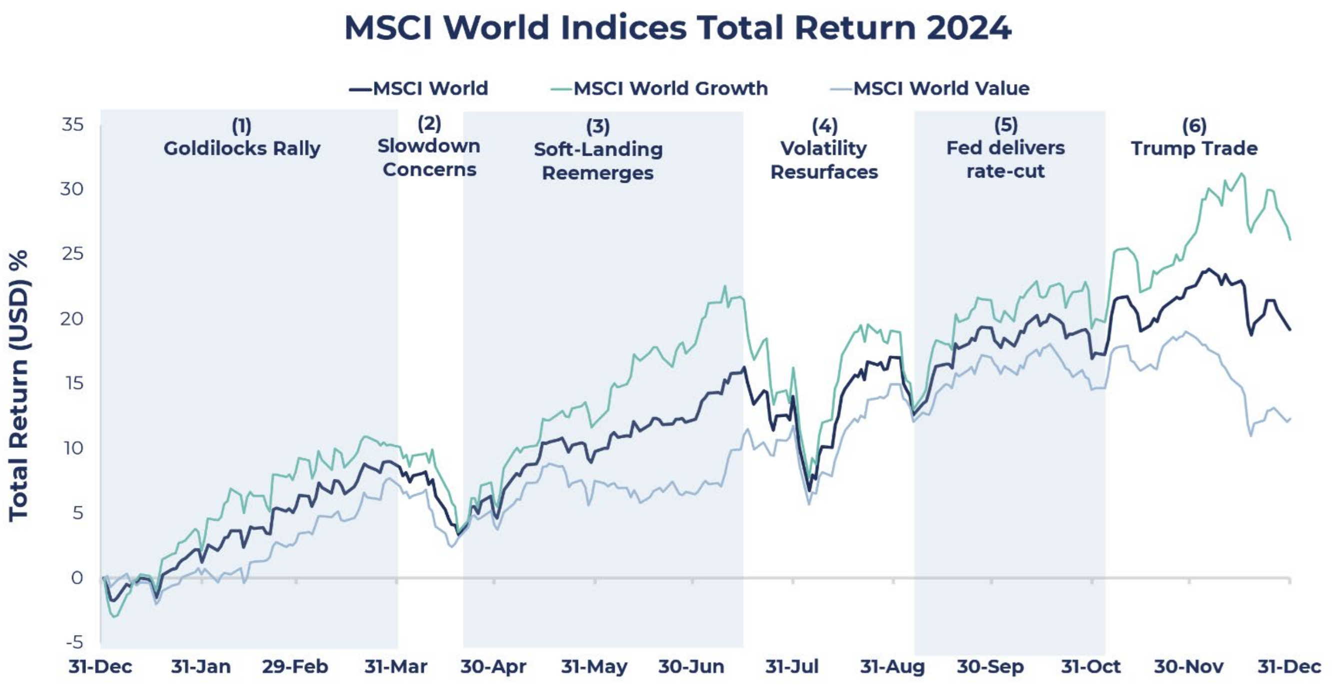
2024 – Market Overview

2024 can be split into a number of distinct performance periods, each with different drivers and leaders from both a style and sector perspective.



Source: MSCI, Guinness Atkinson, Bloomberg, as of December 31st 2024`

(1) – Goldilocks Rally (January 1st – March 31st)

Equity markets continued their strong performance from the final months of 2023 into the start of 2024, with broad-based gains across all major indices. We entered the year with significant expectations of a 'Goldilocks scenario': continued economic strength, inflation trending towards target levels and prospects of large-scale interest rate cuts. Across the first quarter, the macroeconomic outlook was seemingly more positive particularly in the US with GDP announced at 3.4% for Q4 of 2023 and the US Purchasing Managers Index (PMI) moving into expansionary territory for the first time since April 2023. However, strength in economic data was instead perceived to mean that the Federal Reserve (Fed) may not need to cut interest rates, leading to a marked change in rate-cut expectations through the first quarter. Unexpectedly, this shift in expectations coincided with strong equity performance and the outperformance of growth stocks, as global markets hit record highs in March. Unlike recent years, where strong economic data often delayed rate cuts and dampened equities, this time, good economic news boosted markets. Optimism was driven by economic strength, opportunities in artificial intelligence, and a robust earnings season, with 74% of companies exceeding EPS expectations, lifting sentiment across sectors.

During this period, the Fund benefited from both positive stock selection and asset allocation effects, driving outperformance relative to the benchmark. In particular, the Fund's largest overweight industry position was to the benchmark's best performing - Semiconductors and Semiconductor Equipment Manufacturers. Strong stock selection amongst names such as Nvidia, Meta and Novo Nordisk were also a significant contributor, alongside the outperformance of 'growth' more generally.

(2) – Sticky Inflation and Slowdown concerns (April 1st – April 19th)

Markets reversed course in early April as weaker economic data and sticky inflation reads dampened the 'Goldilocks' narrative. Signs of weakness emerged in April as Q1 GDP and US manufacturing activity and consumer sentiment surveys all came in below consensus forecasts, with markets pausing to reassess the outlook. Concerns of a slowing consumer-led economy grew as companies cited shifts in purchasing habits and whispers of 'stagflation' arose as inflation remained higher than expected. Notably, the possibility of a return to rate hikes began to be debated after Fed Chair Jay Powell's hawkish remarks emphasized slower-than-expected progress on inflation, raising fears of persistent inflation, a weaker economy, and the prospect of delays in rate cuts.

During the sell-off, the Fund performed in-line with the benchmark. The Fund's largest overweight sector position was to the MSCI's bottom performing sector, Information Technology. While this acted as a detractor to relative Fund performance, strong stock selection within Industrials, Communication Services and Information Technology offset the majority of this negative impact. ABB, Alphabet and Anta Sports were standout performers during this period.

(3) Soft-landing Scenario re-emerges amidst AI growth rally (April 20th– July 15th)

Negative sentiment quickly reversed as strong corporate earnings and positive economic data restored confidence. May US CPI of 3.4% signalled price normalization, boosting hopes for a soft landing. Market-implied rate cuts rose from 1.1 in April to 1.8 in June, driving a notable divergence between Growth and Value stocks. Large-cap tech giants—the "Magnificent 6" (Apple, Amazon, Alphabet, Nvidia, Meta, Microsoft)—led gains, fuelled by AI optimism and robust earnings.

Amidst AI optimism and stronger performance in growth stocks, the Fund outperformed, and the Fund's overweight position to the IT sector and holdings in the Magnificent 6 provided strong asset allocation effects.

(4) – Volatility resurfaces (July 16th – September 6th)

The typically quieter summer period saw heightened volatility in global equity markets. In July, investors rotated out of growth stocks amid concerns over AI investment returns and rising capital expenditure. Tensions in US-China trade relations, driven by Donald Trump's remarks on Taiwan and potential U.S. restrictions on non-U.S. semiconductor firms, added to market anxiety. Weak earnings from Tesla and Alphabet pushed the Bloomberg Magnificent Seven index into correction territory(-10%), leading to the outperformance of value, defensive, and small-cap stocks. Early August brought further worries, as weak U.S. economic data, including a contracting ISM Manufacturing Index and higher-than-expected jobless claims, weighed on sentiment. Earnings misses from Intel and Amazon compounded concerns. A global sell-off intensified on August 5th after a surprise rate hike by the Bank of Japan caused Japan's TOPIX to drop 12.4% in a single day, and the unwinding of the so-called yen-dollar carry trade drove volatility higher. The VIX Index spiked to its highest level since 2020, prompting a shift toward more defensive stocks. However, markets quickly rebounded and the MSCI World Index recovered to mid-July levels by the end of August, regaining all losses from the beginning of this sell off. However, moving into September, disappointing U.S. non-farm payrolls and persistent manufacturing weakness reignited fears of economic slowdown. Growth sectors lagged while defensives outperformed amid ongoing uncertainty over interest rate cuts, prompting a continued 'risk-off' stance from investors.

Given the volatility across the period and a sell-off affecting semiconductor companies to which the Fund has a relative overweight positioning, the Fund underperformed. More defensive sectors such as Consumer Staples, Utilities and Real Estate outperformed and the Fund's zero-weight position to these sectors, created a headwind to relative performance.

(5) – Fed delivers first rate Cut as markets eagerly await the outcome of the US election (September 7th - November 4th)

The Federal Reserve delivered the long-awaited beginning of the rate cutting cycle on the September 18th, and with a 50bp reduction. This marked the first interest rate cut in the US since March 2020. Markets rallied on news of the bumper cut, with the S&P500 reaching record highs and large-cap technology stocks leading the move. Elsewhere, Chinese stocks jumped to record highs, experiencing their best day since 2008 following President Xi Jinping's surprising pledge of broad stimulus to boost slowing growth in September. The period ended with the overhang of the US election, with the rising odds of a Trump victory throughout the month, driving significant uncertainty.

As interest rate expectations reversed, following the Fed's first rate cut, all equities were driven higher, leading the Fund to outperform the broader Index. Further, it was encouraging to see new Fund Holding Ametek, outperform, providing position stock selection effects for the Fund.

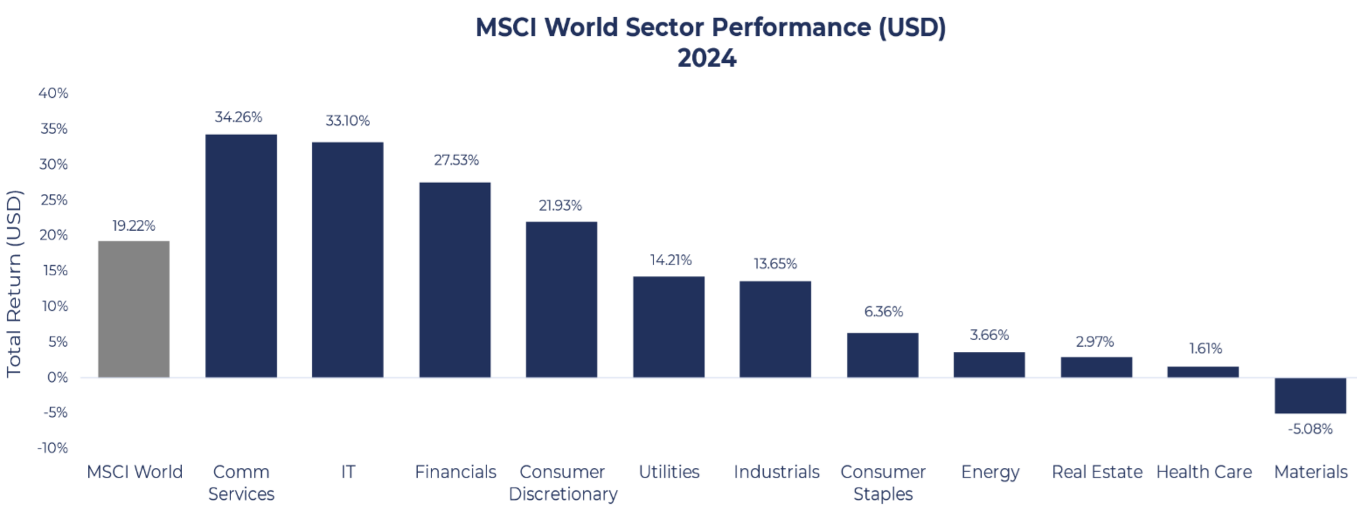
(6) – Trump Trade and shifting interest rate expectations (November 5th – December 31st)

Donald Trump's 2024 presidential victory sparked an initial market rally, driven by expectations of tax cuts and deregulation favouring financials, industrials, and energy. However, while markets initially expected continued Fed rate cuts to support growth, stronger economic data and hawkish remarks from Jerome Powell, citing higher inflation forecasts, pressured equity valuations, into the year end.

