HYMANS ROBERTSON

Investment Perspectives

Winter 2020

In this issue:

Welcome - Beyond 2020

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Welcome to our 2020 Winter edition of Investment Perspectives

20/20 vision depicts a person with normal clarity and sharpness of vision.

As investment consultants, this overly used metaphor of 20/20 vision is actually not appropriate – there is limited value-add in seeing exactly what the average person is seeing. Our aim is to provide insight and analysis over and above the "normal" interpretations, help our clients stay a few moves ahead and manage investment risks by looking further ahead than can normally be seen.

Of course, there are instances where common vision must be followed and delivered. These are typically regulatory requirements which need to be complied with. Often, there are good reasons why these regulations have been introduced and they can help evolve the structure, conversation and development of the pensions industry. Aside from regulations, there are also market and economic events that require immediate attention and solutions. These hot topics are usually shorter-term and more reactive in nature. Some of these may evolve to be topics of wider interest that become longer-term and more strategic in nature, eventually shaping industry-wide and mainstream investment solutions.

In this edition, alongside our traditional quarterly market analysis, our Heads of Trustee DB, LGPS and DC investments outline hot topics and areas of focus for 2020. We then focus on three longer-term strategic themes, one which we know will dominate the industry and the other two which are likely to gain more prominence in the coming decade:

- Simon Jones outlines the Responsible Investment themes that Hymans Robertson will be focusing on in 2020;
- Tom Dunster and Peter Challis provide a framework for assessing the current composition of the global market cap equity benchmark; and
- Adam Porter and Linda McAleer introduce renewable infrastructure as part of a larger asset class that has grown exponentially in the last decade.

Investment areas of focus for 2020

Following on from the Welcome section of this edition, we outline some common themes that will require focus within an investment strategy context and where investment advice is likely to be required.

All schemes

Without a doubt, the topic that is likely to retain most relevance throughout the year is **Responsible Investment**. Not just because new regulatory requirements were introduced into Statements of Investment Principles that will also require evidence-based material to confirm pension schemes are actually doing what they say they are doing, but also the growing awareness of investor responsibility on climate change. Due to the importance, we have introduced a regular article on Responsible Investment in each edition over the coming year.

In another regulatory theme, the **CMA objectives** that are now in force will require pension schemes to monitor and measure the success of the investment advice given. We are still awaiting The Pensions Regulator's (TPR) findings from their consultation on this subject. Regardless, pension schemes should keep their long-term objectives at the heart of their priorities and continuously reflect on whether decisions made are suitably aligned with intended outcomes.

The **future of RPI** will involve a consultation that is now expected to close six weeks after its release in March 2020 with conclusions expected to be publicised prior to the summer parliamentary recess in July 2020. We are already liaising with a range of LDI managers to obtain their views, assist clients who wish to participate in the consultation and prepare to respond to the consultation ourselves when it is released.

The **discontinuation of LIBOR** will occur at the end of 2021 and over the last two years we have been helping clients take preparatory action within their LDI portfolios. Over the next year, we will continue to work with clients to understand the impact, particularly on product benchmarks that reference LIBOR.

DB

Readers may recall that in 2019, each edition of Investment Perspectives contained at least one article which focused on the topics in the box below.

Investment governance models
Assessing the appropriateness of various approaches to Scheme governance (advisory, platforms, consolidation and fiduciary).

Stewardship/Value for money
Assessing and monitoring the qualitative and quantitative value added by investment consultant advice to clients.

Long term objectives
Setting the investment strategy should consider schemes long term objectives of self-sufficiency and risk transfer.

Risk transfer
Alternative pricing opportunities remain. Develop a clear plan for when buy-in/out will be feasible.

Cashflow driven investment (CDI)
Investing in assets that deliver relatively predictable cashflows. Structuring portfolios to meet benefit payments from income and maturity proceeds, rather than sale of assets.

Responsible Investing (RI)
Assessing the materiality of RI factors and including them when setting investment strategy, including regulatory requirements.

Brexit
Helping schemes assess funding and investment implications and some operational aspects based on the different scenarios that might yet play out.

For the DB sector, all of these themes continue to be relevant this year although some will demand more attention than others in 2020. For example, within risk transfer, 2019 was a record-breaking year for the volume of transactions. There will continue to be developments and further transactions in 2020 and we believe our experience and data gathered in managing past transactions will add value in our work in future transactions.

In terms of areas not explicitly mentioned above:

- There will be a consultation on a more prescriptive DB code of practice on scheme funding this year. The DB Funding Code consultation will be published on 3 March 2020. Outcomes and conclusions from the consultation will likely have implications for investment strategy design.
- There is work required on efficient implementation and avoiding 'leakages' within investment strategies. This flows all the way from negotiating manager fees to a level that provides appropriate value for money through to the efficient implementation and transitioning of mandates.

LGPS

The next 12 months will be a very busy time for LGPS funds. Strong asset returns in recent years made the results of the 2019 valuations largely positive for English and Welsh Funds and a similar position seems likely for Scottish valuations due this year. However, funding improvements need to be balanced with the cost of accruing benefits given the lower growth outlook for many investment markets.

