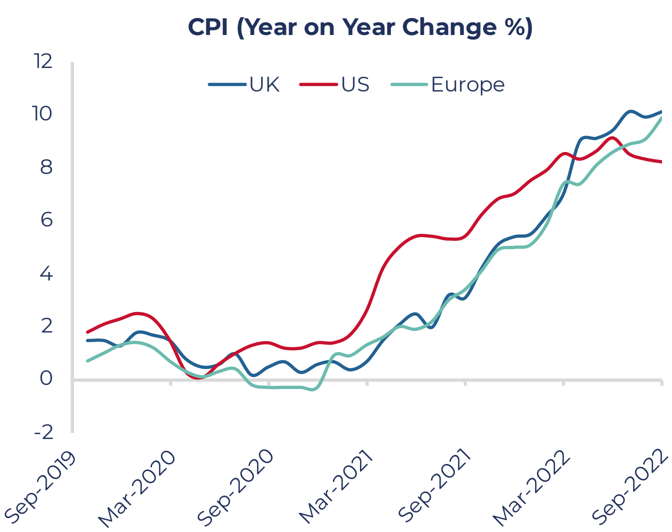
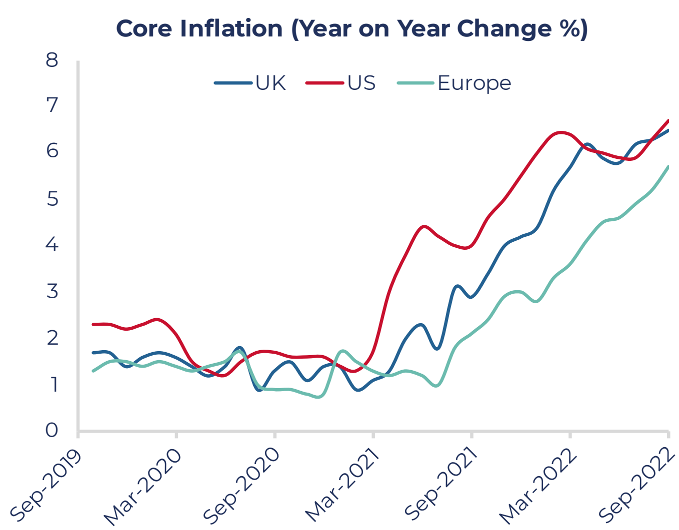
Guinness Atkinson
Global Innovators Fund
Managers Update – November 2022

October in review:

Key themes of inflation, interest rates and recessionary risks have dominated investor focus for the majority of 2022, with significant attention towards the actions of the Federal Reserve given their inherent role in each of these factors. The Federal Reserve is 'dual-mandated' to achieve maximum employment and stable prices, and with inflation near four-decade highs and unemployment near five-decade lows, since March they have implemented the fastest rate-hiking schedule on record. Any indication that the Fed may deviate from the consensus view of when a pivot may occur has tended to result in a meaningful market reaction. This was certainly the case in early October.

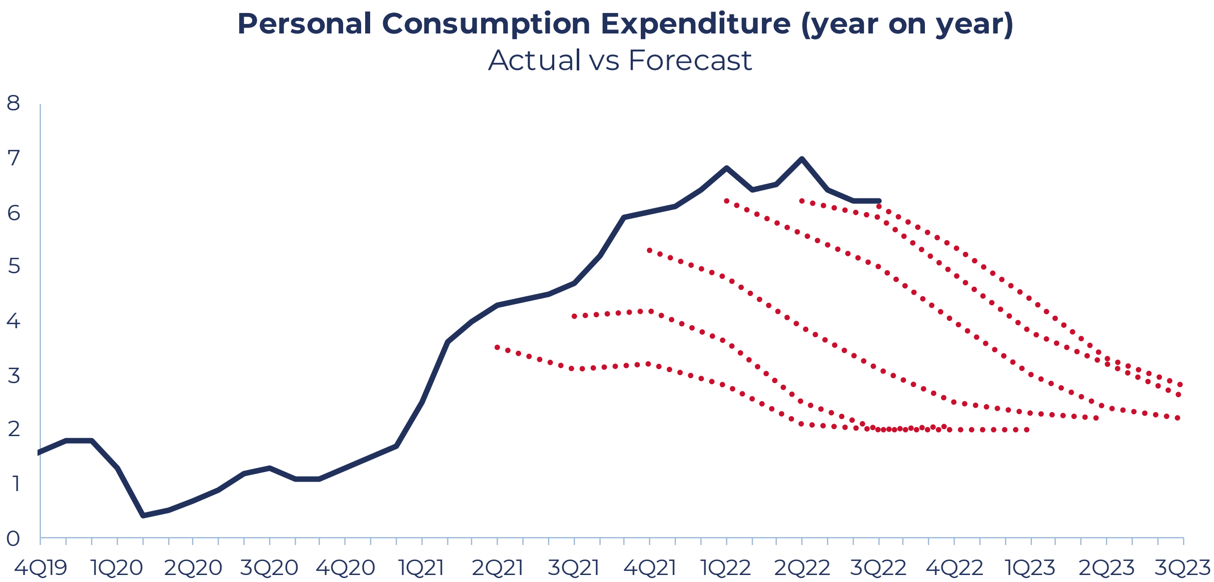
US inflation data for September was relatively disappointing. While headline inflation remained at 8.2% year-on-year (seasonally adjusted), core inflation rose to 6.7% year-on-year (from 6.3% a month prior), up +0.6% on a month-on-month basis.