Following Trump's election success growth outperformed value, acting as a tailwind to Fund performance. Though the Fund saw positive asset allocation from the overweight position to the IT sector, this was offset by stock selection effects as the Fund does not hold Broadcom which outperformed over the period, leading to overall underperformance during this period.

2024: Another Strong Year

The MSCI World Index concluded another impressive year, delivering strong returns as corporate earnings surpassed last year's growth rates. Building on the momentum from 2023, equities in sectors like Information Technology and Communication Services once again led the charge, driving much of the index's overall performance. In addition to these dominant sectors, other growth-oriented areas, including Consumer Discretionary, posted robust gains and outpaced the broader MSCI World Index.



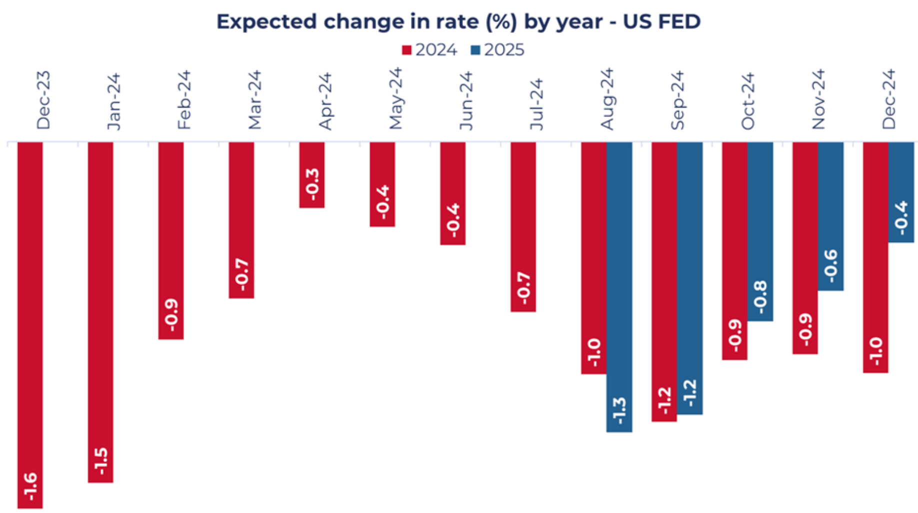
Source: MSCI, Guinness Atkinson, Bloomberg, as of December 31st 2024

How did the year compare to its outlook?

In last year's annual commentary, we highlighted several key themes dominating investor sentiment, including the outlook for inflation, the trajectory of interest rates, and the pace at which the Federal Reserve might initiate rate cuts. Additionally, we observed the rise of the "Magnificent 7" stocks, which captured significant market attention and the role that Artificial Intelligence (AI) has played. This year, we revisit these crucial topics and explore how they have evolved, shaping market dynamics and investment strategies through the year:

Interest Rates and Expectations

Building on the discourse from 2023, much of the focus remained on the timing and magnitude of potential interest rate cuts by the Federal Reserve and shifting expectations around interest rate policy played a pivotal role in shaping equity market performance. Early in the year, markets expected aggressive easing, with projections for up to six or seven 25 basis point (bp) rate cuts. This optimism buoyed growth sectors, particularly technology and other rate-sensitive industries, which typically benefit from lower borrowing costs. At the start of the year, investors were expecting six to seven 25bp interest rate cuts, yet this quickly fell to just one cut by the start of Q2 as hotter than expected inflation and slower GDP growth contributed to a more muted macroeconomic outlook. When the Fed finally delivered a bumper 50p cut in September, the first since March 2020, markets initially rallied, and expectations rose once more. However, investor optimism did not last very long. Following Trump's election victory, the prospect of inflationary policies suggested the Fed was more likely to slow their pace of cuts. The year ended with cuts of only 40bps expected in 2025, encouraged by more hawkish commentary from the final Fed meeting, despite delivering another 25bp cut.

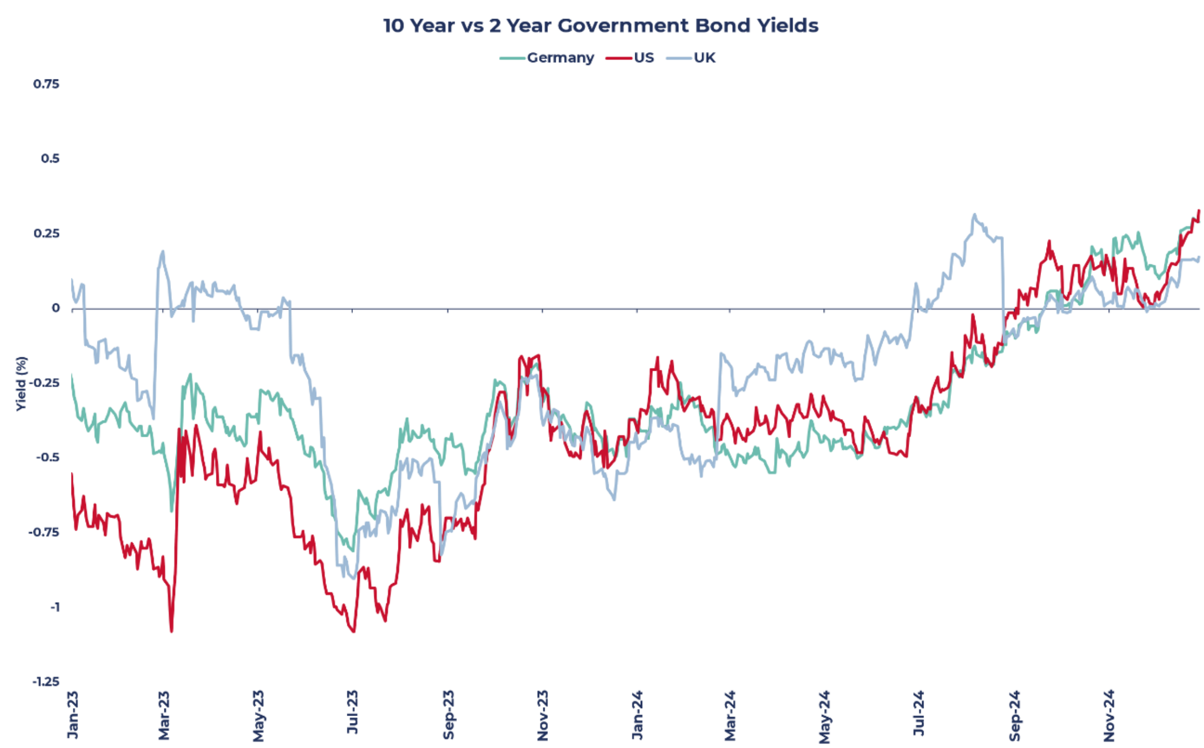


Source: Guinness Atkinson, Bloomberg, as of December 31st 2024

Yield Curves back to normal

Over the year we also saw the yield curve experience a significant transition following a historic period of inversion. From October 2022 until late 2024, short-term U.S. Treasury yields, including the 3-month and 2-year notes, exceeded 10-year yields, a unique occurrence which lasted over two years.

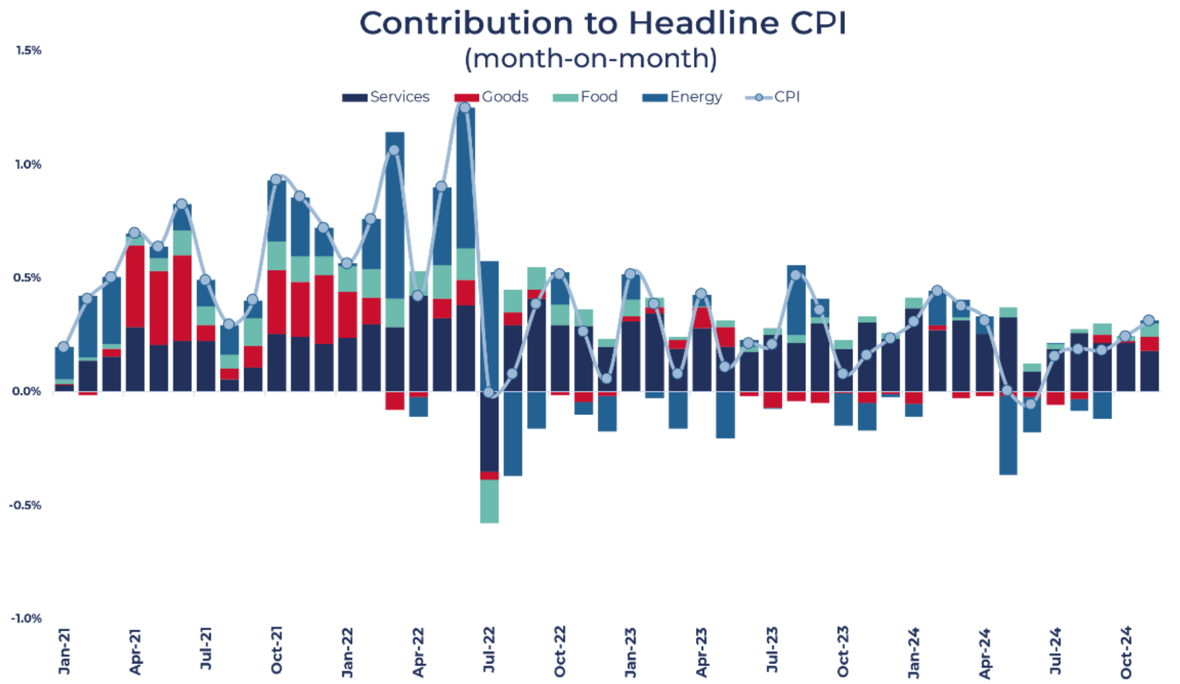
The prolonged inversion was driven by the Federal Reserve's rapid interest rate hikes, which raised short-term borrowing costs by more than 5%. However, demonstrated by the chart below, as central banks across Europe and the US began their rate cutting cycle, the 2-year to 10-year government bond yield relationship moved into positive territory. This signalled short-term yields declining while long-term yields remained elevated, marking the end of the inversion and the start of curve normalization.