To ensure a Fund's sustainability, establishing a balance between investment risk and contributions that's unique to that Fund's own needs should be high on meeting agendas in 2020. It also requires an understanding of cash flow. Some LGPS schemes are also moving into cashflow negative territory, largely due to the weight of active and new members failing to keep pace with the pensioners. Therefore, it is important to consider how the investment strategy can be structured to meet net cash requirements as well as generating the returns needed.

Finally, establishing the right type of governance model within the new LGPS pooling environment and being clear where investment advisers fit within this will be important considerations. This is not necessarily in the same vein as traditional fiduciary oversight, but there may be some elements of this approach going forward.

DC

We are now beyond the five year mark post Freedom & Choice. In that time, investment markets have been kind for both equities and government bonds. It is the vast middle ground occupied by multi-asset funds and alternative assets that have struggled to keep up. With equity markets at all-time highs and government bond yields across the world at all-time lows, there is much work to do in 2020 and beyond in assessing what is appropriate for DC members in this middle ground.

We are not the only ones thinking about this middle ground. 2019 was the year of Master Trust authorisation. Now that authorisation is largely out of the way, those that remain will have long-term investment strategy design on their agenda. Will they stick with the more vanilla approaches of passive equities and traditional fixed income? Or will they venture out into areas not traditionally seen in DC such as private markets and other forms of alternative asset classes and active management?

Authorisation also paves the way for the DC industry to think about post-retirement investment strategies. As DC becomes a member's main source of post-retirement income outside of their State Pension, there will be a number of opportunities for schemes to review and assess the marketplace. Over the coming year, we will look closely at the Investment Pathways propositions from providers which target the growing number of members taking non-advised flexible drawdown.

Conclusion

Focusing on these key areas and how investment strategy can be evolved to meet each will provide schemes with clarity beyond "20/20 vision". It will help schemes manage investment risks and comply with regulations by looking further ahead than can normally be seen.

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Capital markets update

2019 was a strong year for most markets. Global equities, led by the US, delivered stellar results, with returns from global equity indices close to 30% in local currency terms. Bonds also rose over the year, although yields moved sharply higher over the final three months of the year from the extreme lows at the end of the third quarter. Oil and gold also rose, by 23% and 19%, respectively.

Growth decreased across most economies in 2019 (Chart 1), resulting in the slowest pace of global growth since 2009. Trade tensions, political uncertainty and an acute slowing in European manufacturing production all contributed. There are signs the worst of the slowdown may be over as the global Purchasing Managers Index (PMI) moved back into expansionary territory in November. Although Manufacturing PMIs suggest the industrial sector will continue to weaken in the major advanced economies, remaining at levels consistent with contraction, the latest figures provide a more encouraging, albeit diverse, outlook for emerging economies.

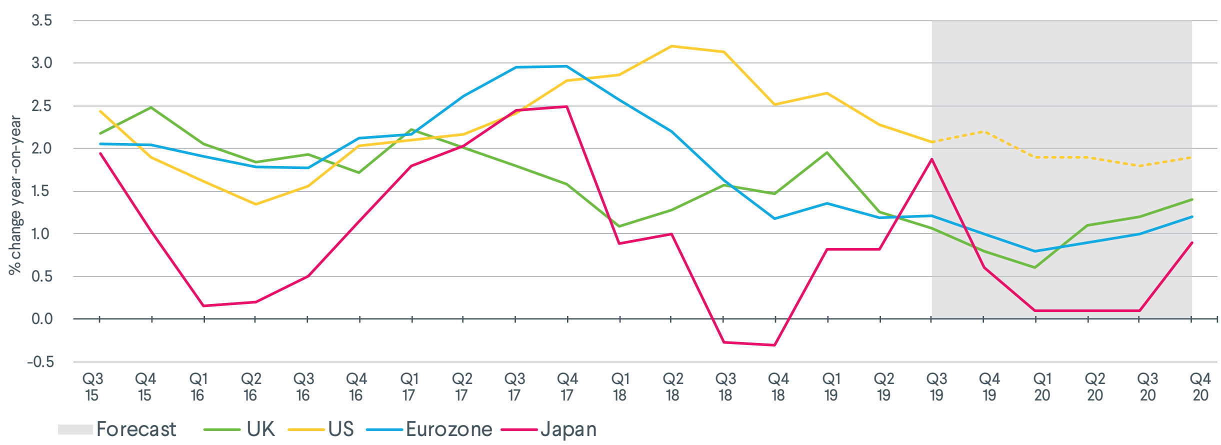
Though tariffs remain on two thirds of US imports from China, the signing of an initial US-China trade deal has also helped quell growth fears. As a result, consensus forecasts see world GDP growth reaching a low in the first half of this year, before picking up, leaving growth for 2020 unchanged from 2019 at 2.5%.

Although GDP growth is slowing in the US, it has continued to outperform other major developed economies. The slowdown in the Eurozone has developed more acutely than had been forecasted, particularly in Germany, where falling external orders led to industrial production falling sharply. China has also slowed as export and investment momentum has weakened.