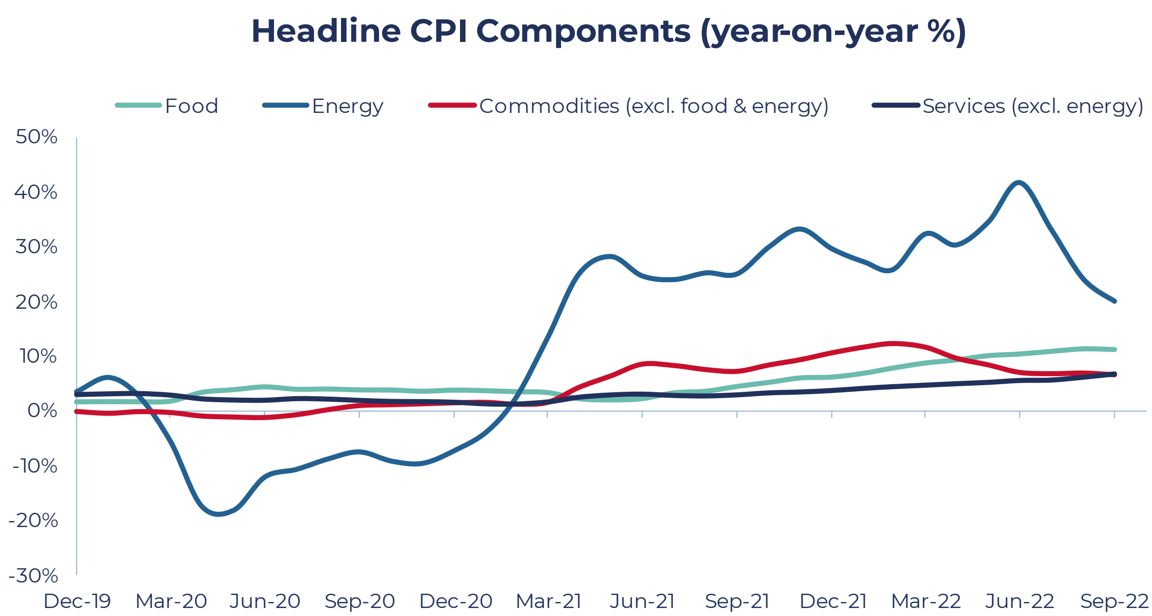
Source: Guinness Atkinson Asset Management, Bloomberg, as of 10/31/2022

As has been commonplace over the past year and a half, these measures were ahead of market expectations. Since March 2021, when inflation breached the Fed's 2% target rate for the first time this cycle, headline CPI (Consumer Price Index) year-on-year figures have surprised to the upside fourteen times, been in-line four times, and surprised to the downside just once. The picture is similar when looking at the Fed's preferred inflation measure, Personal Consumption Expenditure. The chart below highlights how the market has consistently underestimated the 'staying-power' of inflationary forces, continually predicting inflation to fall off from current levels.



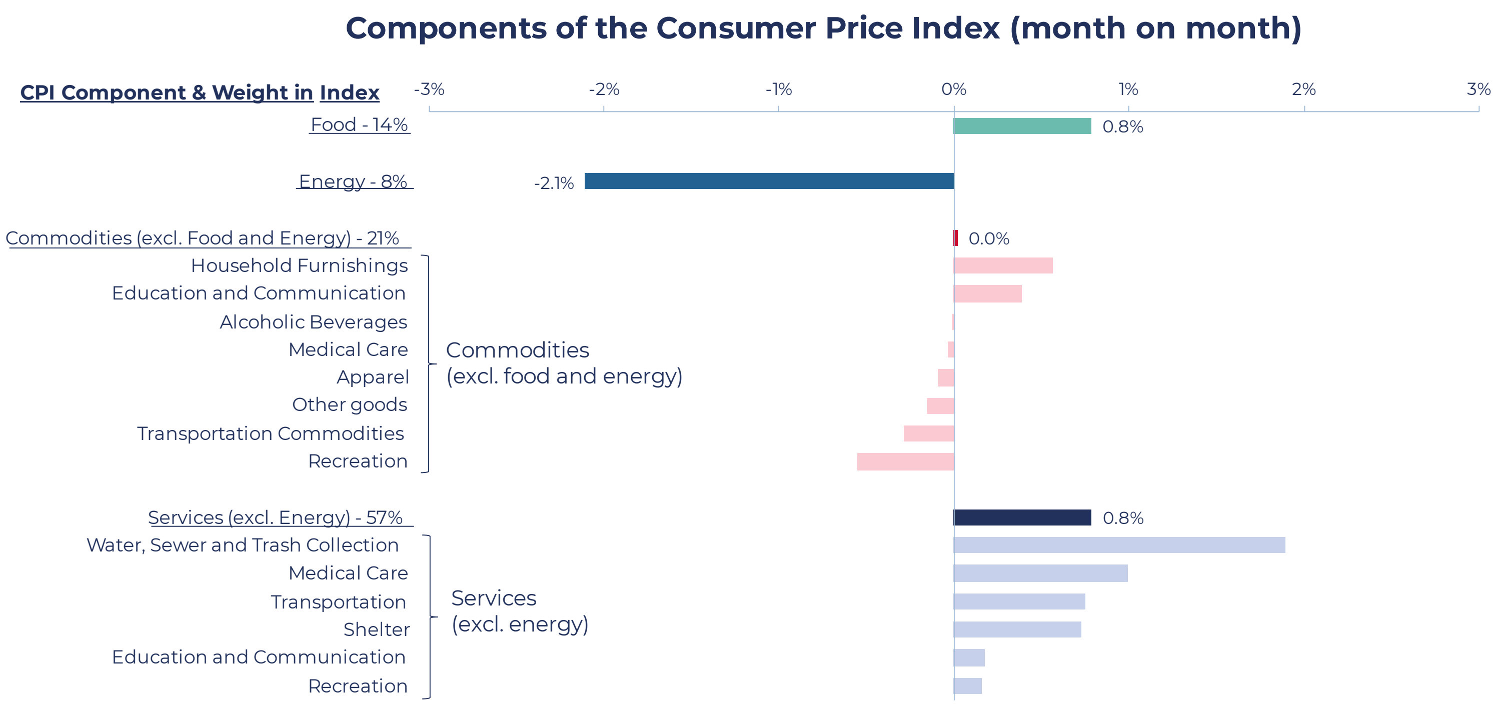
Source: Guinness Atkinson Asset Management, Bloomberg, as of 10/31/2022

There were certainly bright spots within October's numbers. Prices in energy, which have placed upward pressure on overall inflation over the past 18 months despite making up less than 10% of the index, continued to decelerate to 19.9% in September following a peak of 42.5% in June. Markets have also been encouraged by the fact that commodities (excluding food and energy) have been on a strong downward trend since March 2022.



