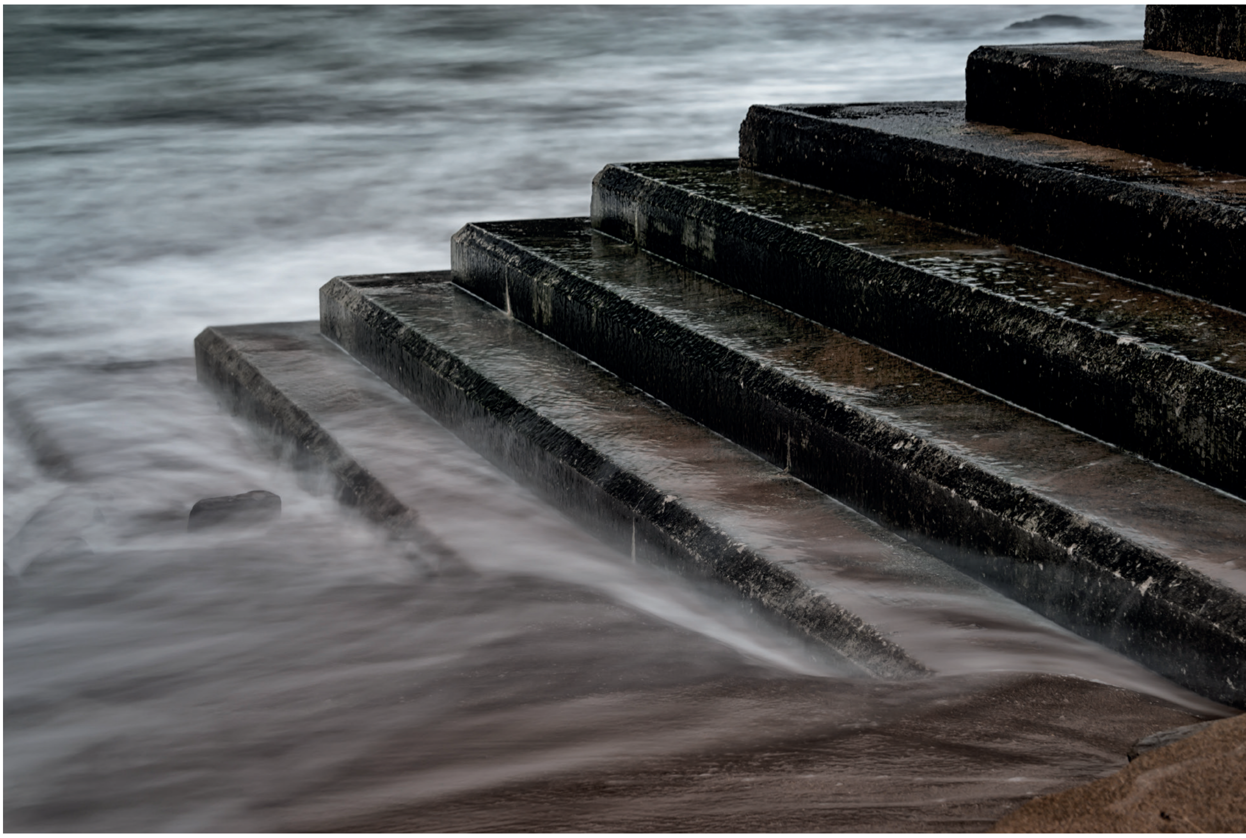
Long-lease real estate is generally priced with reference to government bond yields but does not typically offer direct exposure to growth (above inflation). The values of underlying assets are therefore somewhat exposed to higher interest rates and bond yields. However, much of the value of such assets are in the lease rather than the underlying real estate and income strip investments remove any exposure to residual property values.

The income duration and inflation linkages long-lease assets offer are in high demand and this is unlikely to change. Furthermore, a modest rise in interest rates is not going to eliminate the funding gaps of defined benefit pension schemes and therefore the potential for a return premium above bonds means demand for long lease real estate is expected to remain robust.

REAL ESTATE DEBT

For real estate debt, higher interest rates present a risk to underlying property values but, with much of the sector quite conservatively geared, some fall in values can be tolerated.

A bigger impact may come from refinance risk, that is the rising share of their income that landlords might need to pay on debt service as rates rise. This risk can be actively managed by focusing on longer-dated loans to borrowers with robust long-term strategies. Institutional demand for the stable income streams such lending offers is likely to remain robust given the illiquidity premium afforded.



INFRASTRUCTURE (EQUITY & DEBT)

Institutional investment in infrastructure has been a strong growth area in recent years and this looks set to continue. Cash-strapped governments often do not have the means to meet the infrastructure needs of their economies and this shortfall is expected to remain significant for the foreseeable future[8]. Preqin estimates that unlisted infrastructure assets under management globally hit a record $418bn in June 2017 and that 69 unlisted infrastructure funds closed during 2017 securing an aggregate $65bn[9].

Infrastructure is a complex asset class with investment opportunities available at different stages in the capital structure and the impact of rising rates will depend on where in that structure one is invested. Broadly speaking:

For infrastructure equity, higher rates generally lead to lower valuations, though as an illiquid and long-term investment, this may not be of great significance for many owners. Some owners may, however, seek to realise value before financing costs move higher and this can lead to increased opportunities to acquire private infrastructure assets for long-term investors. In addition, investments with exposure to growth are likely to enjoy some protection from rate rises. Furthermore, inflation-protected income streams are likely to remain in high demand.

[8] "Bridging Infrastructure Gaps, Has the World Made Progress?" McKinsey Global Institute, Oct 2017.

[9] Preqin 2018 Global Infrastructure Report

Infrastructure debt, meanwhile, tends to be more defensive in an increasing interest rate environment given its position in the capital structure and security packages. Rising rate expectations also have a significant impact on activity in the sector. For example, the sector is seeing a lot of activity at present in terms of refinancing which is likely to continue given the expectations of a rate increases. With all-in debt pricing at a historic low, now may be a good opportunity to source attractive debt terms.

OVERALL

Irrespective of trends in government bond yields, real assets are likely to be sought after for their defensive characteristics. In a low-yield environment, investors will continue to seek return-enhancing alternatives to government bonds. Reflecting an illiquidity premium, real assets can offer higher returns than more liquid asset classes and this is also likely to remain sought after. And given that many investors are underexposed to real assets, the potential for superior risk-adjusted portfolio returns can be achieved by increasing exposure to illiquid asset classes such as real estate and infrastructure.

Diversification is also key to investment in real assets. A multi-sector approach can negate downside risks and bring benefits to portfolios at different stages of the interest rate cycle. Real assets are a diverse, complex and illiquid asset class. Long-term outperformance is achieved through the disciplined deployment of capital. Successful partnerships based on trust, openness and shared risk are fundamentally important. It is therefore prudent to partner with experts who can identify these opportunities and manage risks.

Important Information

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