UK GDP growth has also been anaemic in the first three quarters and is expected to be flat in Q4; businesses have contended with potential no-deal Brexits in March and October, leading to an extremely weak period of business investment. Particularly worrying, given the sector's dominance in the UK economy, the Services PMI slipped in to contractionary territory in November. However, early estimates suggest a healthy rebound in January.

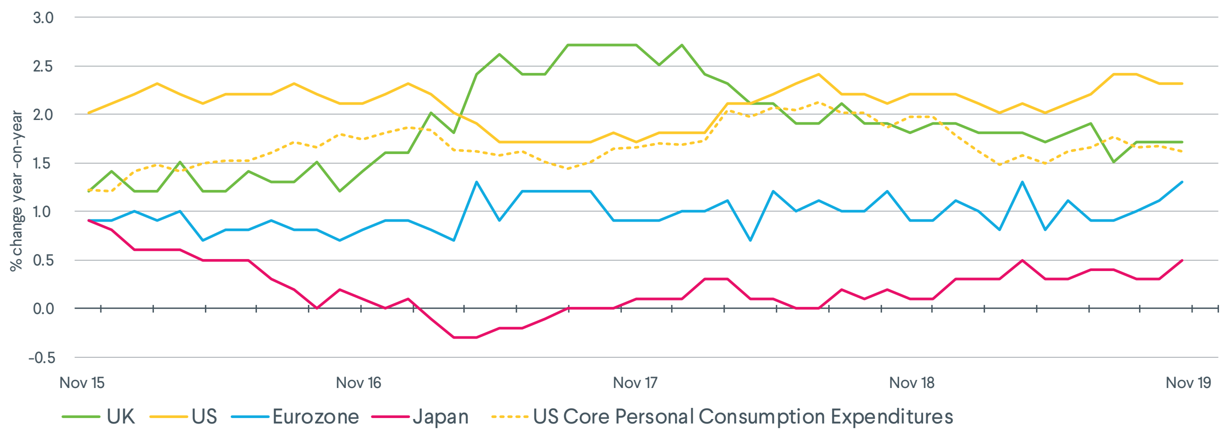
Inflation in most advanced economies (Chart 2), both forecast and realised, remains persistently below target. In the US, Eurozone, and UK, unemployment rates are historically low and wage growth is rising modestly in real terms, but inflation continues to surprise to the downside. Consensus forecasts largely see inflation in developed economies moving sideways over the coming year, although trade tarifffs, escalation of tensions in the Middle East, or a deferred effect from tight labour markets could be sources of some upward pressure.

Chart 1: Year-on-year realised and consensus forecast GDP growth



Source: Datastream and consensus forecasts

Chart 2: Core CPI inflation



Source: Datastream

This lack of inflationary pressure has allowed central banks to turn more accommodative – the US Federal Reserve cut interest rates for the third time in three months at its October meeting, while the European Central Bank cut rates to -0.5% and announced the restarting of quantitative easing in November. Brexit, and its potential impact on the balance between supply and demand, has played a part in keeping the Bank of England from cutting in 2019.

Government bonds

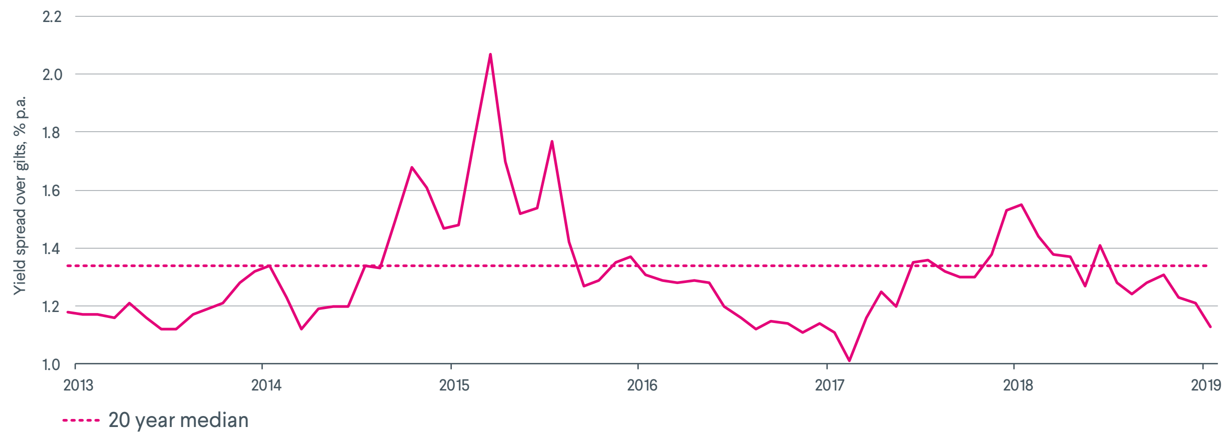
For most of 2019, government bond yields followed deteriorating macroeconomic data and manufacturing surveys lower, with the value of global negative yielding debt peaking at $17 trillion in August. However, the fourth quarter saw sovereign bond markets give back some of their gains as sentiment improved and yields rose.