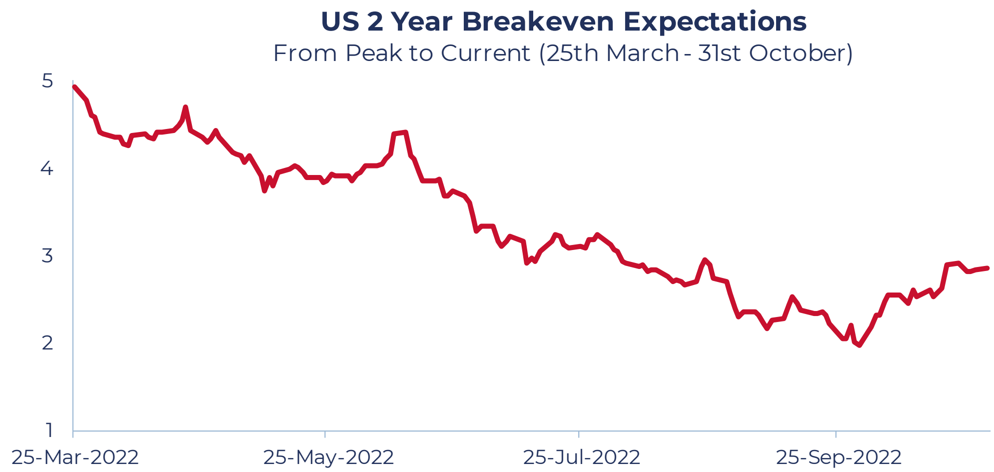
Source: Guinness Atkinson Asset Management, Bloomberg, as of 10/31/2022

There were elements that concerned the market too. Breaking out the different segments within CPI on a month-on-month basis gives a good indication of the current price pressures faced by consumers. Over September, there was a stark difference between inflation within Commodities (excl. food and energy) which came in flat month-on-month, and Services (+0.8%). Not only does Services make up over 50% of the CPI index, but Services are inherently labor intensive since wages typically the largest input cost to service providers. Strong growth in inflation within this segment is an indication that the persistently strong labor market has contributed to wage growth, which in turn is contributing to inflation. Wage growth is typically 'stickier' than price pressures in commodities, energy and food, the concern here being that inflation becomes more 'entrenched' in the market.



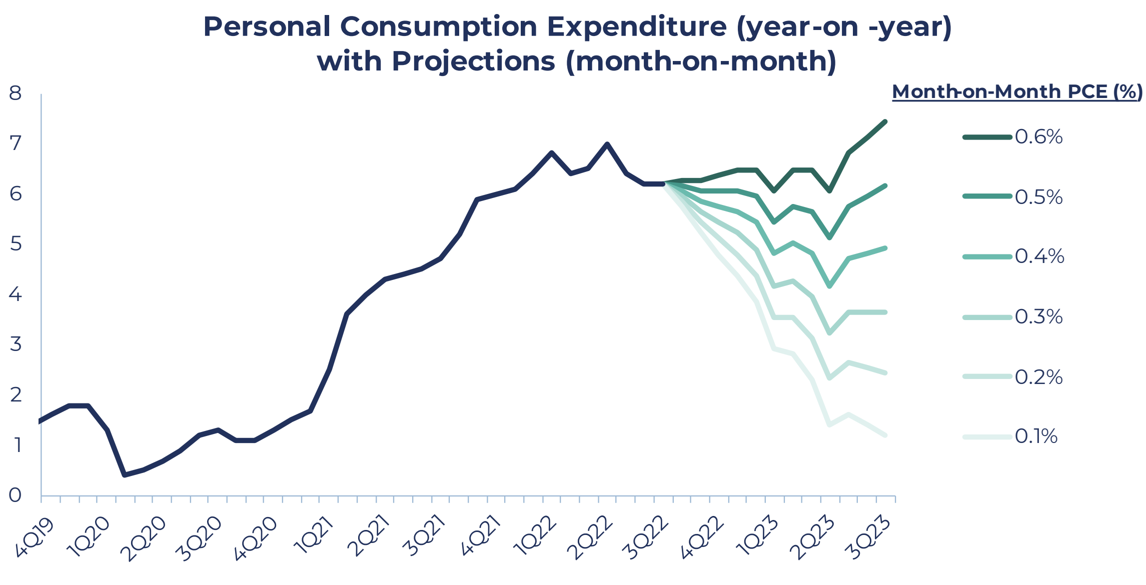
Source: Guinness Atkinson Asset Management, Bloomberg, as of 10/31/2022

The 2-year US Government Breakeven, which gives an indication of market expectations of average inflation over a 2 year time horizon and has largely been on a downward trend since March, reversed course somewhat over October. This suggested that markets may now be tempering their views on inflation following a prolonged period of optimism.



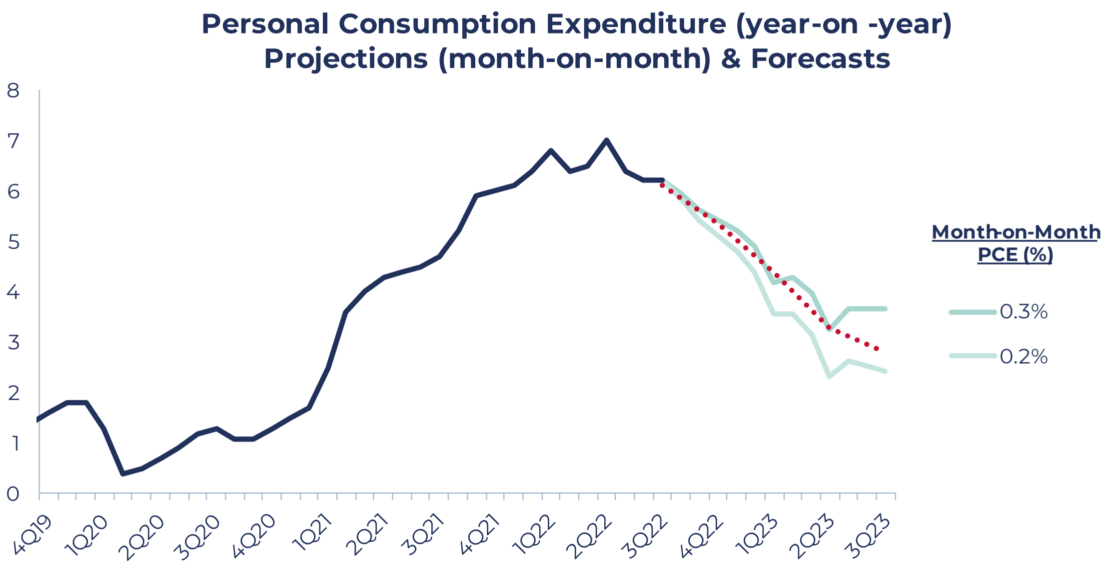
Source: Guinness Atkinson Asset Management, Bloomberg, as of 10/31/2022

Returning to the Fed's preferred measure of inflation, the below chart projects forward Personal Consumption Expenditure (PCE) inflation on a year-on-year basis over the next 12 months, assuming that month-on-month numbers remain flat. This graph indicates that a month-on-month figure in the realm of 0.5% (or above) would not contribute to a meaningfully lower level of inflation in 12 months' time.



