REPORT PREPARED FOR

Worcestershire Pension Fund

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Independent Investment Advisor's report for the Pension Investment Sub Committee meetings

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Global overview

Markets continued their positive trend in Q4, despite surging inflation, central banks moving to a more hawkish policy stance and the resurgence of Covid as the Omicron variant pushed daily infections to new hights in December. Corporate earnings continued to beat expectations in Q4 and the growing evidence that the likely impact from Omicron would be less than initially feared, helped provide tailwinds in most equity markers in December. Developed market equities were generally strong with the S&P reaching fresh all-time highs, with only Japan retreating, as concerns for Chinese growth continued. Emerging Markets suffered over the quarter; the USD strengthened, with tightening policy, while Chinese equities were weak, following the summers' technology crackdown, amid continued concerns over property debt and the potential for lockdowns. Growth orientated stocks modestly outperformed Value stocks (+8.1% against +6.7%). Bond performance was mixed: index-linked gilts returned 5.4% on rising inflation expectations, while returns on shorter dated credit were more muted (US high yield bonds slightly up, European high yield bonds slightly down) as investors priced in a faster pace of rate hikes with the BOE. Energy commodities lagged, in contrast to metals.

GDP growth remained positive in Q4 for developed markets; the US posted +1.7% quarterly growth[1], the UK +1%, the Eurozone +0.3% and Japan +1.3%. With the reopening upswing now behind us and inflation continuing to run far above target economists will be considering whether central bank policies can bring inflation back in line with their target without stymieing growth. This has led the World Bank to predict global GDP growth to slow from 5.5% in 2021 to 4.1% in 2022. Though year-on-year S&P500 corporate earnings for Q4 are expected to grow by 21.7%, this is the first quarter that more companies are issuing negative guidance than positive since Q2 2020. Energy is the sector with the greatest increase in estimated earnings, whilst consumer discretionary and industrials have the largest decreases in estimated earnings.

Omicron: The discovery of this variant initially caused widespread market selloffs, particularly in the travel & leisure and hospitality sectors, and a risk-off attitude. Following the implementation of new travel restrictions and partial lockdowns across the globe, renewed vaccine booster campaigns, and further information on the variant, markets reassessed the likely impact of the variant. A broad-market recovery followed in December, with risk appetite increasing. China's continuing zero Covid policy has meant renewed lockdowns, potentially further impacting the domestic economy and global supply chains.

[1] Note: US GDP has been de-annualised to be consistent with the other regions.

It is worth highlighting the following themes, impacting investment markets:

Time to retire the word "transitory"; inflation is likely to be sustained, even if only in the short term: As inflation has continued to surge globally, central banks have moved away from their previous position that the price rises are transitory. In the US, December CPI hit a multi-decade high of 7.0% while Eurozone reported 5.0% and in November the UK reported 5.1%. Critically, core inflation (excluding food/energy) in December hit 5.5% in the US and is expected to hit 4.0% in UK, indicating more widespread/persistent effects. While most economists expect inflation to return to modest levels (2-3%) over the next couple of years, there is increased risk that central banks may have difficulty bringing inflation in line with their target without causing economic harm.

Monetary policy is tightening, and interest rates increasing, but rates are still negative in real terms: The Federal Reserve indicated at the end of the year, that it would start to unwind the $120 billion monthly asset purchase programme, which is likely to have ceased entirely by mid-2022, while the market is now discounting 3 x 0.25% interest rate increases in 2022. Equally, the BOE voted to increase the Bank of England base rate to 0.25% from 0.1%, becoming the first major central bank to raise its benchmark interest rate. UK 10-year rates declined from 1.04% to 0.97% over the quarter. In contrast, the ECB is likely to continue with expansionary monetary policy, despite surging inflation.

Increased volatility expected: With increased risk of policy errors/overshoots as central banks tackle inflation, the potential for investment style (e.g. growth/value) volatility due to an inflection point in the interest rate cycle and uncertainty as to the impact of Omicron, particularly on China with its zero Covid policy, there is the potential for significant under/over performance between asset classes, emphasising the importance of diversification for those concerned about volatility.