Source: Guinness Atkinson, Bloomberg, as of December 31st 2024

Path of Inflation

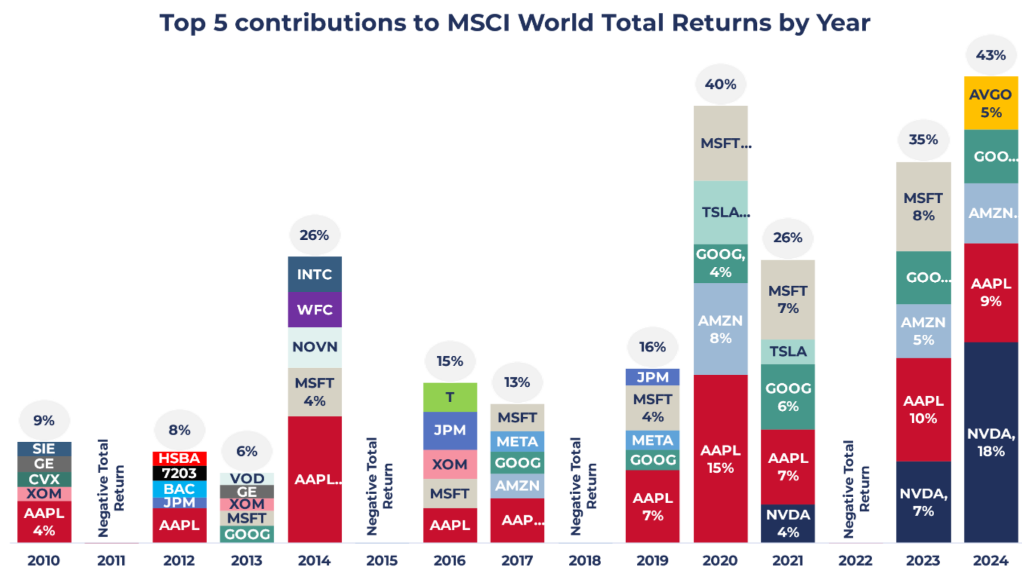
Following two years of elevated price pressures caused by energy shocks and supply chain disruptions, investors were increasingly concerned with inflation and its direct impact on the Fed's policy decisions. Through 2024, inflation across economies and in the US steadily moderated. Shown in the chart below, the contribution from key components: services, goods, food, and energy, shifted meaningfully over the year, helping to bring overall inflation closer to the Federal Reserve's target of 2%. At the beginning of the year, inflation remained elevated, particularly in categories such as housing and core services ex-housing, due to lagging adjustments in rent and shelter costs. These components tend to respond more slowly to changes in market conditions, even as real-time data pointed to cooling pressures. By mid-2024, inflationary pressures eased further, with significant relief coming from goods and energy prices. The stabilization of supply chains and slowing demand in key consumer goods markets played a key role in reducing inflation. Energy costs were a major factor in the inflation decline, with falling gasoline and fuel prices throughout much of the year. Food inflation also moderated, while price increases for new and used vehicles slowed. These trends contributed to the steady decline in headline CPI over the year. Despite the moderation in headline inflation, monthly CPI readings showed that shelter costs continued to drive much of the remaining upward pressure, accounting for a large share of the monthly increases. Core inflation hovered near 3.3% for much of the year, reflecting persistent pressures in sticky areas such as housing.



Source: Guinness Atkinson, Bloomberg, as of December 31st 2024

Magnificent 7

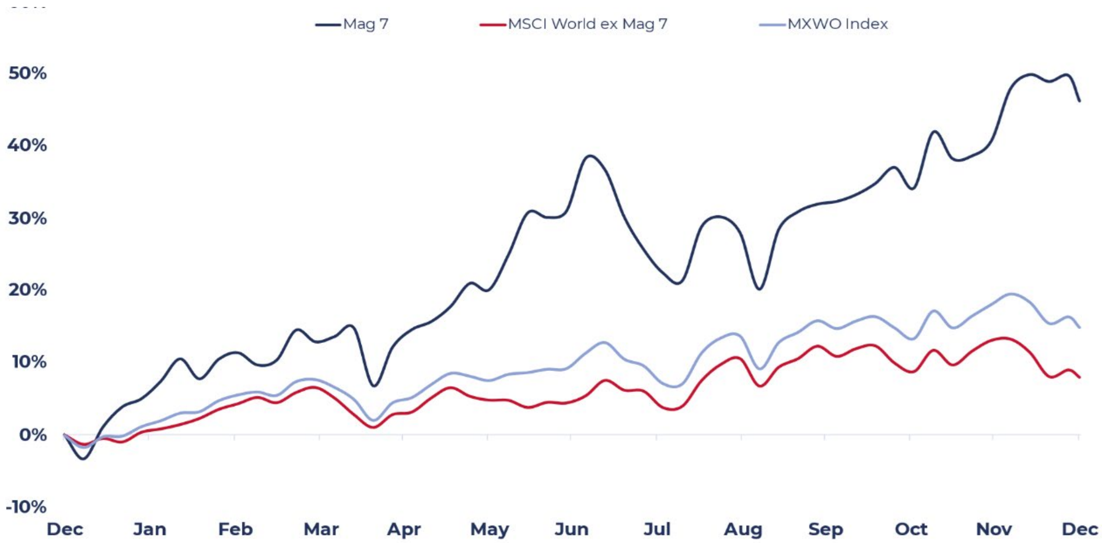
The Magnificent 7 stocks: Alphabet, Amazon, Apple. Meta, Microsoft, Nvidia and Tesla have continued to dominate markets this year, leading markets to all new highs, with four of the seven names, among the top performers of the MSCI World. Growth in AI, driving investment in infrastructure and cloud development, wider digitization and partly Trump's election success have all contributed to their strong performance this year.



Source: Guinness Atkinson, Bloomberg, as of December 31st 2024

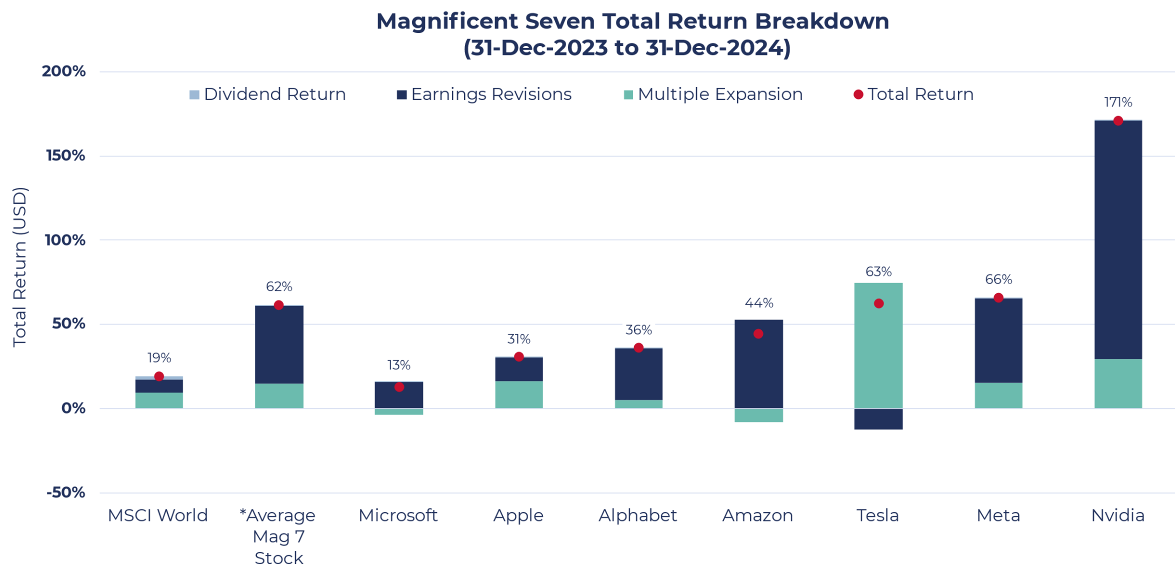
The market leadership of these companies has also grown, shown on the chart below which tracks the total market caps of these seven stocks, the MSCI World and the MSCI World excluding the Magnificent Seven. Though the year started with a narrower difference in performance, following the AI growth rally into June, the gap widened. The companies ended the year with a larger contribution total MSCI World performance as the stocks were buoyed by Trump's election success and improving sentiment on growth stocks.

Change in Aggregate Market Cap (%)
12/29/23 – 12/31/24



Source: Guinness Atkinson, Bloomberg, as of December 31st 2024

Despite rising valuations, and growing market concentrations of these companies, the chart below illustrates the continued underling earnings growth of the 'Magnificent 6' (Magnificent 7 ex-Tesla), which are all held in the fund. These companies all delivered positive earnings revisions, over 2024, rather than simply multiple expansion. Not only do these companies command strong market positions and stable economic moats they are exposed to numerous growth drivers which have materialized over the past few years. Nvidia's growth has been primarily driven by soaring demand for its GPUs, essential for powering artificial intelligence (AI), machine learning, and high-performance computing applications. The rapid adoption of AI across industries, alongside Nvidia's dominance in the gaming and data centre markets, has further fuelled its impressive performance. Meanwhile, Google, Amazon, and Microsoft, (the 'Hyperscalers') have seen significant earnings growth, largely driven by the expansion and monetization of their cloud services. Google Cloud, Amazon Web Services (AWS), and Microsoft Azure have benefited from the increasing reliance on cloud-based infrastructure and digital transformation initiatives by businesses globally. Further, Meta's revenue growth, shown in the chart, reflects its success in leveraging AI to enhance its advertising algorithms and improve user engagement. By deploying AI to optimize ad targeting and content recommendations, Meta has strengthened its monetization capabilities, contributing to robust earnings performance despite a challenging macro environment.