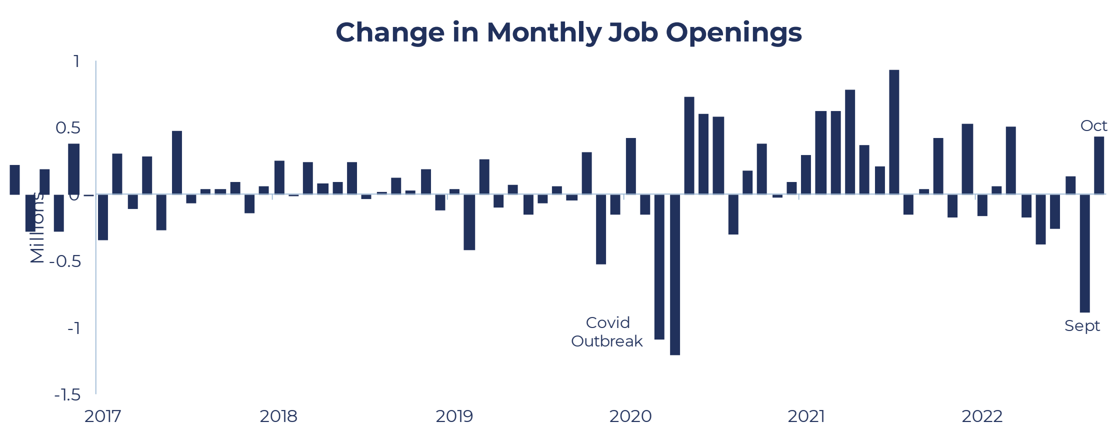
Source: Guinness Atkinson Asset Management, Bloomberg, as of 10/31/2022

Combining the above graph with the PCE 'Actual vs Forecast' graph used earlier suggests that the market expects PCE month-on-month growth of between 0.2 and 0.3%, on average, over the next 12 months. Clearly, the market's recent success rate at predicting the path of inflation has been low, and we are certainly cautious of the upside risk scenario – that inflation is more persistent than expected.



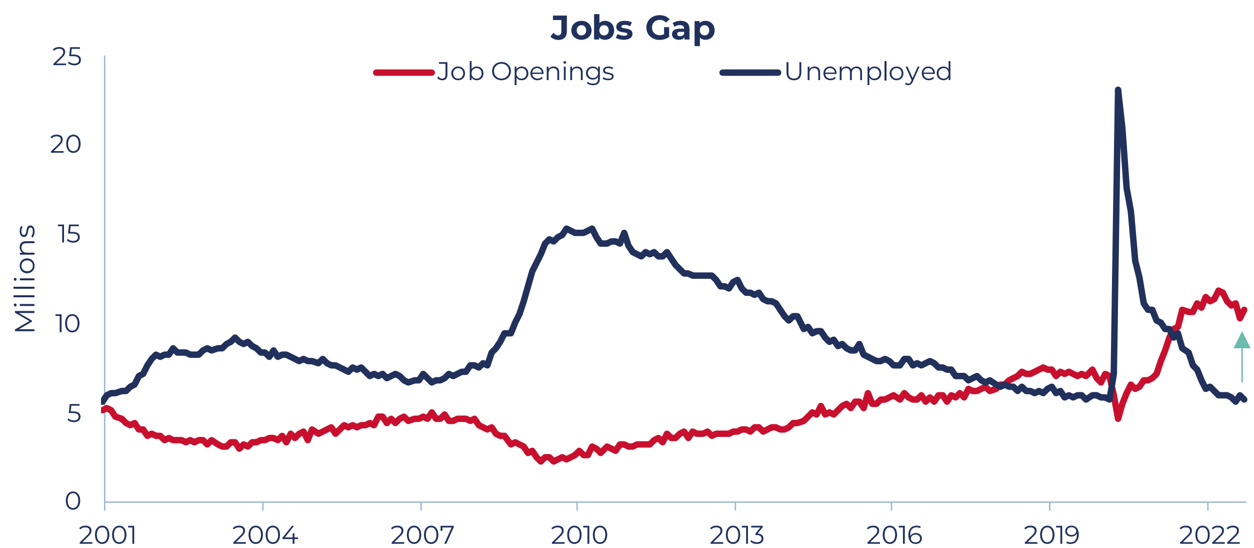
Source: Guinness Atkinson Asset Management, Bloomberg, as of 10/31/2022

The Federal Reserve's dual mandate means they must undertake a careful balancing act, ensuring that inflation comes down without slowing the economy to the extent that unemployment becomes problematic. The continued strength of the labor market (despite the Federal Reserve removing stimulus from the market since March) has caused concerns that the Fed may now be emboldened to continue hiking further and for longer. Data that suggests a weaker labor market could indicate a need for the Federal Reserve to begin thinking about delivering more accommodative monetary policy. The issue markets have been facing of late is that jobs data has been very 'noisy', with investors unable to gauge accurately the overall trend of the jobs market. On one hand, the US labor market reported a significant drop in job openings in September, with new job openings falling by 0.9 million. October's numbers (released at the beginning of November) then showed a significant reversal, to the tune of 0.45 million jobs.



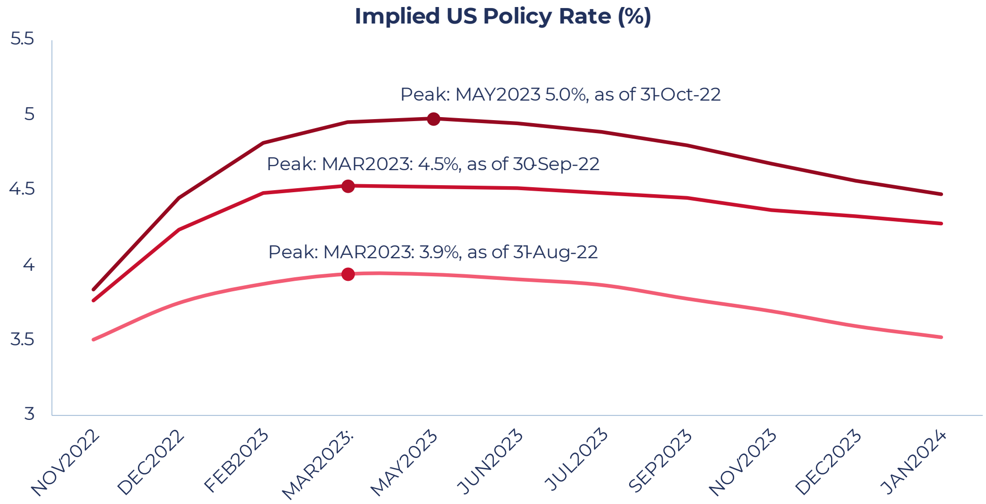
Source: Guinness Atkinson Asset Management, Bloomberg, as of 10/31/2022