Summary and Market Background

The value of the Fund in the quarter rose to £3.58bn, an increase of £122m compared to the end September value of £3.46bn. The Fund produced a return of 4.3% over the quarter, which was 0.7% ahead of the benchmark. The main reason for the outperformance was due to both of the active equity mandates performing ahead of benchmark along with the infrastructure investments. The equity protection strategy has also made a positive contribution to performance. Over a 12-month period the Fund recorded a negative relative return against the benchmark of -1.0% (11.7% v. 12.7%). The Fund has performed ahead of benchmark over the three, five and ten year periods, details of which can be found in Portfolio Evaluation Limited's report.

The equity protection strategy mandate with River & Mercantile has been *implemented to secure some protection to the funding level* against a relatively significant fall in equity values. One of the key decisions within the asset allocation review was to continue with a relatively high percentage of the Fund's assets (70%) being invested in equities. It was decided that an equity protection overlay will form part of the overall risk management strategy, with the objective of continuing to provide some protection to the funding level in the event of future significant falls in equity markets (as seen in Q1 2020). With the benefit of experience gained from the earlier stages of the equity protection strategy, the positioning of the strategy will be monitored more closely going forwards, looking in particular at the dynamic movements of the three individual regional markets covered by the strategy (US, Europe and UK).

Work has continued towards increasing the allocation to the alternatives portfolio (up to 20% from 15%) in a cost effective manner. The Fund has been working with LGPS Central to identify what part they could play in this process and how that would work alongside the existing investments, ensuring that a suitable diversification of investments is maintained and as appropriate, enhanced. It was agreed at the PISC meeting on 21st September to allocate £50m to the First Sentier and £75m to the Stonepeak follow on funds, subject to fee negotiations. This has now been finalised. A provisional allocation of £30m was also made to the LGPS Central Infrastructure Fund, subject to detailed proposals being approved. Research has been undertaken into an investment of £150m with Gresham House Forestry Fund spread over three years, which would be held within the property portfolio. This was approved at the PISC meeting on 24th November, with the first tranche of £50m already committed with a further £50m likely to be committed in the near future.

The work commissioned by the Pensions Committee to manage Environmental, Social and Governance (ESG) and Climate issues in a more proactive manner across all of the Fund investments has continued, by considering possible alternatives to the current passive

mandates that would incorporate a greater focus on ESG considerations, while maintaining or enhancing returns in a risk-controlled manner. Following the PISC approval to switch the Fundamentally Weighted (Value) element into the LGIM Quality companies portfolio and to transition the Low Volatility element of the LGIM Alternative Factors portfolio to the LGPS Central All World Climate Multi Factor Fund, these transitions took place in October and November respectively. These elements contained the highest exposures to carbon within the Fund, so this clearly demonstrates that that decisive action is following on from the research and discussions that have taken place over the last two years. Following due consideration at the PISC meeting on 24th November, it was agreed that 15% of the value of the passive market capitalisation portfolio would be transitioned to the LGPSC Global Sustainable Investment Fund, allocated to Liontrust (60%) and Baillie Gifford (40%).

Performance during Q4 2021 has again been a bit of a mixed bag, although on this occasion we have succeeded in being in some of the right places. While the Fund's relatively high allocation to equities has continued to perform well in comparison to other asset classes, the detail within equity allocation has been challenging despite the partial rebalancing of regional weightings. World equity markets again had a very mixed performance experience during Q4 as described below, with Emerging Markets as a whole being hit by political control being applied in China, but some other EM countries performed well. Our active equity managers had a better quarter in relative performance terms with Nomura (Pacific) showing an outperformance of 2.0% in their new guise, LGPS Central (Emerging Markets) were in positive territory by 0.7% (but a mixed bag from the three underlying managers; two ahead and one behind benchmark). LGPS Central (Corporate Bonds) were -0.1% behind their benchmark. The total property fund showed an underperformance against our own benchmark of -4.1%, but has moved ahead slightly in absolute terms. Infrastructure performed well, which given our heavier weighting versus property enhanced the total alternatives performance.

The alternative passive strategies outperformed the passive equities benchmark by 1.1% (7.1% v. 6.0%). Passive equities outperformed active market equities by 6.7% (6.0% v. -0.7%), which reflects the good performance from the passive index markets in comparison to the Far East and Emerging Markets portfolios. Out of the passive geographies, the UK lagged this time, up 4.2% over the quarter, while North America was up 9.5% and Europe up 5.2%.