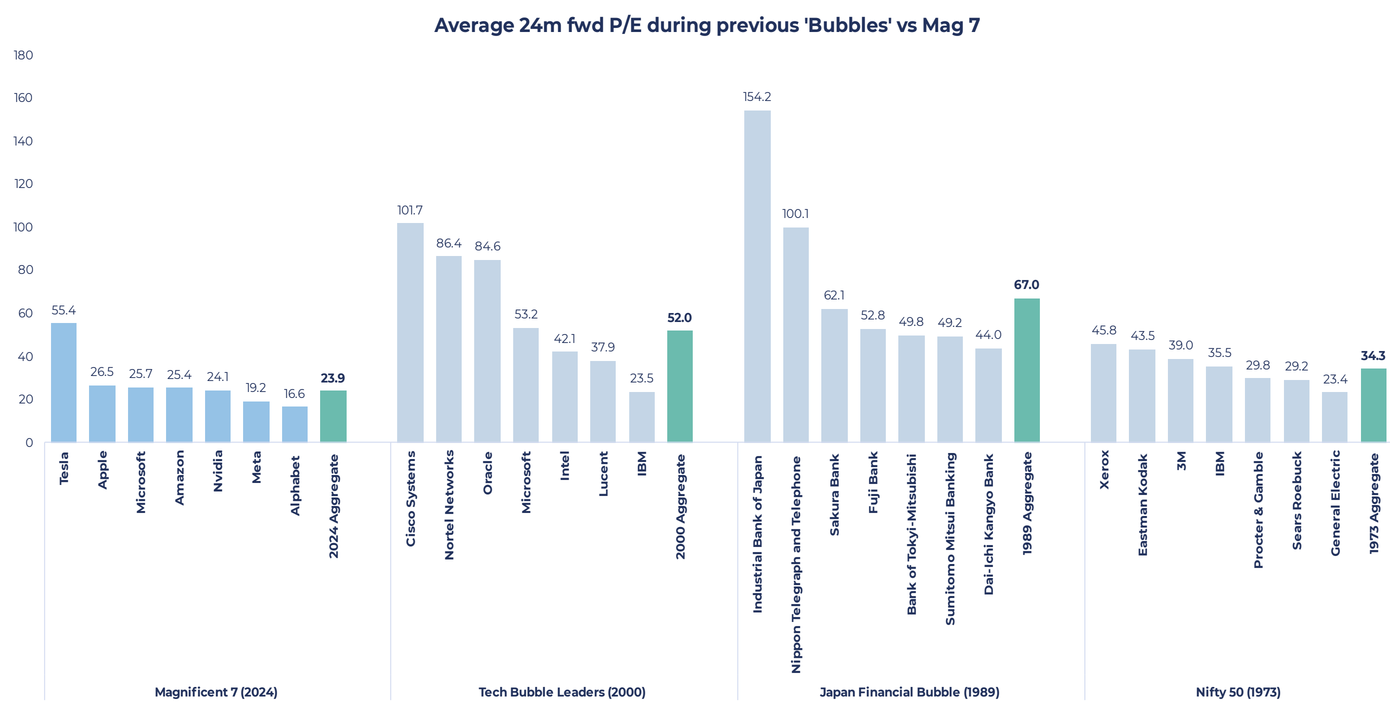


**market cap weighted average, with market cap calculated at 31st December 2024*

Source: Guinness Atkinson, Bloomberg, as of December 31st 2024

Is the Price Right?

The rising valuations of these Magnificent 7 stocks has sparked investor concern and incited whispers of a potential market bubble brewing. However, unlike previous bubbles, such as the Dot-com bubble of 2000 or Japan's financial bubble of 1989, today's Magnificent 7 companies show considerable difference in their valuation profile. Their average 24-month forward price-to-earnings (P/E) ratio of

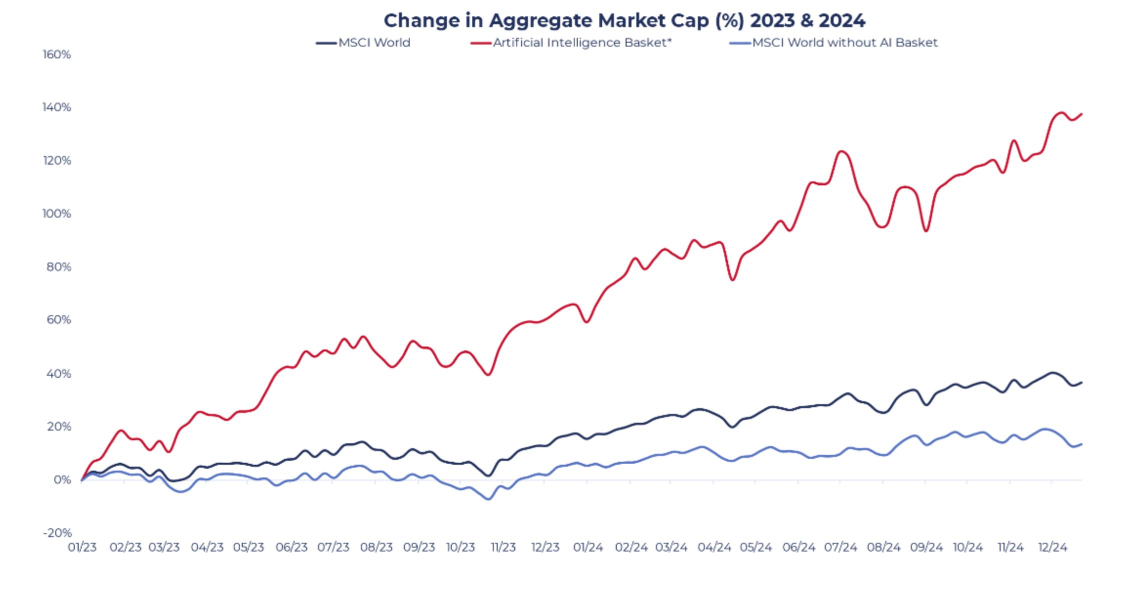


Source: Goldman Sachs, Bloomberg, as of December 31st 2024

23.9x is significantly lower than the valuations seen during past speculative market periods. For instance, during the Dot-com bubble, leaders like Cisco Systems and Nortel Networks traded at P/E ratios exceeding 80x, while in the late 1980s, major Japanese banks reached P/E multiples over 100x. With a forward P/E ratio well below historical bubble levels, the current environment could suggest a more sustainable growth story rather than an imminent correction driven by overvaluation.

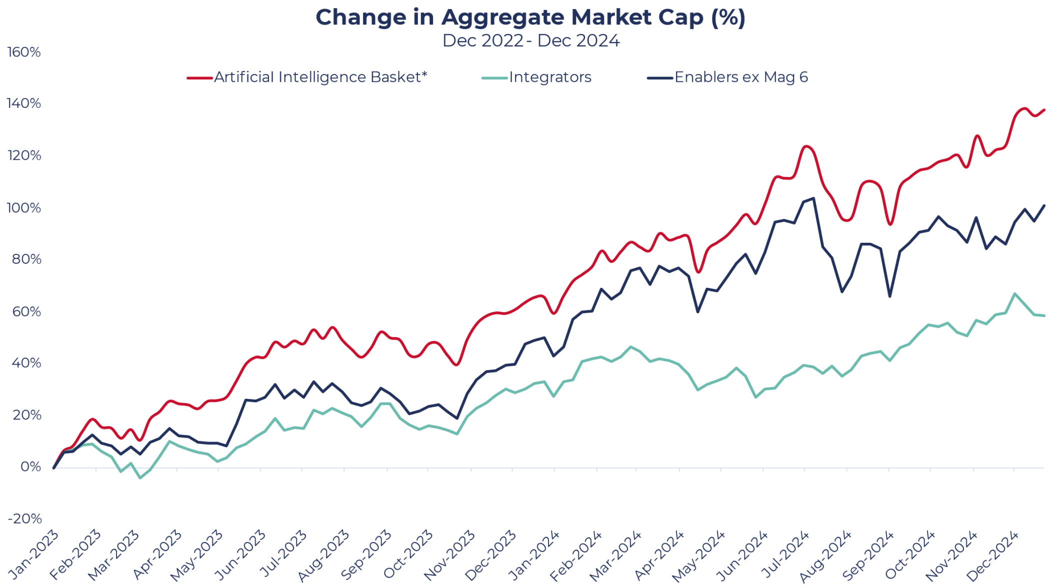
Artificial Intelligence

A major growth driver behind the performance of the Magnificent 7 companies, among others has been the emergence of AI. The theme has been a buzzword in recent years and increasing interest can be linked to the release of ChatGPT in 2022. Since, companies have strived to utilize Artificial Intelligence across supply chains and AI-related stocks have clearly outperformed the broader market. The chart below evidences this as the 'Artificial Intelligence' basket outperforming the MSCI World and contributing to the majority of returns over the past two years.



Source: Guinness Atkinson, MSCI, Bloomberg, as of December 31st 2024

Through the year, AI enablers, including semiconductor giants and cloud infrastructure providers, have also seen their market caps soar. These companies supply the critical hardware and computing resources necessary to power AI systems. Nvidia, considered an enabler, has benefited from increased demand for GPUs essential for AI model training and inference. This surge in demand has translated into impressive earnings growth, making enablers key contributors to the overall outperformance of AI-linked equities. Meanwhile, AI integrators, firms embedding AI into their products and services, are capitalizing on the technology's potential to drive operational efficiencies, enhance customer experiences, and unlock new business models. Towards the end of 2023, both enablers and integrators were performing in line with each other shown on the chart below, and the general expectation was that integrators would see accelerated growth over 2024, as AI became embedded further down supply chains, creating revenue generation opportunities. This however was not the case, as performance diverged between both groups at the start of 2024 with enabler reaching new heights. These companies benefitted from sustained, growing demand for the infrastructure required to build and scale AI models whereas integrators experience more moderate growth as their gains are arguably slower to materialize in financial performance.

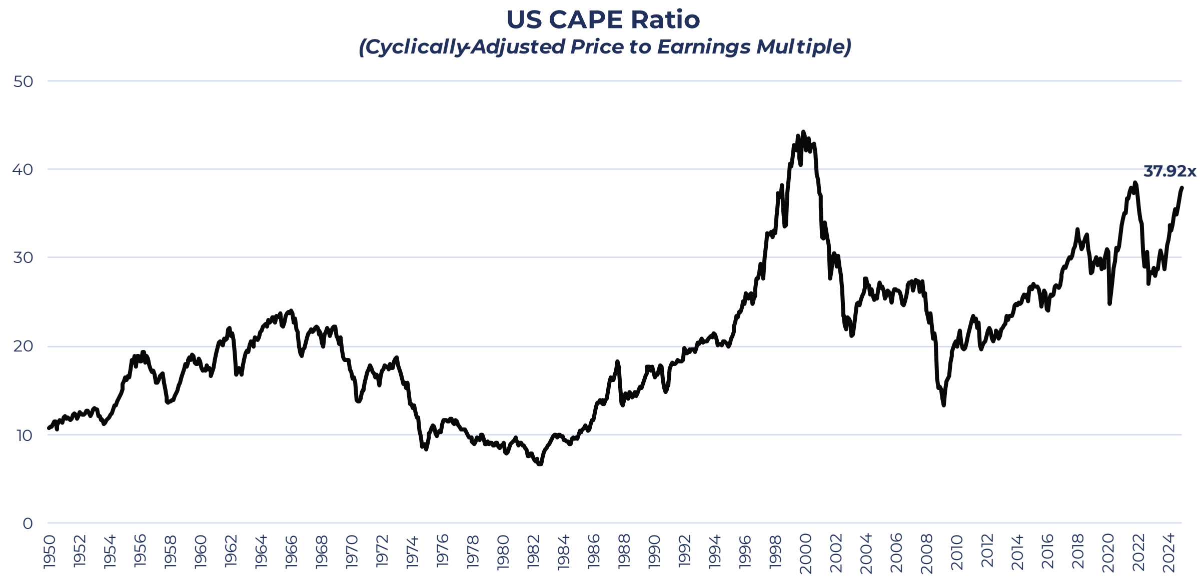


Source: Guinness Atkinson, Bloomberg, as of December 31st 2024

Outlook for 2025

Rising Valuations

Looking towards 2025, the so-called 'exceptionalism' of US stocks in dominating global equity market returns over the past year, has resulted in increasing valuations. Across most valuation metrics, the US market appears expensive to history and other markets with the S&P 500 trading significantly above its 10yr average (27.1x vs 18.4x). The current US CAPE ratio is also elevated, trading close to 40x, not far off valuations seen during the Dotcom bubble peak in 2000. This historical perspective highlights that US equities appear expensive relative to their long-term earnings history. However, while high CAPE levels have previously coincided with periods of market overvaluation and subsequent corrections, relying solely on this metric can be problematic. High CAPE levels have persisted for periods without immediate corrections, suggesting valuations may not be as stretched as they seem. Further, from a bottom-up standpoint, 2024 has evidenced the ongoing strength of the US economy and gradual stabilization of inflation and growth across world economic which could provide a good basis for continued revenue and profit growth going into 2025.