Another indication of the strength of the labor market is the 'jobs gap' that has opened up. The number of job openings in the US far outstrips the number of unemployed, giving employees significant power in wage negotiations, with concerns that this could drive wage growth significantly higher (+4.7% year on year in Q3 2022). Should wage growth become 'entrenched' within the economy, this could create a sizeable headwind for inflation yet. Note that a jobs gap of this size hasn't occurred since the US labor department began tracking the data in December 2000.



Source: Guinness Atkinson Asset Management, Bloomberg, as of 10/31/2022

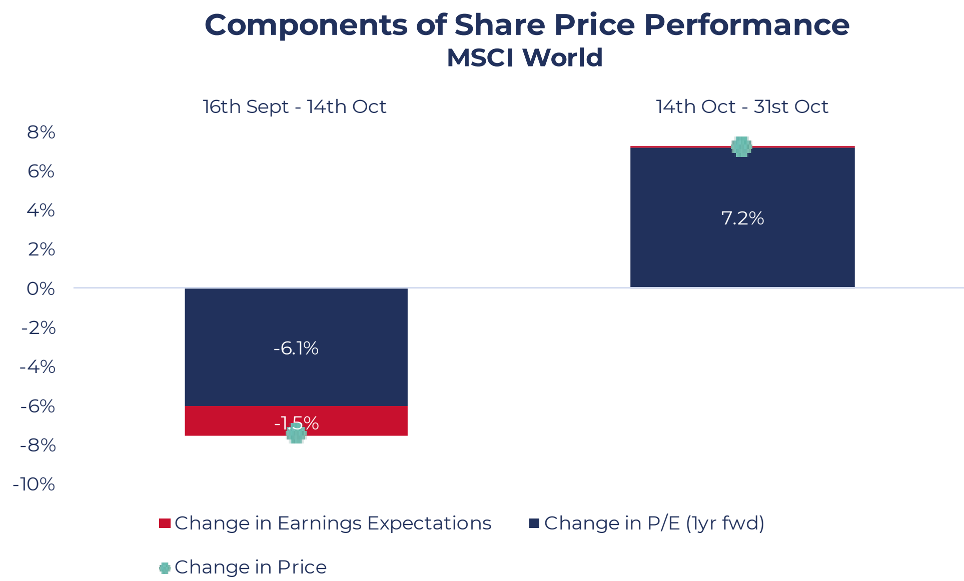
With a continually strong jobs market and inflation holding up at elevated levels, there has been a considerable shift in the implied US policy rate. Investors are now pricing in a higher and later 'peak-rate' of 5% in May 2023, compared with a peak rate of 4.5% in March 2023 at the beginning of the month of October. Attempting to judge the exact turning point of either the jobs market or inflation has proven to be a fruitless endeavor for much of the market over the past 18 months, with noisy jobs data and inflation proving to be more persistent than market expectations. With this, we are again cautious that the curve of the Implied US Policy rate could again shift upwards and to the right – as has so often been the case in recent periods. Since growth stocks are typically more sensitive to interest rates, this could drive a meaningful headwind for growth, and therefore the Fund.



Source: Guinness Atkinson Asset Management, Bloomberg, as of 10/31/2022

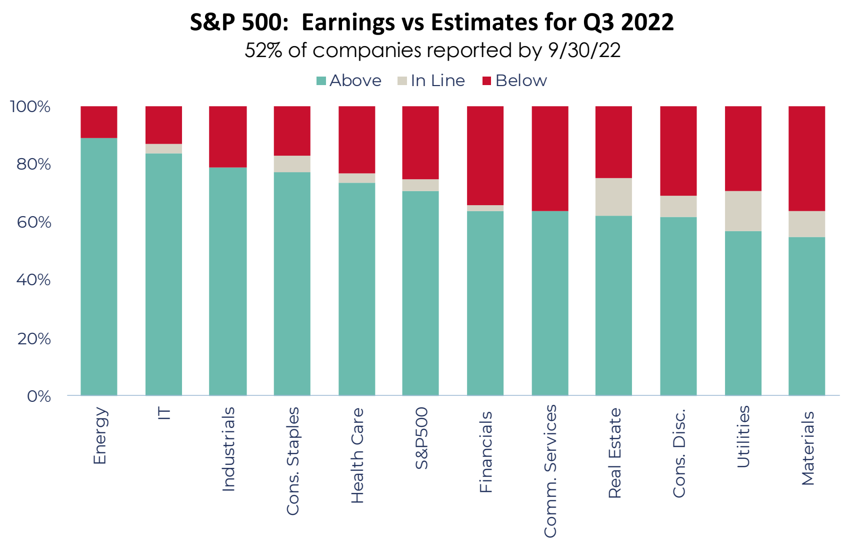
We believe the secular growth trends and innovation themes that our companies are exposed to, matched with a quality focus and a valuation tilt, deliver a strong fundamental outlook for our companies. Indeed, we believe there is a good argument for high quality, secular growth stocks in the current market environment, especially in a recessionary and/or slower growth environment, as these companies should continue to be able to grow despite the market headwinds and have better fundamental characteristics in terms of margins and balance sheets. The significant de-rating of many of these companies over the past year may provide a better opportunity in terms of valuation today, but we note this does not preclude the potential for further market de-rating in the near term as the future path for the global economy, interest rates and broader geopolitical situation remains uncertain.

Turning to company earnings season, investors were focused on any signs of an economic slowdown affecting profitability. The difficult macro environment had already fed through to tempered expectations. In the four weeks prior to earnings season (which began in the third week of October), the MSCI World Index faced a 1.5% downgrade to earnings expectations for 2022.