UK nominal yields moved higher in line with global comparators, but index-linked gilt yields, particularly shorter-dated yields, rose more as sterling strengthened. The government will beign a consultation in March that might reduce RPI inflation closer to CPI inflation, posing a risk to current valuations of longer-dated index-linked gilts.

Credit

Global credit spreads continued to tighten in the fourth quarter, as they did for much of 2019. Speculative-grade credits outperformed their investment-grade counterparts over both the quarter and year. In addition to the very low level of underlying yields, which will limit absolute returns going forward, sterling and global investment-grade credit spreads have moved further below long-term median levels (Chart 3).

Chart 3: Sterling A-rated corporate credit yield spreads



Source: ICE Index Platform

Speculative-grade credit spreads, particularly in the higher quality portions of the high yield bond market, are touching levels they have rarely ventured below. At the same time, the affordability of debt for high yield companies, as measured by the number of times earnings cover interest payments, has drifted lower over 2019. Though leveraged loan spreads retraced some of the spread widening over 2019 in the fourth quarter, loans continue to offer better relative value versus high yield bonds.

Equities

Despite deteriorating industrial data over the course of 2019, the FTSE All World Index returned 27% in local currency terms (Chart 4). These returns were largely delivered in the first quarter - when equity markets bounced back from a sharp sell off at the end of 2018 - and in Q4 2019. The strong Q4 rally followed indications of progress in the global trade disputes, a Q3 earnings season that was generally better than feared and some improvements in macroeconomic data.

At the same time, earnings growth in 2019 was minimal, pushing global equity valuations slightly above longer-term average levels. The relative valuation is more extreme in the US, a market which remains at a significant premium to global equities. Overall, we struggle to justify why the strong equity market rally will continue throughout 2020, unless there is a substantial acceleration in earnings growth. While consensus earnings growth expectations for 2020 currently point to a sharp rebound of around +9% for global equities, we believe these forecasts look optimistic, unless economic data continues to improve and the recent progress in global trade negotiations leads to a sustained easing in trade tensions.

Property

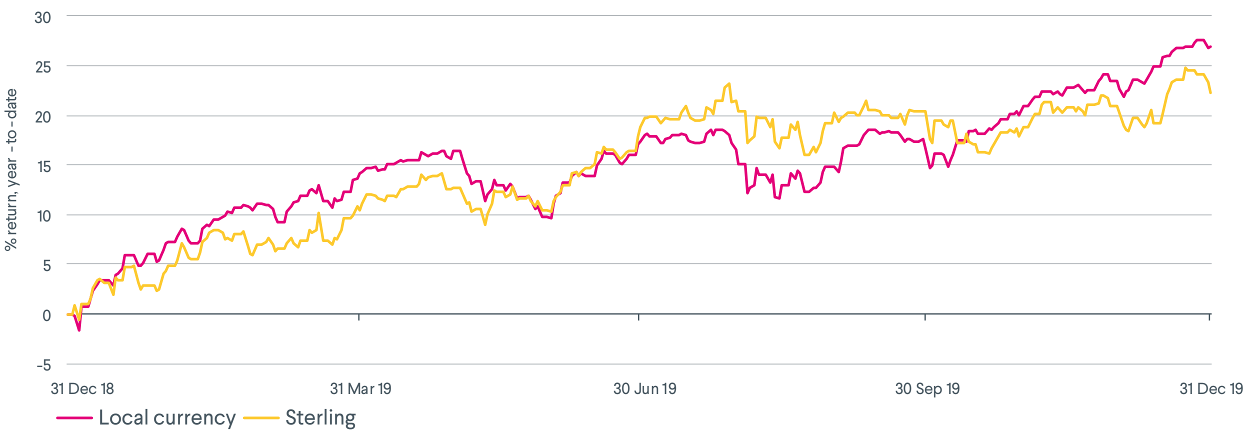
Annual capital growth turned negative during 2019, and the pace of the fall continued to increase in the fourth quarter. Total return remains positive due to income but has slowed to its weakest pace since Janaury 2013. The slowdown is primarily rooted in acute weakness in the retail sector, even though that represents under 30% of the traditional UK commercial market. Impacted by Brexit-related uncertainty, transaction voumes were significantly below historical averages over 2019.

Net initial yields (based on actual income receipts, rather than notional rental values) remain low versus history, at or around 5.0% p.a. With annual rental growth continuing on a downward trend, slowing to just above zero in November, and little sign of any revival in the retail sector, we expect muted returns from UK commercial property over the short to medium term.

Conclusion

The slowdown in global growth is forecast to abate in 2020, though any potential rebound is expected to be modest. While industrial momentum remains weak, labour markets, and hence consumers, have remained relatively resilient. Risks of an escalation in trade tensions between the US and China have eased, but uncertainty is likely to remain high and re-escalation represents a major downside risk to the outlook. Geopolitical risks have also increased as relations between the US and Iran have deteriorated.