Source: Robert Shiller, Guinness Atkinson, Data January 1950 - December 2024

Trump 2.0

While Trump's election victory has thus far buoyed stocks on the prospect of deregulatory and pro-America policies, a Trump administration in practice holds much uncertainty for equity markets. Key policy areas such as trade, taxation and immigration are likely to see significant change given Trump's overarching agenda of America First. We have looked at these policy areas in detail in previous commentaries (www.gafunds.com/resource-insight-center) though the following are still important to highlight:

What can we expect in key policy areas?

Fiscal Policy

Trump plans to extend and expand the Tax Cuts and Jobs Act of 2017, aiming to reduce corporate tax rates from 21% to 15%. Other tax cuts include eliminating taxes on restaurant and hospitality workers as well as on social security benefits and overtime. This move could enhance corporate profitability, potentially leading to increased dividends and stock buybacks, although bear in mind that is estimated to lower tax revenues and could create a further $7.5bn net fiscal deficit impact according to the Committee for a Responsible Federal Budget.

Deregulation

The administration's commitment to deregulation is likely to benefit sectors such as financial services, energy, and manufacturing. Eased regulations could lower operational costs and foster expansion and a softening regulatory backdrop could lead to a modest pick-up in merger and aquisition (M&A) activity.

Trade Policy

In pursuit of an 'America First' agenda, Trump's proposed escalation of tariffs appears to be top of mind for investors. Trump has suggested 10-20% blanket tariffs worldwide, with up to 60% tariffs on Chinese goods among others. The impact of such tariffs could be three-fold. Firstly, tariffs have are inherently inflationary as they raise the price of goods where there are no available import replacements, or where the imposition of a tariff allows domestic producers to charge more. They are also in effect as tax on consumers, as well as foreign producers, limiting real income gains. Finally, such aggressive tariffs could result in trade wars and increasing protectionism from other economies. We may see individual countries or other trading blocs persevere with higher tariffs to the US, hoping they can gain a relative advantage despite the overall fall in world trading activity.

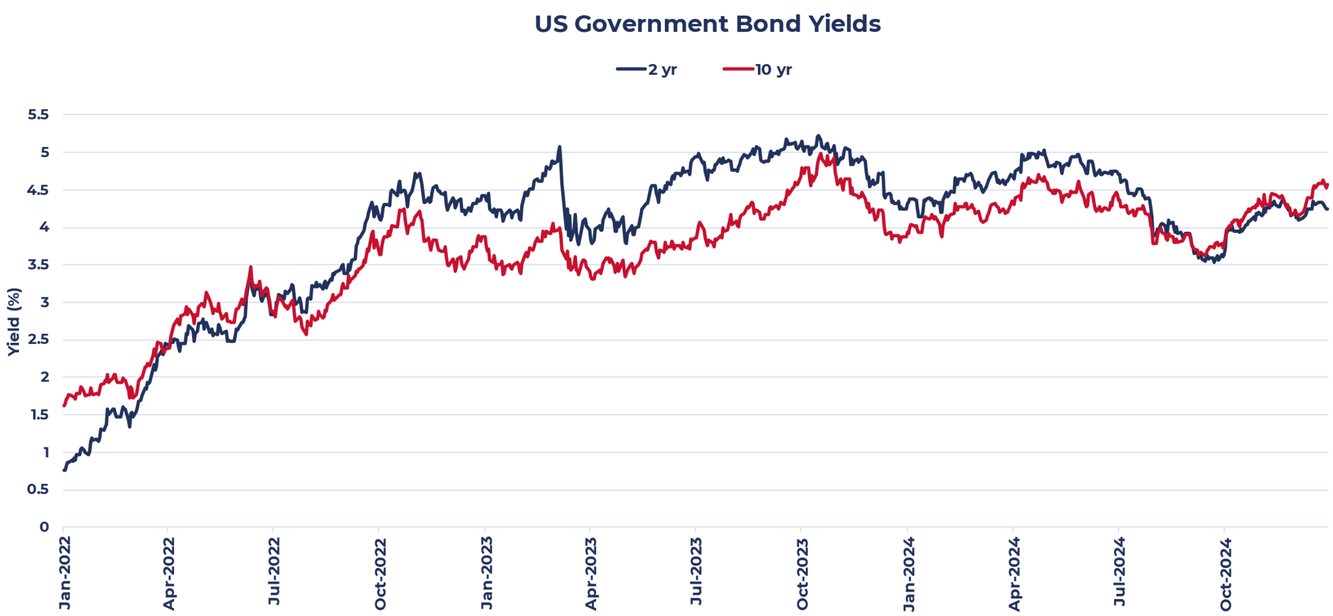
Estimated Tariffs under a Second Trump Administration

Country	Coverage/ Goods	Amount ($bn)	Current Tariff	Incremental Tariff	Possible Final Tariff
China	List 1-2 (no consumer goods)	40	25%	60%	85%
	List 3 (20% consumer)	120	25%	35%	60%
	List 4a (mostly consumer)	90	7.5%	10%	17.50%
	List 4b (mostly consumer)	200	0%	5%	5%
Mexico	Auto Imports	Very small	0-2.5%	97.50%	100%
EU	Auto Imports	80	2.5%	22.50%	25%
Global	All imports	3100	2.7%	10%	12.70%
China	All imports	450	13.7%	40%	53.70%
Global	All imports	3100	2.7%	TBD	TBD

Source: Goldman Sachs Investment Research

Still interested in rates

The focus on interest rates and the rate-cutting cycle is expected to remain a key theme in 2025. Markets have closely monitored the Federal Reserve's signals throughout the year, with attention now shifting to future policy moves. The anticipated inflationary pressures from Trump's policies are likely to influence monetary policy, encouraging the prospect of interest rates remaining elevated. This has been reflected in rising US government bond yields, particularly following the Fed's recent meeting. With market concerns about persistent inflation and higher borrowing costs we will continue watching for further Fed commentary and macroeconomic data to gauge the direction of rates and yields.

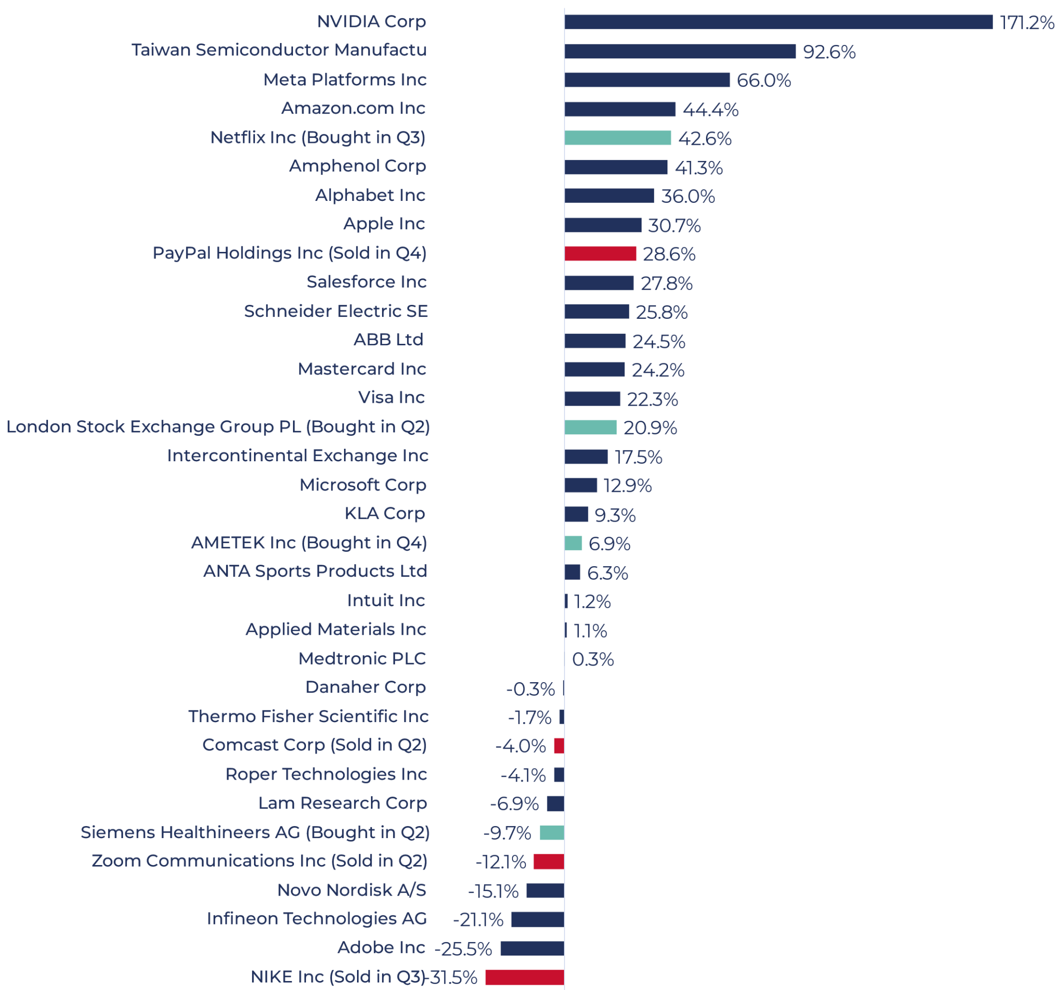


Source: Guinness Atkinson, Bloomberg, as of December 31st 2024

Clearly, the outlook for 2025 is marked by some uncertainty, despite the solid performance of equity markets seen over 2024. Heightened policy uncertainty linked to Donald Trump's return to the presidency, offers the potential of tariffs and tax changes posing inflationary and volatility risks. In tandem, elevated valuations in US equities have left lingering concerns about the prospect of a stock market bubble. However, we remain committed to our investment strategy in this environment. Our focus is on high-quality companies positioned for long-term secular growth, supported by strong fundamentals, including healthy margins and robust balance sheets. This approach, combined with a disciplined valuation framework and equally weighted positions, should enable the Fund to navigate the uncertainty over the next year.

Individual stock performance in 2024

The chart below shows the fund constituents' performance over 2024 in USD.