Source: Guinness Atkinson Asset Management, Bloomberg, as of 10/31/2022

FactSet estimates showed that the market was predicting an earnings growth rate of 2.2%, on average, for the S&P 500, the lowest earnings growth rate by the index since Q3 2020. By the end of October, 52% of S&P 500 companies had reported, of which 71% came in ahead of expectations. It is worth noting that the surprise to the upside has been modest at just 2.2%, on average, above consensus (despite these tempered expectations), the second-lowest amount in the past nine years and significantly below the 5-year and 10-year averages (8.7% & 6.5% respectively). Despite this, share prices have held up relatively well, with multiple expansion of 7.2% in the latter half of October, despite no change in earnings estimates for the full year. Given the significant negative sentiment that had already been built into consensus and the macro-environment in general, it could be argued that these results were simply less bad than previously feared.



Source: Guinness Atkinson Asset Management, Bloomberg, as of 10/31/2022

Stock Specific News – A focus on 'Big Tech' Earnings

Despite a broadly positive earnings season, the MSCI World rising ~7% from the beginning of earnings season (around the 17th of October) until the end of October, there was one high-profile segment which delivered surprisingly weak results – Big Tech. Below, we take a brief look at a couple of the core themes that drove this weakness: cloud computing and advertising.

Cloud

Cloud market leaders **Amazon** (-9.4% USD over October) and **Microsoft** (-0.3%) noted a marked slow-down in their cloud computing businesses. Azure, Microsoft's Cloud product, still grew a strong +42% in the quarter (only 1% below analyst expectations), although markets were primarily concerned with guidance of a 5% slowdown for the final quarter of 2022. Amazon's cloud department, AWS, which has often helped offset weakness in retail growth over 2022, rose +28% in the quarter - the first time that the unit had grown less than 30%. Both tech groups noted significant pressure on margins, due to high energy costs from energy intensive data centers, and both companies also cited that the slowdown in revenue was driven by customers wanting to control costs. While a headwind for growth, both firms were proactively helping customers transition to more cost-effective plans. On the other hand, cloud computing was a relative bright spot for the market's third-largest cloud player, **Alphabet** (-1.2% USD), which grew its cloud segment +38% year-on-year. While the segment beat estimates, the firm did note that customers are now taking longer to sign deals given the macro uncertainty and are often settling instead for shorter contracts.

While it is clear that margins are likely to contract and demand is likely to come off in the coming quarters, the long-term outlook of these segments remains very strong, in our view. Cloud computing remains a highly profitable, long-tailed, structural growth opportunity, and as the leaders in the segment, Amazon, Microsoft and Alphabet are likely to be the key beneficiaries. We continue to believe that the secular transition of cloud, paired with its high quality, recurring nature, makes the theme less vulnerable to an economic downturn than other areas of the tech market, particularly as the product can help customers cut costs in a recessionary environment, supporting overall demand.

Advertising

A weakening advertising environment was evident during Q3 earnings, as recessionary fears led to increasing hesitancy in ad spending. As businesses are driven towards a pullback on spending, marketing budgets are often the first to be cut. **Alphabet** and **Meta** (-31.3% USD), who take the majority of revenue from ads (79% and 98% respectively), suffered meaningful sales pullbacks and offered broadly weak guidance for the following quarter.

For **Alphabet**, their core *Search* business segment missed analyst estimates (+4% year-on-year vs 8% consensus), a severe slowdown from post-pandemic levels (the prior 8 quarters averaged ~30%). YouTube reported a drop in revenues for the first time, with performance coming in weaker than analyst forecasts (-2% year-on-year vs 4% expectations). The miss was a result of a shift in media consumption towards 'Shorts' (which is in its infancy of monetization), alongside the overall pullback in business spending. Alphabet noted that the firm was lapping a tough comparable prior year, when the firm benefited from a shift to online advertising over the pandemic. With revenue growth decelerating and headcount increasing, this has put pressure on margins. **Meta's** advertising revenues actually held up better than expected, down -1% in constant currency terms, with strong ad volumes (+17%) but lower prices per ad (-8%) - a result of a shift towards shorter form content, Reels. The firm highlighted that the share of time spent on Reels versus TikTok was growing – a positive indicator of product relevance. Looking forward, Meta stated that demand was weakening for ads due to an *"uncertain and volatile macroeconomic landscape",* particularly from larger advertisers and the industry verticals of online commerce, gaming and financial services.

While short-term headwinds in advertising are significant, we remain positive on the long-term outlook for Meta and Alphabet. Both firms hold strong market positions. Meta has an extremely large user base (3 billion monthly active users), with improving consumption and engagement trends. Google also commands a significant economic moat, taking a market leading position in data rich search and video platforms. These elements make both firms very difficult to ignore from an advertiser's perspective. Alphabet and Meta have also proven to be successful at bringing new products to the market, even when they are not necessarily the 'first to market'. 'Shorts' and 'Reels' are prime examples which are not just proving popular amongst users (improving share against TikTok), but creating new product avenues for advertisers and additional, albeit slightly cannibalistic, revenue streams. As a cyclical business, we expect the current weakness in advertising to be temporary, with a rebound likely as the macro-outlook improves.

<u>Other</u>

Both Apple and Meta were subject to additional themes not covered by cloud or advertising and are discussed separately below.

<u>Apple</u>

Out of the 'Big Tech' members, **Apple** (+11.0% USD) delivered the strongest set of results, overcoming key investor concerns of a weakened consumer spending environment that would impact volumes. Warnings of currency headwinds and supply challenges for iPhone going forward caused an initial fall in after-hours trading, yet the stock finished in positive regions following the earnings call. Of the other Big Tech names, Apple was the only name to report bottom line growth (albeit just +0.8% net income). The mix of strength was perhaps the biggest surprise in the results, with Mac and Wearables outperforming expectations following pent-up demand and new product launches. iPhone delivered a quarterly record of 'upgraders' and double-digit growth in 'switchers', and the installed base continued to grow moderately to record highs - a tailwind for the Services segment that reached a record high of 900mn subscribers on a recurring revenue subscription. While consumer weakness induced by macro-uncertainty is clearly the largest concern, the underlying strength in the product portfolio is clear.

Meta

Meta ended the month as the Fund's bottom performer, falling -31.3% in USD terms. Despite the severe price reaction following the earnings release (about -20% at open), quarterly results were pretty resilient. The business delivered positive revenue growth on a constant currency basis (2%) and a slight surprise to the top-line (+1.1%), as well as a surprise to gross profit of +1.6%. Apple's data privacy policies and economic uncertainty, as well as the strong dollar, contributed to an absolute revenue decline of 4.5%. The firm has now lapped the impact of these privacy changes, so this should not be a growth headwind going forward. In addition, the firm highlighted an encouraging improvement to user count and overall engagement, with Daily Active users up +4% year-on-year. Only one region declined in users from last year, Europe, following Meta blocking Russian users after the outbreak of war in Ukraine. The firm has clearly made positive ground with efforts to increase content consumption as well as improve engagement, allowing them to offer more products to advertisers in the process.