Equities

Global equities had a mixed Q4, there was strong performance across most of the developed markets, while Japan and Emerging markets suffered declines. Over the quarter, renewed COVID fears due to the Omicron variant and increased restrictions, along with a shift to hawkish central bank policy to combat surging inflation dominated the headlines. However, markets rebounded in December, as markets reassessed the level of severity of the variant,

with the MSCI World finishing the quarter at its highest end of year close. The VIX decreased by -25.6% in Q4, from 23.1 to 17.2. Growth continued to outperform Value (+8.1% against +6.7%).

US equities, measured by the S&P 500, posted strong gains over Q4 with the S&P 500 rising +11.0% and the tech heavy NASDAQ rising +11.3%. Despite the many headwinds, including lingering supply chain disruption, surging inflation and a move to more hawkish monetary policy, the US was the best performing region over the quarter. US companies continued to beat analysts' expectations, and Biden signed the long-awaited infrastructure bill, whilst the Federal Reserve acted in line with market expectations in announcing QE tapering. This propelled markets in October and early November. However, markets were hit by a more hawkish stance from the Federal Reserve along with fears of the Omicron variant. Markets ended Q4 strong, despite surging infection rates, with the US implementing limited new restrictions, and markets reassessed the likely economic impact of the new variant. The S&P 500 ended year at all-time highs. The technology and real estate sectors were the best performing, while energy and financials lagged.

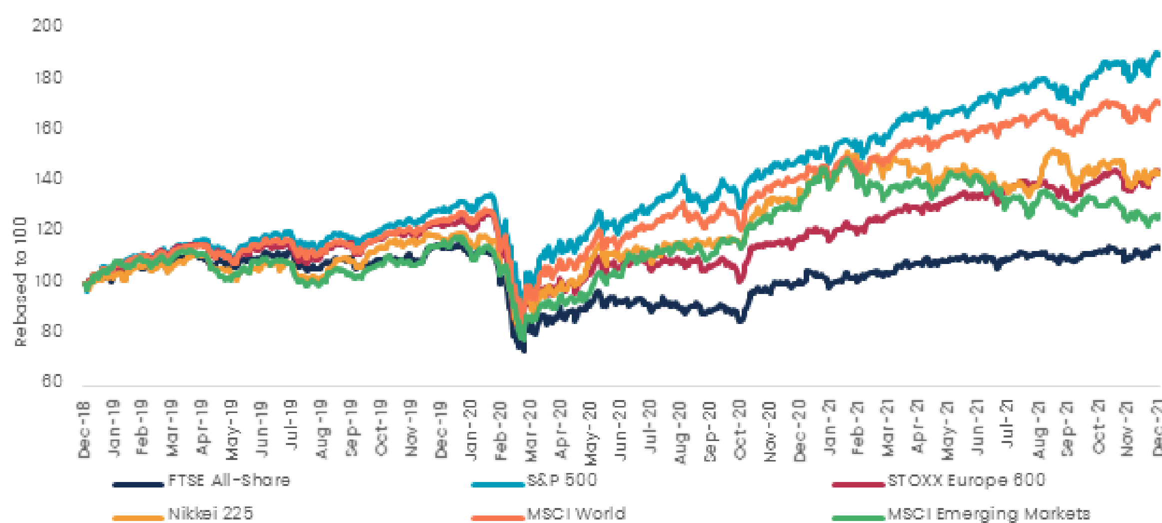
UK equities performed well over Q4, with both the FTSE 100 (+4.7%) and FTSE All-share (+4.2%) indices delivering positive returns. While there was strong performance through October concerns around Omicron caused a broad market selloff, particularly in the energy, travel, and leisure sectors. However, these fears had largely abated over December with bright spots amongst Banks and internationally diversified consumer staples groups. Ongoing supply chain disruptions have continued to cause pain for the retail sector, despite robust consumer demand, backed by falling unemployment.

The Euro Stoxx 50 increased by +6.5% over Q4. Much like the US, performance was supported by strong corporate earnings, outweighing the impact on travel and hospitality of restrictions imposed by some nations. The communication and real estate sectors lagged the index while utilities and IT were some of the strongest performers.