Source: Guinness Atkinson, Bloomberg, as of December 31st 2024

Nvidia (+177.7% in USD)

For a second year running, Nvidia was the Fund's top performing stock, delivering a stellar return of +177.7% over the year. Since the beginning of last year, Nvidia's 'Hopper' GPUs have been at the center of exploding demand for chips powerful and efficient enough to facilitate the energy intensive requirements of AI processes within datacenters. Initially possessing over 95% of market share in these types of chips, Nvidia have been quick to entrench their position as the technological leader in the space, launching the successor to the current 'Hopper' GPU in March, Blackwell, inhibiting the likes of AMD and Intel making meaningful inroads in taking share of the fast-growing market. Compared to the previous iteration (Hopper) which is continuing to fuel Nvidia's extreme revenue growth, the Blackwell chip is twice as powerful for training AI models and has 5 times the capability when it comes to "inference" (the speed at which AI models respond to queries). Throughout the year, Nvidia's financial performance has remained resilient. Quarterly revenues hit $35.1 billion in their most recent quarter, beating consensus expectations by 6% and representing a +94% year-over-year increase. Additionally, Nvidia's data center segment, driven by the Hopper (H100) chip, grew fivefold over the past year, underscoring the sustained demand for advanced AI infrastructure. The H100 chip, priced at around $40,000, continues to see significant adoption due to its ability to enhance AI model training efficiency while lowering overall costs. This growth is expected to continue as companies invest in upgrading existing data centers and building new ones, with Nvidia well-positioned to capture a significant share of the estimated $2 trillion market opportunity over the next five years. There have been some concerns over Blackwell production delays causing share price volatility. However, Nvidia has recovered swiftly, driven by positive earnings results through the year and assurances from management regarding future supply. Additionally, the release of the H200 chip promises to extend Nvidia's technological leadership, ensuring continued momentum into 2025. While Nvidia's valuation remains a topic of debate, the stock is not at a significant premium to history, and it still appears reasonable given its dominant market position, innovative prowess, and exposure to long-term secular growth trends in AI, cloud computing, and data infrastructure. As a result, Nvidia remains well-positioned to deliver sustained outperformance over the long term, making it a cornerstone of growth-oriented portfolios.

TSMC (+92.6% in USD)

TSMC performed well over 2024, gaining +92.6% (USD). The world's largest fab saw strong performance given its ongoing strategic importance in the global semiconductor supply chain. As a leader in advanced-node manufacturing, TSMC continued to showcase its unmatched expertise in producing chips at cutting-edge process nodes, including 3nm and beyond. The firm significantly benefited from surging demand for AI and high-performance computing (HPC), both of which rely heavily on advanced microchips. Following a challenging 2023 marked by a cyclical industry downturn, TSMC returned to strong growth, with annual revenues up 34% YoY to its highest ever level. Furthermore, higher fab utilization rates throughout the year and cost-cutting efforts contributed to rising operating margins, further reinforcing the company's solid financial position. TSMC also made aggressive investments in expanding its CoWoS (Chip-on-Wafer-on-Substrate) capacity in 2024, positioning itself to double capacity again in 2025 in response to the growing need for advanced packaging solutions.

Alongside their dominance in advanced-node manufacturing, TSMC's CoWoS 2.5D and SoIC 3D packaging technologies have emerged as essential components for next-generation AI chip production in data centers. These cutting-edge packaging solutions highlight TSMC's promising outlook as a pivotal driver of innovation in data center infrastructure and high-performance computing.

Infineon (-21.1% in USD)

Infineon, the global semiconductor manufacturer, ended the year as the Fund's second bottom-performer, amidst a weaker demand backdrop. The stock had a difficult start to the year as the firm grappled with macro-concerns surrounding Chinese exposure alongside weaker demand in chips for personal consumer electronics. There were also growing concerns with the domestic Chinese market as reports emerged that the Chinese government was encouraging Chinese EV makers to buy local chips. As the firm's largest regional exposure, and auto's being the firm's largest end-market (and the Chinese EV market growing significantly faster than Western OEM's), this posed a clear risk for the firm. However, Infineon made a number of significant design wins in the region, including a large-scale contract with Xiaomi. While management stated that they expect some market share loss to Chinese peers in lower-end chips, Infineon's technology is far superior in high-end categories (and is likely 'years' ahead), and they expect to maintain share in this fast-growing niche. Through the year, the company's earnings have showed signs of a slow but apparent recovery from cyclical headwinds across segments. Positively, the automotives segment has shown resilience, with the company reporting positive growth quarter-on-quarter in the last reporting quarter of 2024. Management ended the year with more conservative than expected guidance as they still expect inventory digestion and continued weakness in end-markets. However, it is important to call out the idiosyncratic growth drivers that make the stock attractive over the long term. Infineon has shown long-term opportunity within Artificial Intelligence given the high power requirements of GPUs and AI servers (and given that Infineon is a market leader in power chips). Further, the firm's leading market position in 'Power' chips, and the Automotive sector in particular (~60% of sales) give the firm significant exposure to the semiconductor markets two fastest growing industries: Automotive and Industrial Electronics, supported by sub-themes of EV adoption, Autonomous driving, and the green energy transition, whilse also giving exposure to other fast growing segments such as AI, Datacenter and IoT.

Adobe (-25.28% in USD)

Adobe faced challenges this year, ending as the Fund's worst-performing stock (-25.28% USD). Investor concerns about Adobe's AI strategy and underwhelming earnings reports played a key role in performance over the year. Adobe started the year with optimism surrounding its generative AI innovations and the company seemed poised to capitalize on the surging demand for creative and marketing automation tools. Its AI-driven platform, Firefly, launched in March 2023, quickly gained traction, generating over 16 billion creative outputs and setting adoption records. However, despite this strength, Adobe's stock has underperformed, as earnings reports over the year have appeared softer than initially expected from investors. The market reaction however was not caused by scepticism about Adobe's AI products and tools, but rather driven by concerns on the ability to monetize these quickly. The creative design market has seen intensifying competition with competitors like OpenAI, Canva and even startups introducing generative AI content tools such as text-to-video tools. Adobe's strategy has appeared to be focused on prioritizing widespread adoption over immediate monetization, echoing its successful strategy with PDF in previous years. While larger enterprises have adopted and appreciate Adobe's 'commercially safe' tools compared to peers, Adobe sees a large opportunity amongst those that were not traditionally users of the Adobe's tools, whether enterprise employees or non-enterprise customers and have thus chosen to drive proliferation of their tools in these 'untapped' consumers and delay monetization. While some AI tools have missed revenue expectations through the year, the increased proliferation and the increasing costs of creating content should improve Adobe's prospects of monetization into FY25. Further, despite these short-term challenges, Adobe has a track record of high-quality attributes and long-term growth prospects. Its extensive distribution network, and loyal customer base provide it with a durable competitive edge. The company's subscription-based model, which accounts for over 90% of its revenue, ensures stable cash flows and high margins. Finally, its brand equity as the industry standard in creative and document solutions supports ongoing market leadership, allowing us to remain confident in Adobe's ability to navigate current challenges and deliver sustained value over time.

Changes to the portfolio

We sold four positions and initiated four new positions over the course of 2024.

Number of changes to the portfolio

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Buys	6	7	4	5	3	5	3	3	1	4
Sales	6	7	4	5	3	5	3	3	1	4
Total Holdings	30	30	30	30	30	30	30	30	30	30

Buys

SIEMENS Healthineers

Siemens Healthineers

Siemens Healthineers, spun out of the broader Siemens group in 2017, develops and sells medical technology solution to healthcare providers. The company specializes in imaging systems for MRI, CT and ultrasound scans as well as other diagnostics equipment and cancer radiology. Siemens is well positioned to capitalize on global healthcare trends including the digitalization of medical data, a shift towards more personalized medicine and the adoption of AI within MedTech. This is coupled with a track record of strong top line and bottom-line growth, backed by 50% recurring revenues. Siemens Healthineers were one of the first movers in advanced MRI & CT technology (contributing to about 50% total revenues) and with a decade of expertise in imaging, the company has maintained a dominant market position. Siemens Healthineers' market leadership runs across segments having acquired Varian, the #1 radiotherapy player in 2020, which strengthened an already diversified portfolio. The company has faced some margin pressure associated with acquisition costs and supply chain issue in its diagnostics segment post-COVID, however there are early signs that these inflationary pressures are now easing, which we expect to be accretive to margins. Ultimately the firm's scale and dominant market share positioning positions them well to capture the above healthcare trends, and given the underlying business quality, we believe the stock fits well within the Fund philosophy.

LSEG

LSEG, owner of the London Stock Exchange, provides both data solutions and infrastructure for global financial markets. The firm is vertically integrated across the 'financial market value chain', with a presence across the trade lifecycle – from pre-trading data and analytics to post trade clearing and reporting, across both primary and secondary markets. Until 2007, the firms' sole operations were running the London Stock Exchange but have used acquisitions to shift the core of the business away from exchanges, and towards data and analytics. LSEG have a high-quality business model, generating around 70% recurring revenues with about 95% retention rate. Since the acquisition of Refinitiv into the business, LSEG have been working hard to improve product quality to compete more effectively in Data and Analytics, through their Refinitiv Terminal. The business has turned from a relatively low growth business that was exposed almost entirely to market trading cycles and listing revenues, to a high-quality, recurring revenue cash machine, with a number of promising growth drivers. Growth is underpinned by a number of levers across a diverse set of segments - Annual Subscription Value growth, Trading and Banking turnaround, capital expenditures (CapEx) spend on innovation and product improvements, pricing and market share gains to name a few - as well as a number of secular growth drivers (shift from active to passive benefitting the index business, regulation demanding greater disclosure, shift from OTC to on-exchange). The firm's high recurring revenue stream makes it relatively resilient/defensive across all market conditions, while trading fees will ebb and flow with market volatility offering some offset to any equity market downturn, and thus outperforming when others may not. London Stock Exchange Group offers a diversified, cash generative, high margin business with recurring revenues and sticky products, with fundamentally decent growth drivers.

Netflix

The streaming giant is a high-quality, fast-growing business with a solid growth runway that is being leveraged by a competent management team. Netflix transitioned to streaming well before competitors and is now the dominant streaming player. Its first-mover advantage allowed it to accrue a vast content library (when capital was cheap and investors were patient) and it has built on this moat with continued investment into original content. This includes a growing non-English catalogue, which has opened up international markets and allowed continued subscriber base growth, which now stands at 270m. Monetizing its ad-tier subscribers, expanding penetration in developing markets, and incremental revenue-per-user increases will drive the growth outlook, while Gaming / Sports remains a potential growth avenue for the future. Although the valuation is not overly cheap in the absolute (priced at bout 34x 1yr forward earnings), the stock has historically traded in a wide range (40x+ in the pre-COVID growth era and troughing at about 12x in late 2021 over growth fears), we feel the current quality-growth attributes of the firm justify this premium to the market. At present, the business and the narrative around it have turned a corner following concerns over profitability. Management actions have driven both subscriber numbers and profits up meaningfully in recent years, and investors look forward to the encouraging runway for growth – and most importantly profitable growth – that lies ahead. Even as management shift investor focus away from pure subscriber growth to user engagement, there is still a double-digit top-line forecast, while about 25% or more on the bottom line and a strong improvement in margins and free cash flow all make for an encouraging outlook.