The negative price reaction was driven by investor concerns over cost control and the level of investment going into long term projects. Free cash flow dropped from nearly $10bn in 3Q21 to just $173mn in 3Q22, due to substantial investment. Revenue guidance for Q4 was below expectations ($31.3bn vs $32bn), but the significant operating expenses and capital expenditures (OpEx/CapEx) growth in 2023 was significantly higher than expectations and the crux of investor concerns. These investments will go towards Metaverse, in particular AI and data center infrastructure, and will put a significant dent in profitability in 2023. Relatively low visibility into when, and even if, these investments will yield a return has led to this negative market reaction. While a concern, much of this investment into the Metaverse has already been made and in relative terms, the company has guided for lower levels of CapEx as a percentage of revenue post 2023. In addition, CapEx will not grow faster than the bottom line. The fact that the firm has committed to cost reduction measures, including reducing headcount and office space, also gives comfort that the firm is committed to cost control.

Portfolio Managers

Matthew Page, CFA

Dr Ian Mortimer, CFA

Summary performance

In October, the Guinness Atkinson Global Innovators Fund provided a total return of 5.39% (USD) against the MSCI World Index net total return of 7.18% (USD). Hence the fund underperformed the benchmark by 1.79% (USD).

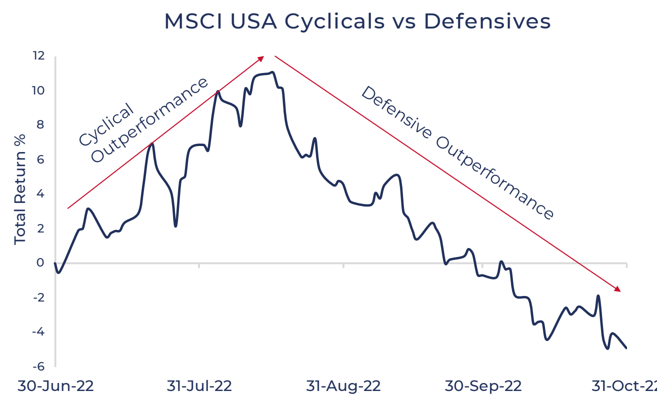
Global equity markets had a broadly positive October, with developed markets locking in strong gains following two months of successive declines at the end of Q3. Emerging markets, on the other hand, came under pressure. Similar themes of rates, inflation and economic growth continued to drive markets. With the Federal Reserve in the midst of the fastest hiking cycle on record, markets have become increasingly sensitive to any macro-economic data that may hint at the future path of interest rates. This was evident in the early weeks of October, with equities bouncing on weaker-than-expected US job vacancies data, before retracing their steps on a lower-than-expected unemployment rate. While there were musings from some Fed officials about concerns over the current speed of rate hikes, September's 'hot' inflation prints came in ahead of expectations, wiping out any remaining hope that the Fed may soon be easing off of the gas pedal.

Corporate earnings season proved to be the impetus needed to reignite some positive momentum back into equities. While there were certainly pockets of weakness, particularly from Big Tech, earnings were generally robust, especially when looking through the strong dollar headwind. Driven by recessionary expectations and broader macro weakness, the S&P 500 began October down more than 25% year-to-date, despite the fact that corporate earnings have remained resilient throughout 2022. With many analysts suggesting that this sell-off was overdone, even 'in-line' results and guidance tended to be met with a positive share price reaction. This could be seen by the fact that the MSCI World's Price to Earnings ratio expanded ~ 7% in the latter half of October, despite a 0% change in earnings expectations for 2022. The strength of the US economy was highlighted further at the end of October with a GDP print of 2.6% (annualized), surprising analysts to the upside and ending a two-quarter streak of negative growth, bringing hope that the Fed may yet achieve a 'soft-landing'.

With jobs data remaining resilient, the US economy returning to growth in Q3, and inflation remaining at highly elevated levels, markets adjusted expectations to reflect that the Fed may now be emboldened to maintain course with hawkish monetary policy - a headwind for growth stocks. The value rotation that began mid-Q3 therefore continued throughout October. And while economic data continues to prove resilient, fears of a material global economic slowdown remain, driving outperformance of defensive orientated stocks. Consequently, we saw strong

Performance data quoted represents past performance and does not guarantee future results. The investment return and principal value of an investment will fluctuate so that an investor's shares, when redeemed, may be worth more or less than their original cost. Current performance of the Fund may be lower or higher than the performance quoted. For most recent month-end and quarter-end performance, https://www.gafunds.com/our-funds/global-innovators-fund/#fund_performance or call (800) 915-6566.

monthly performance from Energy, Industrials and Financials, and relatively weaker performance from Communication Services and Consumer Discretionary. While value and defensives both outperformed, growth and cyclicals still finished in positive territory.



Source: Guinness Atkinson Asset Management, Bloomberg, as of 10/31/2022

Over the month of October, Fund performance can be attributed to the following:

- With Information Technology slightly outperforming the broader index over the month, the Fund's large overweight position in the sector resulted in a small, but positive, allocation effect. Of the Fund's 17 tech holdings, 13 outperformed the MSCI World Information Technology Index (+7.6% USD). However, TSMC's return of -10.2% (USD) dragged the sector down as a whole, creating an overall negative impact from stock selection.
- Software and Services, the Fund's largest overweight industry, was one of the core drivers of positive Fund performance. A very strong stock selection impact offset a small negative allocation effect, with Visa (+16.6% USD), Adobe (+15.7%), Mastercard (+15.6%), Roper Technologies (+15.5%) and Zoom Technologies (+13.4%) making up the Fund's top five performers.
- The Fund's zero allocation to the benchmark's top performing sector, energy, created a sizeable headwind from an allocation perspective, more than offsetting the favorable impact gained from the Fund's other zero-weighted sectors (Materials, Consumer Staples, Utilities and Real Estate).
- The Fund has a slight overweight position to the Communications Services, the benchmark's bottom performing sector. Within the sector, Meta (-31.3% USD) was the Fund's bottom performing stock over the month following a disappointing earnings release.
- The Fund has a slight underweight position to the Consumer Discretionary sector, which was one of the bottom performing sectors during the month, a slight positive from an allocation perspective. However, the sector contained Anta Sports (-17.1% USD), the Fund's second bottom performer following strong regional headwinds.

as of 10.31.2022 (in USD)	1 year	3 years annualized	5 years annualized	10 years annualized
Global Innovators, Investor Class[1]	-28.79%	6.08%	5.47%	12.16%
Global Innovators, Institutional Class[2]	-28.61%	6.35%	5.73%	12.36%
MSCI World Index NR	-18.48%	6.12%	6.37%	8.93%

as of 09.30.2022 (in USD)	1 year	3 years annualized	5 years annualized	10 years annualized
Global Innovators, Investor Class[1]	-29.80%	5.88%	5.30%	11.41%
Global Innovators, Institutional Class[2]	-29.63%	6.14%	5.56%	11.60%
MSCI World Index NR	-19.63%	4.55%	5.30%	8.10%

All returns after 1 year annualized.