Chart 4: FTSE All World Index, total return



Source: Datastream

Valuations in equity and credit markets continue to look brighter than this outlook warrants. Risk assets could continue to drift higher amid globally accommodative monetary policy and a partial easing in trade tensions, but further evidence of a global industrial recovery might be required for a more sustained rise. Even if the downturn in global growth may soon be over, we retain a degree of caution, holding a little more cash than usual as a result. We continue to prefer equities to property in growth-orientated portfolios and would advocate diversifying credit portfolios, potentially by trimming speculative-grade exposures.

Coronavirus update

Finally, we note the growing concerns around Coronavirus, and the potential impact on China and beyond.

At the time of writing (mid-February 2020), the virus has been confirmed in 25 countries, has infected more than 40,000 people and killed more than 900. Comparisons are currently being made with the SARS (severe acute respiratory syndrome) outbreak of 2003, which caused 800 deaths. The SARS outbreak had a real, albeit short-term, impact on the economy. China's GDP growth rate slowed from 11% in the first quarter of 2003 to 9% in the second, with the largest impacts on tourism and transport. That being said, when SARS was eventually contained, Chinese GDP growth quickly recovered.

A significant impact is expected on retail activity, which is compounded by the outbreak occurring during the Chinese New Year holiday. Industrial and trade activity is also likely to experience significant disruption, due to lock-downs. There are some factors that could make any potential economic impact more severe this time round:

- China's service sector is much larger now than in the past (53% of GDP in 2020 vs 42% in 2003), meaning a slowdown in consumer spending could impact more heavily on the country's wider GDP;
- Ongoing global trade tensions and China's continued structural slowdown in growth means the economy is in a weaker starting position; and
- The Chinese government has less policy headroom to provide support to boost the economy.

Uncertainty around the impact of the outbreak could lead to material weakness in equity markets, especially after such a strong 2019. Transportation and traditional retail are most vulnerable and have underperformed the wider market. Oil prices have fallen around 10% while demand for safe haven assets such as gold and sovereign bonds has risen.

Given already subdued levels of global growth, the virus could be a potential source of disruption in the first half of 2020. China represents c16% of World GDP and contributes c35% of global economic growth. Prolonged disruption could ultimately negatively impact China's trade partners – particularly in Asia, Australia and possibly Europe – with the potential to derail the tentative recovery in global manufacturing. This could lead to further volatility in equity and credit markets.

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Responsible Investment update

The world is changing. From the devastation of the Australian bush fires to the recent change of stance by the world's largest asset manager, climate change has seldom been out of the news during the first few weeks of 2020. While we rightly worry about short-term considerations given the immediacy of the impact on the environment, we must equally worry about the long-term outcomes of capital allocation and stewardship actions taken by decision makers given the financial implications and the seeming inevitability of a policy response to climate change.

For us, 2020 is a year where we want to create meaningful change in how our clients and their investment managers consider climate risk and we therefore intend to do two key things in the pursuit of this goal:

1. We will actively consider solutions with clients recognising the increased range of options available
2. We will help clients hold managers accountable for their actions by developing minimum expectations for the managers we recommend.

Climate change is a key issue on the regulatory agenda. We know that guidance on climate risk disclosures is coming from the DWP; we know that the Bank of England is consulting on stress tests for climate change; and we expect that the Prudential Regulation Authority will follow up on its 2019 Supervisory Statement with further change later this year. It is essential that climate change appears on the agendas of all investors during the year to ensure that they are prepared to act (although preparing to act, and taking action are clearly different).

The investment industry continues to innovate in developing "climate friendly" solutions for investors. We believe such solutions can offer a reasonable starting point for many investors who may pose the question, "what can we do?" and have assisted trustees seeking to incorporate low carbon solutions.

Equity assets are just one area where capital can be allocated or reallocated to capture the opportunities presented by the transition to a low carbon economy. 2019 saw over £200bn invested into renewable energy projects worldwide and renewable energy is now the cheapest form of new energy in many countries, even without subsidy. As our article later in this paper illustrates, Renewable Energy Infrastructure is a potentially attractive investment option for those wanting to bias their allocations and we will continue to explore such alternatives.

Investors also need to hold existing asset managers to account. The recent revisions to the Financial Reporting Council's UK Stewardship Code place a greater emphasis on outcomes. As investors increasingly look to address Responsible Investment and climate change issues, the focus becomes less on investors stating what they are going to do and more on what they have done and what the consequences of their actions have been.

One shift that we saw over the course of 2019 was investment managers being increasingly challenged on their actions during review meetings. They have responded by increasing the resource available to address RI issues, but are they really making meaningful change? For example, our recent stewardship survey found that only 20% of managers have an explicit policy on how they will vote on climate-related resolutions – this leaves investors uncertain as to how their managers will act. We need to know that managers who are responsible for the investment of client money are prepared to drive change. The industry needs to take action if the world is to be successful in addressing the complex challenges of climate change.