Ametek

Ametek is a niche manufacturer of highly engineered electromechanical and electronic instruments across a wide range of end-markets, including MedTech, Power, Aerospace and Defence, among others. A unifying factor across these end-markets is that these manufactured products are typically 'mission critical', while the cost tends to be small relative to the cost of the system as a whole. A high level of specificity within these mission critical products drives high switching costs, allowing Ametek a significant level of pricing power. Over time, this has led to a long track record of healthy organic growth, a trend we expect to continue. Supplementing this organic growth, Ametek also has a long history of successful acquisitions. By targeting niche businesses in adjacent markets with complementary products and technologies, Ametek is expanding its product mix into areas in which it is strategically advantaged relative to peers, while offering its target companies the scale, expertise and customer base they need to scale properly. This balanced mix of revenue growth from both organic and inorganic sources helps reduce the downside risk associated with the cyclical end-markets the company operates in. While Ametek possesses a strong growth outlook, the firm also maintains a quality profile that has been improving over time. It has significant aftermarket exposure, providing a higher-margin and stickier revenue stream. Further, management has an excellent track record of operationally improving the business, resulting in a significantly lower operational expenditures as a percentage of sales relative to peers, which when paired with its asset-light business model leads to strong free cash flow generation. Ametek's robust balance sheet is another key strength, providing stability during economic downturns and allowing the company to invest in future growth through acquisitions and R&D. In sum, Ametek is a high-quality compounder with exposure to attractive, growing end markets in which it is competitively advantaged.

Sells

Zoom

Zoom Video Communications has struggled since coming out of the pandemic with changing consumer trends and a tougher macroeconomic environment. At purchase, Zoom looked attractive from a valuation perspective, having derated from its 2021 highs to near pre-pandemic levels – despite being a fundamentally better business. The company had built a strong brand, with 'Zoom' becoming synonymous with online conferencing and video calling after the company's success during the pandemic, and the resulting paradigm shift towards increased hybrid working. What was once a more 'speculative' growth stock at the start of the pandemic, was now a slightly more mature growth company with high market share (underpinned by a best-in-class product), stickier revenues, and a stronger balance sheet with $5bn in cash creating room for growth investment. With a superior product and strong brand presence, growth expectations for the company were around mid to high single digits. However, since purchase, Zoom has returned -34% versus the MSCI World Index, which was up 28%, with a growth profile that has disappointed. The company's key Enterprise segment has seen decelerating growth, with both customer growth and the net dollar expansion rate (Zoom's revenue per user metric slowing significantly). Customer growth has slowed from a rate of 25% YoY in the quarter prior to purchase to an estimated 3.6% by the first quarter of 2024. Net Dollar Expansion rate has slowed even further, currently at 101%(1Q24) vs at 123% at purchase.

Much of this is owed to macroeconomic headwinds which have pressured many customers to 'scrutinize' existing deals and potentially move to cheaper contracts. Within the online segment, which covers non-enterprise customers, the story has certainly improved, but has been underwhelming. At purchase, the segment had experienced high attrition rates associated with coming out of the pandemic, and while churn is now at all-time lows, revenues are expected to remain largely flat. It is worth nothing that many of the headwinds affecting the business have been out of management's control, but the fact that the firm has not been able to reignite growth as these pressures have eased has been disappointing. That being said, the company has executed well on nascent product lines, and the company continues to see success in Zoom Contact Center and its AI integration into the original platform, thus diversifying the business away from the core video platform, and it is disappointing that this success has not been appreciated by the market. Looking forward, the growth outlook has somewhat degraded, particularly over the mid-term, and while Zoom continues to hold some quality attributes and long-term growth levers, we believe there are better opportunities elsewhere.

Comcast

Comcast offers cable TV, internet, streaming, and phone services operating mainly in North America and Europe. Since 2009, when we first purchased the stock for the strategy, Comcast has returned 564%. As the largest cable TV provider and broadband provider in the US, Comcast provided an attractive investment opportunity at purchase. Comcast boasted a wide economic moat from its well-established operational infrastructure and market dominance. However, having held the company for such a lengthy period, the market backdrop has shifted, as has the business. In recent years, the stock has been weighed down by several factors including slower growth in broadband and subscriber losses in its Cable TV segment, in part a result of increasing competition. The trend of cord cutting has increased with consumers turning away from traditional cable and satellite services, in favor of internet or streaming services. Comcast has attempted to build out its own streaming service Peacock to replace lost revenues however this is developing slower than anticipated and success has been limited. Comcast is still heavily exposed to traditional TV, creating uncertainty over the company's long-term growth prospects. This is coupled with stagnation in the broadband segment as Comcast has continued to see falling customers having lost 65,000 broadband customers in Q1 of 2024, in part a result of an uncertain macro-backdrop. Furthermore, Comcast has built over $100bn in debt constraining their financial flexibility for investments, and scaling Peacock in particular. The stock has derated significantly since the pandemic, trading at 11x on a 1yr forward P/E vs highs of almost 30x in 2022, a reflection of the many challenges to the company's growth prospects. While Comcast remains a large market player in the US, in our view the company's business model has weakened, prompting us to look elsewhere for higher growth and higher quality opportunities.

Nike

We first purchased Nike in November 2016, delivering a total return of about 60% (in USD terms) over the holding period (vs MSCI World +147%). The stock outperformed strongly in first five years of the holding period, particularly during the pandemic, when global lockdowns amplified the success from the firm's decision to focus on Direct-To-Consumer (DTC) and 'Online' while moving away from wholesale partners. Since then, however, it appears that these pandemic-era benefits served to mask deeper underlying issues with the strategy – in particular a declining level of competitiveness, despite the benefits to profitability. Results in July brought many of these concerns to the forefront. After no growth in FY24 and guidance for negative growth in FY25, the reacceleration of revenues investors had been patiently awaiting seemed to have been pushed still further out. The slowdown had previously been attributed to a weak economic backdrop and thus a weak consumer. Although this argument carries weight, not only do these headwinds appear deeper than expected, but there are now questions around competitiveness, in light of inroads made by competitors such as Adidas, Lululemon and On Running, and the multi-year decline in market share for Nike. In all likelihood, these firms gained share as a direct result of Nike cancelling relationships with wholesalers, which opened up shelf space for challenger brands. A marked slowdown in the 'Lifestyle' portfolio (i.e. nonperformance-wear, which makes up about 60% of sales) has spurred a rethink in strategy, with a complete refresh of the portfolio set to be completed by the end of FY25 (May 2025), with significant narrowing of the range underway. This quarter appeared to be a hard reset for Nike – a recognition that the current portfolio is not going to deliver the required growth. Its plan to achieve is a refresh and refocus towards innovation (alongside greater brand and marketing investment). The foundations for Nike remain strong: it retains number-one market share across major markets, its brand equity is undoubtedly strong (even if diminished), and it has a robust supply and distribution network with strong retailer relationships and broad category exposure – all while maintaining a very strong balance sheet. Not only this, but Nike has proved over its history the ability to drive sales growth through innovation. While we acknowledge it may be able to repeat this cycle, we see increased risk to the near-to-mid term outlook and note that with a greater competitive threat and new, innovative competition, this task is all the harder to achieve. Management commentary appears to suggest that the reinvigoration of growth is not on the near-term horizon, and macro trends in the meantime are not favorable. Consumer trends change often, and Nike has often repositioned to capture them, but relying on innovation for growth appears to be a difficult sell when there is no guarantee this will flow through to real earnings. We view the firm's problems as more than a weakening consumer environment, but a diminished ability to compete with peers, and a misstep in strategy. This could be a 'multi-year' reset for the firm, with no quick rebound in earnings. To summarize, although we do not rule out success in Nike's new strategy, we have lost confidence that the stock will be able to reinvigorate growth back into the product portfolio in a desired time frame, and therefore believe there are better opportunities elsewhere.

PayPal

PayPal

We initially acquired PayPal in July 2015 when eBay, a long-term holding of the Fund, spun it off as a separate entity. After a thorough evaluation of PayPal, we decided to sell our remaining position in eBay and reinvest it in PayPal. From July 2015 to October 2024, the stock delivered a total return of about 115% (in USD terms; vs MSCI World 150%). PayPal was a pioneer in digital payments and established itself as a convenient and secure alternative to traditional payment methods. As one of the first companies to offer a seamless online payment solution, PayPal quickly gained traction among both consumers and businesses, positioning itself as a dominant player in the digital payments space. For years, it enjoyed relatively limited competition, which helped the company secure a loyal user base and enjoy strong growth, exacerbated during COVID as the boom in e-commerce increased transaction volumes and sent the stock to all-time highs. In recent years, however, enthusiasm for the stock has diminished as post-pandemic volumes decreased more than expected and margins have contracted alongside. Additionally, investor concerns have mounted due to intensifying competition in its core PayPal Button business from emerging digital payment wallets like Apple Pay and CashApp, as well as slower growth in PayPal's subsidiary products, Venmo and Braintree. Following a steep stock price decline in 2021, PayPal has seen a notable recovery since July 2024. This rebound was driven by new product momentum, improved execution under fresh leadership, and an attractive valuation. However, its core product – the PayPal Button, responsible for 60-70% of gross profits – continues to lose market share to competitors such as Apple and Shop Pay. Given the uncertainty surrounding the outlook for PayPal Button, we have lost confidence in the long-term growth story and believe there are better opportunities elsewhere.

Engagement

In 2024 Guinness Atkinson continued participation in the CDP (formerly the Carbon Disclosure Project) non-disclosure campaign, which offers investors the opportunity to engage with companies that have received the CDP disclosure request but have not yet provided a response. The objective of the annual campaign is to drive further corporate transparency around climate change, deforestation, and water security, by encouraging companies to respond to CDP's disclosure requests. Our participation includes the opportunity to lead engagements with investee companies where relevant. As a 'lead Signatory', we would be responsible for managing the correspondence between ourselves and the subject company, on behalf of both Guinness and other investors who had opted to be part of the campaign. If unsuccessful in our application as a 'lead', we could opt to be a 'co-signatory', where we would have our signature included at the bottom of the letter, and have the correspondence sent on our behalf by another 'lead signatory'.

As a reminder, in 2023, within the Guinness Atkinson Global Innovators Fund, we were the 'lead signatory' of a letter to Zoom, who then submitted to CDP for Climate Change in 2023, though we sold the company this year. This followed success with the CDP campaign in 2022, where we were co-signatories of letters to Roper Technologies and Intercontinental Exchange in 2022, having previously written to these companies on our own (i.e. not part of the campaign) in 2021. Both Roper Technologies and Intercontinental Exchange submitted to the CDP for Climate Change in 2022 and 2023. Following the purchase of Ametek and Netflix in the Fund, we have since written to both companies to encourage submission to CDP, in order to have all 30 holdings submit with respect to climate change.