[1] Investor class (IWIRX)	Inception 12.15.1998	Expense ratio* 1.24% (net); 1.17% (gross)
[2] Institutional class (GINNX)	Inception 12.31.2015	Expense ratio* 0.99%

[2] Performance data shown for Global Innovators, Institutional Class (GINNX), prior to its launch date on 12/31/15, uses performance data from the Global Innovators, Investor Class (IWIRX).

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*The Advisor has contractually agreed to reimburse expenses (excluding Acquired Fund Fees and Expenses, interest, taxes, dividends on short positions and extraordinary expenses) in order to limit the Fund's Total Annual Operating Expenses to 1.24% for the Investor class and 0.99% for the Institutional class through June 30, 2025. To the extent that the Advisor absorbs expenses to satisfy this cap, it may recoup a portion or all of such amounts absorbed at any time within three fiscal years after the fiscal year in which such amounts were absorbed, subject to the expense cap in place at the time recoupment is sought, which cannot exceed the expense cap at the time of waiver. The expense limitation agreement may be terminated by the Board of the Fund at any time without penalty upon 60 days' notice.

Mutual fund investing involves risk and loss of principal is possible. Investments in foreign securities involve greater volatility, political, economic and currency risks and differences in accounting methods. These risks are greater for emerging markets countries. The Fund also invests in medium and smaller companies, which will involve additional risks such as limited liquidity and greater volatility. The Fund's focus on the technology, internet and communications sectors are extremely competitive and subject to rapid rates of change.

Securities mentioned are not recommendations to buy or sell any security.

Current and future portfolio holdings are subject to risk.

Top 10 holdings for Global Innovators Fund, as of 10/31/2022:

1.	Amphenol Corp	4.58%
2.	Mastercard Inc	4.26%
3.	Visa Inc	4.18%
4.	Roper Technologies Inc	4.18%
5.	Intuit Inc	4.08%
6.	Thermo Fisher Scientific Inc	4.07%
7.	Bristol-Myers Squibb Co	3.93%
8.	ABB Ltd	3.77%
9.	Danaher Corp	3.77%
10.	Apple Inc	3.77%

For a complete list of holdings for the Global Innovators Fund, please visit: https://www.gafunds.com/our-funds/global-innovators-fund/

The Fund's investment objectives, risks, charges and expenses must be considered carefully before investing. The statutory and summary prospectuses contain this and other important information and can be obtained by calling 800- 915-6565 or visiting www.gafunds.com. Read and consider it carefully before investing.

Earnings growth is not representative of the Fund's future performance.

MSCI World Index is a free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of developed markets.

MSCI World Value Index captures large and mid-cap securities exhibiting overall value style characteristics across 23 Developed Markets countries. The value investment style characteristics for index construction are defined using three variables: book value to price, 12-month forward earnings to price and dividend yield.

MSCI World Growth Index is a free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of large and mid-cap securities exhibiting overall growth style characteristics across developed markets.

The Consumer Price Index (CPI) is a measure of the average change over time in the prices paid by urban consumers for a market basket of consumer goods and services. Indexes are available for the U.S. and various geographic areas.

One basis point is equal to 1/100th of 1%, or 0.01%, or 0.0001, and is used to denote the percentage change in a financial instrument. The relationship between percentage changes and basis points can be summarized as follows: 1% change = 100 basis points and 0.01% = 1 basis point.

Duration: The duration number is a complicated calculation involving present value, yield, coupon, final maturity and call features. Fortunately for investors, this indicator is a standard data point provided in the presentation of comprehensive bond and bond mutual fund information. The bigger the duration number, provided in years, the greater the interest-rate risk or reward for bond prices. It can also be used to describe equities in a similar manner:

a higher duration suggests most cash flows are expected far into the future, with a lower duration suggesting more stable cash flows over the short and long term.

Gross domestic product (GDP) is the total monetary or market value of all the finished goods and services produced within a country’s borders in a specific time period.

Earnings per share (*EPS*) is calculated as a company's profit divided by the outstanding shares of its common stock.

Price-Earnings (P/E) ratio is a valuation ratio of a company’s current share price compared to its per-share earnings. Forward earnings differ from trailing earnings, which is the figure quoted more often, as they are a projection and not a fact.

Forward price-to-earnings (forward P/E) is a version of the ratio of price-to-earnings (P/E) that use forecasted earnings for the P/E calculation. While the earnings used in this formula are just an estimate and not as reliable as current or historical earnings data, there are still benefits to estimated P/E analysis

Cash Flow is the total amount of money,in cash, being transferred into and out of a business.

The MSCI World Information Technology Index is a free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of large and mid-cap equities across 23 developed markets, all classified within the Information Technology sector.

The S&P 500 Index features 500 leading U.S. publicly traded companies, with a primary emphasis on market capitalization.

Capital expenditures (CapEx) are funds used by a company to acquire, upgrade, and maintain physical assets such as property, technology, or equipment. CapEx is often used to undertake new projects or investments by a company.

The MSCI World Semiconductors and Semiconductor Equipment Index is composed of large and mid-cap stocks across 23 Developed Markets (DM) countries*. All securities in the index are classified in the Semiconductors and Semiconductor Equipment Industry Group (within the Information Technology sector)

The MSCI World Quality Index is based on MSCI World, its parent index, which includes large and mid cap stocks across 23 Developed Market (DM) countries. The index aims to capture the performance of quality growth stocks by identifying stocks with high quality scores based on three main fundamental variables: high return on equity (ROE), stable year-over-year earnings growth and low financial leverage.

One cannot invest directly in an index.