Japanese equities underperformed other developed markets in Q4, declining -2.1%. Despite the Liberal Democratic Party's election success in retaining a majority and the subsequent passing of a $490 billion stimulus package, including direct handouts, December's gains were not enough to offset losses in October and November.

Emerging market equities were negative over the quarter (-1.4%), and the only market we track to suffer a decline over 2021, equal to -2.5%. Turkish equities, as measured by the Borsa Istanbul 100, suffered heavily, due to inflation hitting a 19 year high of 36%, and increasingly dovish monetary policy; an approach President Erdogan is belligerently sticking to. Chinese equities continued to perform poorly, both those listed within mainland China and those listed on foreign exchanges; technology related stocks were particularly disappointing, especially when compared to their western counterparts. Furthermore, ongoing concern around the Chinese property market and the effects of a potential slowdown on the broader economy were another worry. Despite the overall EM losses, Egypt, UAE and Peru all had a positive quarter. Taiwan benefited from its IT and semiconductor sector despite escalating tensions with China.

Global Equity Markets Performance



Source: Bloomberg. All in local currency.
FTSE All- Share Index (Ticker: ASX Index) S&P 500 Index (Ticker: SPX Index) STOXX Europe 600 (Ticker: SXXP Index)
Nikkei 225 Index (Ticker: NKY Index) MSCI World Index (Ticker: MXWO Index) MSCI Emerging Markets (Ticker: MXEF Index)

Fixed Income

Bonds had a mixed quarter as markets reacted to the impacts of the Omicron variant, rising inflation and tightening monetary policy. Government bond yields declined in Europe and the UK, but rose in the US. The short end of the yield curve moved higher in the US and the UK as investors priced in a faster pace of rate hikes, despite the Omicron variant. Corporate investment-grade bonds performed broadly in line with government bonds over the quarter, while US high-yield corporate bonds were positive.

The 10-year US Treasury yield ended the quarter two basis points higher at 1.51%, with Treasuries as a whole providing a total return of +0.2%. Earlier in the quarter, the yield reached 1.7% as the Fed turned increasingly hawkish amidst persisting inflation and a tightening labour market. US CPI jumped to 6.8% in November, the highest reading in 39 years. In response, the Fed announced plans to accelerate the tapering of asset purchases from $15 billion to $30 billion per month, starting in January. However, the Committee voted to maintain the federal funds target rate at the current level. Yields fell to a low of 1.34% in early December over Omicron fears, before recovering as emerging data from the UK and South Africa indicated a lower risk of severe infection. The impact of tightening policy and a weaker future growth backdrop led to a flattening of the US yield curve, with shorter-dated bond yields increasing significantly.

The 10-year Gilt yield declined from 1.04% to 0.97%, with Gilts delivering a total return of 2.6%. Yields dropped sharply in November when the Bank of England opted not to raise rates, against market expectations. Yields recovered in December however, as fears over Omicron faded and the BOE raised rates by 0.15% to 0.25%. Index-linked Gilts had another strong quarter following a further rise in inflation to 5.1%, with the over-5 year and over-15-year index-linked bonds returning +5.4% and +6.2% respectively. A record 1.2 million job

vacancies reported in Q4 suggest price and wage increases have the potential to be sustained.

European government bonds provided a total return of -0.5%. The European Central Bank reaffirmed their dovish stance, despite Eurozone inflation reaching the highest level in 30 years. In stark contrast to the US and UK, the ECB have provisionally boosted their monthly bond purchases, aiming to create a more cushioned exit from its pandemic stimulus.

US high yields continued their strong performance, returning +0.7%, despite flat performance for European high yield. UK investment-grade bonds returned +0.6% over Q4, performance was flat in Europe and positive in the US (+0.2%).

Currencies

In the fourth quarter, Sterling strengthened against the Dollar (+0.5%) and the Euro (+2.2%), as the Bank of England adopted an increasingly hawkish stance, especially when compared to the European Central Bank. The Dollar had another solid quarter (Dollar Index Spot rose +1.5%), boosted by the Fed's acceleration of tapering which will pave the way for more imminent rate hikes. The Euro weakened notably against the Dollar in Q4 (-1.7%), with the ECB's monetary stance continuing to lag the Fed's.