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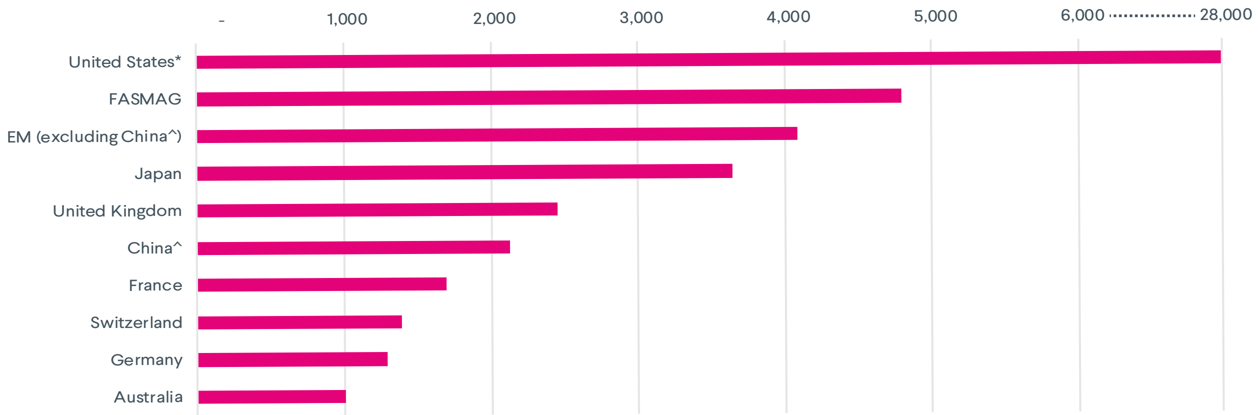
The Internet of Stocks

The "Internet of Things" is a term used to describe the connectivity and interaction between people, everyday products and services, and computers. While most investors have a general sense of the dominance of the companies involved in this, and may have heard of different acronyms for groups like 'FAANG[1] stocks', most are unaware of the magnitude of the dominance.

Chart 5 shows that the market capitalisation (in USD) of six stocks (Facebook, Amazon, Samsung, Microsoft, Apple and Google (Alphabet)), which are connected to the Internet of Things, is greater than the entire size of the equity markets of Japan, the UK, and individual European countries.

Chart 5: Market capitalisation



Source: MSCI, Hymans (December 2019)

* The ~£28 trillion in the US excludes the market cap of the following five US stocks: Facebook, Amazon, Microsoft, Apple and Google (Alphabet).
^ Based on the MSCI China Index. The MSCI China Index captures large and mid-cap representation but currently excludes a large proportion of China A shares. The EM (excluding China) index also excludes Samsung.
**FASMAG stocks market capitalisation is free-float adjusted in USD

Stock and sector concentration are nothing new for most UK equity investors who are used to being heavily concentrated in the top ten stocks (by market cap) and also in the financials, consumer staples and energy sectors. However, the above analysis may surprise those who are invested in passive global equities.

Awareness is one thing but we believe it is important to pre-empt and question how this knowledge affects passive equity investing.

"I didn't choose passive equities just to be in tech stocks"

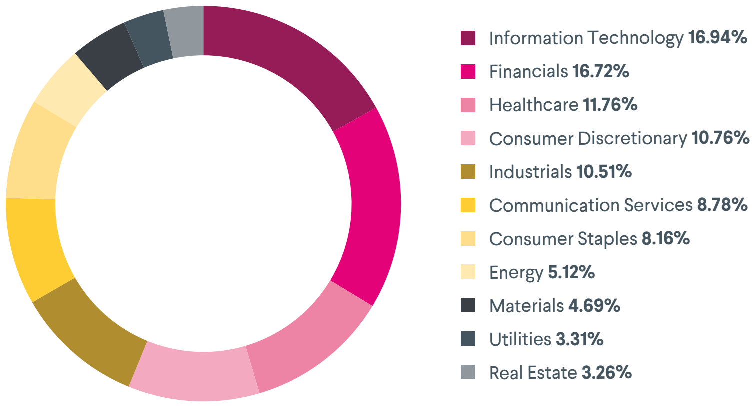
The pace of technological development over recent years has led to widespread disruption of business models across many industries. Chart 6 shows that the Information Technology sector in the All Countries universe (as classified by MSCI) comprises 17% of the index. Within that sector, Apple has become involved in hardware (e.g. laptop computers), consumer electronics (e.g. mobile phones) and software (e.g. Apple's operating systems). Microsoft and Samsung have similar business models. We would argue that this no longer purely fits the technology label.

The Global Industry Classification Standard (GICS) has started to reconsider its sector groupings to address this tech label. In 2018, MSCI created new sub-sectors within the Information Technology sector. The old Telecommunication Services sector was replaced by a newly-formed Communication Services sector and now contains companies like Facebook, Netflix and Google (Alphabet).

We would agree that these companies also no longer fit a simple 'tech' label as they have become more involved in connectivity, market-making and the marketing and

**'FASMAG' (Facebook, Amazon, Samsung, Microsoft, Apple and Google (Alphabet)) stocks' market capitalisation is free-float adjusted in USD.

Chart 6: Sector weights of the MSCI All Countries Index



Source: MSCI (November 2019)

distribution of content. Finally, the Consumer Discretionary sector holds Amazon and Alibaba, which are global consumer marketplaces despite often being thought of as technology stocks.

So even though the tech label is there, investors in these companies actually have exposure to a significant supply chain, from manufacturing through to the distribution of goods and services.

But why is there such a label in the first place? We believe the relevant issues are to do with the disruption of business models. This has long been a function of markets. However, in our opinion, the pace of disruption has quickened in recent years due to the speed of global commercialisation and take up of technological advances, specifically in the way people communicate, access entertainment content and buy products and services.

What do we mean by "disruption"?

In today's environment, disruption is likely to occur in three ways:

- Another company begins to offer better products and / or services, winning and then dominating market share. This is essentially what happened to Nokia and it could happen to companies that currently dominate the stockmarket.
- There is a significant shift in the supply or demand dynamics in the markets being operated in, with the existing products and services being rendered obsolete. Two of the most commonly referenced case studies of obsolescence are Kodak and Blockbuster.
- A structural problem created by poor Environmental (perhaps less relevant in the above-mentioned companies), Social (labour, data and tax policies) and Governance (ownership, voting and independence) practices that severely impacts forward-looking earnings. The company could then be punished by market forces or by regulatory pressures.

What does this mean for equity investors?

The challenge for companies is how they react and deal with technological disruption when it comes. Going back to Chart 5, the stocks referenced represent businesses that have evolved better than their competition. That is why they currently represent around 10% of the market cap index (MSCI All Countries). It is rare for the top companies by market cap at the start of one decade to still be on top the following decade. However, these companies also have the opportunity to further cement their top positions through their existing business models.

While we do not believe this to be an excessive level of stock concentration, there is a risk that these stocks will not adapt during the next round of disruption. This is, of course, the reason why there are many differing opinions within the universe of active equity managers about the types of stocks discussed above.

What can be done to counter rising stock concentration in market cap-weighted global equity indices?

We propose a simple decision framework for a trustee / governance committee to follow:

- Do nothing and accept that the decision to invest passively in a market cap index will naturally involve structural shifts over time including single stock concentration.
- Delegate the selection and weighting decision to an active equity manager. By doing this, allocations to single stocks are based on fundamental aspects, which includes analysis of the company's financial and competitive position, outlook and the current valuation.
- When using passive investment, risk control should be considered as part of the index composition or index selection. Market cap indices are cheap, but do not provide a natural mechanism for managing stock or sector concentration if this becomes an issue. As an alternative, investors can construct or use an index using a set of different rules that limits exposure to stock or sector concentration.

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An introduction to renewable infrastructure

There has been a surge of interest and investment into renewable infrastructure over recent years. This article discusses the sector and the investment opportunity in more detail, including the different types of renewable infrastructure assets, the types of funds that invest in these assets and why now is a good time to consider allocating to renewable infrastructure.

While both equity and debt investments into renewable infrastructure can be made, equity investment is by far the most common way of accessing the asset class and therefore the focus of this article.

What is Renewable Infrastructure?

Renewable infrastructure refers to a sub-set of infrastructure that is focused on harnessing energy (generation, storage and distribution) from renewable sources. There are three main sectors within this:

- **Solar** – harnessing energy from the sun.
- **Wind** – generating energy from wind either onshore or at sea (offshore).
- **Hydro** – harnessing the power of flowing water (e.g. tidal flows).

These three sub-sectors comprise the vast majority of the renewables market, although there are other well established renewable sub-sectors, such as biomass and energy conversion.

The Rise of Renewable Infrastructure

Fossil fuels (coal, oil and gas) currently account for close to two-thirds of electricity generation. However, countries are placing increased importance on how they source their energy, which has contributed to the rise in demand for renewable infrastructure assets. This, coupled with climate risks arising from the continued burning of fossil fuels and the general drive for a greener, more sustainable planet gives rise to a tailwind that should persist. A final supportive element has been the reducing cost of generating electricity from renewable sources, with the sector not as reliant on government subsidies as it once was.

Market Growth

The market in renewables is estimated by Bloomberg to be c$460 billion in size, with renewable infrastructure deals dominating the wider infrastructure market in recent years. This illustrates how much the sector has developed from a very small scale, fragmented market, with renewables comprising 57% of all infrastructure transactions completed in 2018.

Investment Considerations

There are three main stages in the lifecycle of a renewable infrastructure project (Table 1):

Table 1: Stages in the lifecycle of renewable infrastructure

Stage	Typical Timeframe	Description of Key Areas
Development	2 – 5 years	Designing the project, gaining relevant permissions and securing financing.
Construction	9 months – 3 years	Building the asset and connecting to the transmission grid.
Operational	25+ years	Operating and maintaining the asset, including asset management activities.

Once operational, assets typically have an expected life of around 25 years, and are amortising, with zero residual value typically assumed. This differs from many traditional infrastructure assets that tend to be perpetual.

Table 2: Expected returns from renewable infrastructure

Fund Style	Expected Returns
Build New – invest at construction stage	High single digit or low double-digit returns from capital growth initially and predominantly from income once operational.
Buy and Hold – invest in operational assets only	5-8% p.a.: normally exclusively from income with little upside potential.

Return Expectations

One of the key determinants of the expected return profile relates to the stage at which investment is made in the lifecycle of a project. Investors should expect to receive a higher return for investing in renewable projects before they are built compared to buying assets once they are fully operational. Table 2 outlines this based on two of the principal methods of gaining exposure to renewable infrastructure.

The vast majority of returns from renewable assets should come from the income received once the energy generated is sold to the wider market through the use of either government-backed contracts or Power Purchase Agreements (PPA):

- Government-backed contracts: These help set a price for a fixed period of time and are used where governments are trying to attract investment in renewables.
- Power Purchase Agreements: PPAs are agreements that fix the price per unit of electricity over the term of the agreement. They typically range from 8-15 years and are often struck between the owner of the renewable asset and a corporation looking to source its energy from renewables, although an increasing number of PPAs are struck with utility companies.

Most renewables managers will require the electricity generated to be sold using one of these two mechanisms as they look to avoid being exposed to the risks of receiving lower income if electricity is sold based on spot market prices which can fluctuate substantially. The returns from non-generation renewable assets that instead focus on the storage and distribution of electricity will vary significantly across the technologies.

Implementation

Investments in renewable infrastructure can be made either through a specialist fund or through a balanced infrastructure fund which invests in renewables alongside more traditional infrastructure assets. It should be noted that renewable infrastructure funds predominantly invest in the solar and wind sub-sectors only. Hydro assets tend to be very large and are monopolised by the large utility companies, although smaller-scale hydro opportunities do exist.

Specialist funds are growing in number, with global, regional and sub-sector only (i.e. wind or solar) strategies now available. Investing in these funds is an easier way to build up a renewables allocation relative to balanced infrastructure funds whose exposure is more difficult to predict over time.

Regardless of which type of fund is chosen, the most common way is to invest through closed-ended vehicles with fund terms of 10-15 years, although some specialist renewables funds have terms of more than 25 years. Fee levels for both types can vary significantly depending on the level of risk taken, with management fees in the range of 0.75-1.5% p.a. coupled with performance fees of 10-15% over a hurdle of c.6-7% p.a.

Key Risks

Investing in renewable infrastructure is not risk-free. The risks include (but are not limited to):

- Political and regulatory risk;
- Construction and development risk;
- Income risk; and
- Leverage risk.

Many of these are mitigated by infrastructure managers through careful selection and diversification of suitable investments by asset type, number of assets and geography. Government-backed contracts and PPAs also help to mitigate income risk.

The Role of Renewable Infrastructure in a Wider Portfolio

We view renewable infrastructure as an attractive addition to a growth (return-seeking) allocation or long-term enhanced income allocation depending on the underlying strategy.

The sector is becoming of sufficient scale to justify a standalone allocation to complement existing infrastructure investments. Competition in the market has been increasing and there may be some yield compression as assets are bid up, so manager and fund selection will be vitally important to reduce the risk of overpaying for assets. We are however, confident that disciplined managers with a competitive advantage to access and secure attractively valued deals can deliver on their risk and return objectives.

Summary

The rise in popularity of renewable infrastructure is likely to continue, aided by a supportive environment where environmental concerns are increasingly guiding investment decisions. While there has been relatively little investment into dedicated renewable infrastructure vehicles from UK pension schemes over the past decade, we anticipate that this will change as investors are attracted to the return profile, diversification benefits and responsible investment characteristics that can be achieved.

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Market returns to 31 December 2019

	Yield % p.a.		Returns to 31 December 2019 (sterling, % p.a.)		
	30-Sept 19	31-Dec 19	1 year	3 years	5 years
Equities					
Global	2.5	2.4	22.3	10.4	12.6
UK	4.2	4.1	19.2	6.9	7.5
Developed markets ex UK	2.3	2.2	23.4	10.8	13.4
Emerging markets	3.0	2.9	15.9	9.0	9.5
Bonds					
Conventional gilts	0.8	1.1	6.9	3.1	3.9
Index-linked gilts	-2.2	-1.9	6.4	2.8	6.0
Sterling corporate bonds	2.3	2.4	11.0	4.5	5.1
High yield (US) *	6.4	6.0	14.4	6.3	6.1
Emerging market debt	5.5	5.5	9.4	4.8	6.1
UK Property	-	-	2.1	6.9	7.4
Hedge Funds *	-	-	9.3	4.3	2.6
Commodities *	-	-	6.5	0.5	3.1

* Return in $

Source Datastream:
FTSE All Share
FTSE World Developed ex UK
FTSE All World

FTA Govt All Stocks
FTA Govt Index Linked All Stocks
iBoxx Corporate All Maturities

BofA ML US High Yield Master II
JPM GBI-EM Diversified Composite
UK IPD Monthly

Credit Suisse Hedge Fund
S&P GSCI Light Energy

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