While disclosure is a significant first step, we view setting strong, achievable climate targets as critical in aligning companies globally to the goals set within the Paris Agreement, to limit global temperature rise to below 1.5°C by 2050. We also believe it focusses companies on their exposure to broader business risk associated with emissions and the costs that can be incurred. Following from the success that the CDP campaign has had in encouraging our Fund holdings to disclose, we then felt it was important to then encourage our Fund holdings to set science-based emissions reduction targets (SBTs) through the Science Based Targets initiative (SBTi). The SBTi is a partnership between the CDP, UN Global Compact, WRI and WWF, and is a globally recognised standard in setting audited emission reduction targets. Its main purpose is to provide companies with resources and assistance to future-proof business growth by setting science-based emissions reduction targets that are aligned to the Paris Agreement.

Over 2023, within the Global Innovators Fund and as part of a campaign led by the SBTi, we were co-signatories to eight companies who had yet to submit Science Based Targets last year. We followed up this co-signed letter with our own letter, not only encouraging SBTi-audited targets, but encouraging them to pledge continued commitment to the CDP going forward (given that they have previously participated in the CDP campaign). We continued from our efforts into 2024 as we re-engaged with 5 companies and initiated SBTi engagement on our new Fund holding Ametek.

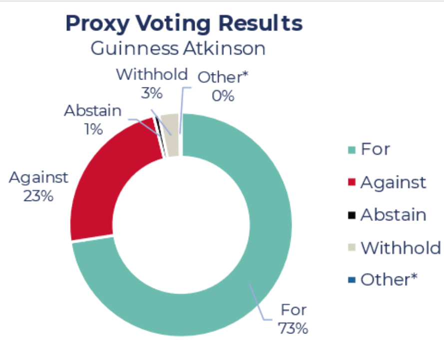
Further, we continued on from our 2023 executive remuneration engagement with our portfolio companies. After reviewing each of our holdings' remuneration policies, we believe that there is strong evidence to suggest that management incentive packages do indeed influence decision making, company strategy and overall company performance.

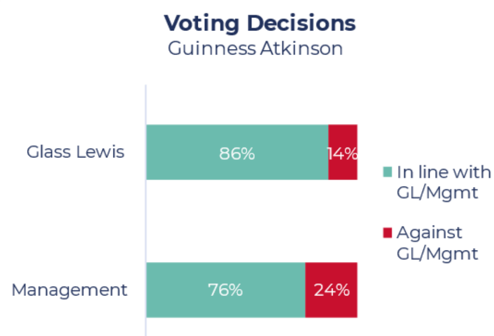
We have undertaken analysis of the remuneration structures of all 30 Global Innovators holdings and in 2023 engaged with 15 of these names regarding best practices. We continued these discussions over much of 2024, but also placed additional focus on holdings which received meaningful shareholder proxy voting dissent (~10%+) regarding their latest remuneration plans. We re-engaged with these 14 holdings (both investor relations and, in some cases, the management teams) to discuss what changes they are planning to make to the structure, in light of the latest investor feedback. We are encouraged to see that, in the majority of cases so far, these holdings are taking on board a range of investor feedback and are discussing changes to the executive compensation structure to align it more closely with the interest of shareholders going forward. We will continue to monitor and engage on these issues during 2025.

Proxy Voting

At Guinness Atkinson, we manage the voting rights of the shares entrusted to us. Our voting philosophy reflects our corporate values, our long-term perspective, and our focus on sustainable returns. Over 2024, we voted in 96% of the 555 proposals allocated to holdings within the Guinness Atkinson Global Innovators Fund. It is important to note that in order to vote in some markets, such as Switzerland, some markets require shares to be temporarily immobilized from trading until after the shareholder meeting has taken place. In these instances, we decided it would be in clients' best interests to refrain from voting – these 'non-voted' proposals accounted for the remaining 4% of proxy votes.

Of the proposals voted, 24% were 'Against' management, and 14% were 'Against' the recommendations of Glass Lewis, our proxy voting provider.

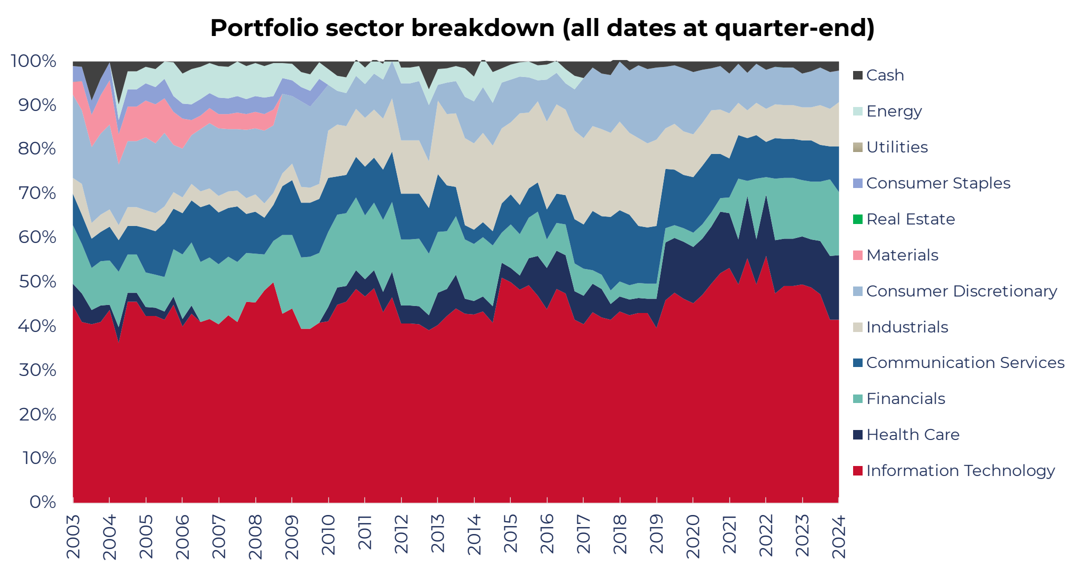




**Other includes votes such as '1 year', 'take no action', and 'do not vote'.*

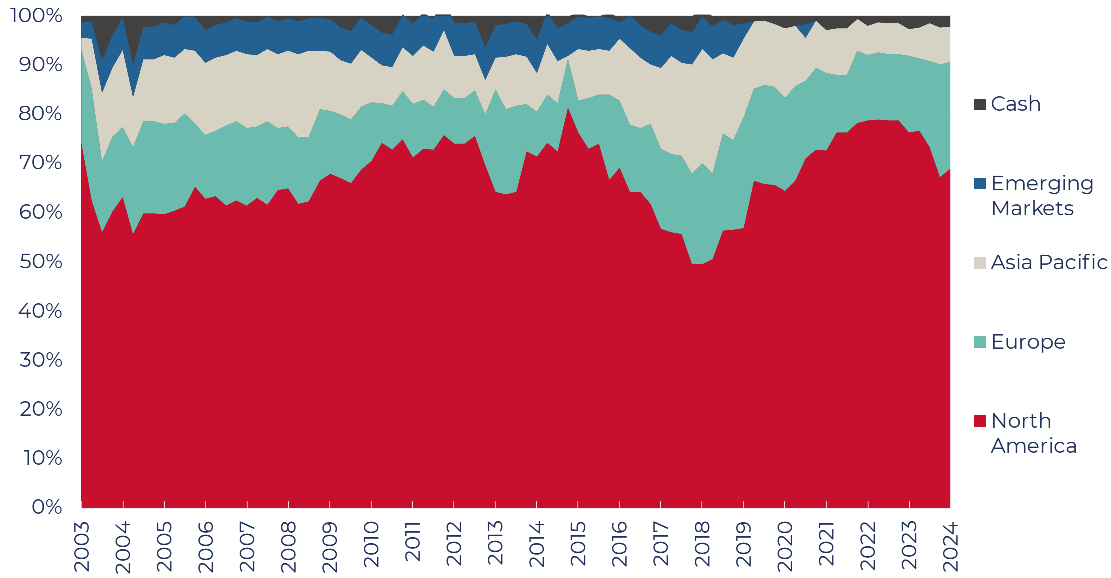
Portfolio characteristics

The charts below show the sector and geographic breakdown of the portfolio at the end of each quarter since the strategy's inception.



Source: Guinness Atkinson, Bloomberg, as of December 31st 2024

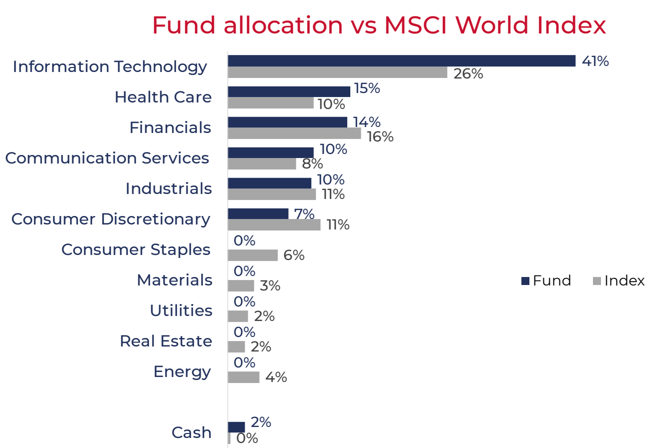
Portfolio geographic breakdown (all dates at quarter-end)

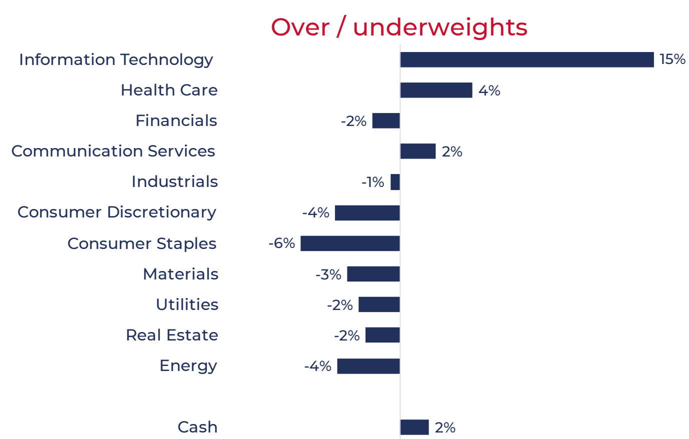


Source: Guinness Atkinson, Bloomberg, as of December 31st 2024

Over 2024, the net effect of the four buys and sells has decreased the Fund's overweight to the Information Technology sector, and increased the exposure to Healthcare, Financials and Industrials sectors. Further, in comparison to last year, the Fund's geographic exposure has seen a shift towards Europe and away from North America having purchased LSEG and Siemens Healthineers, though the portfolio continues to have a bias to the U.S.

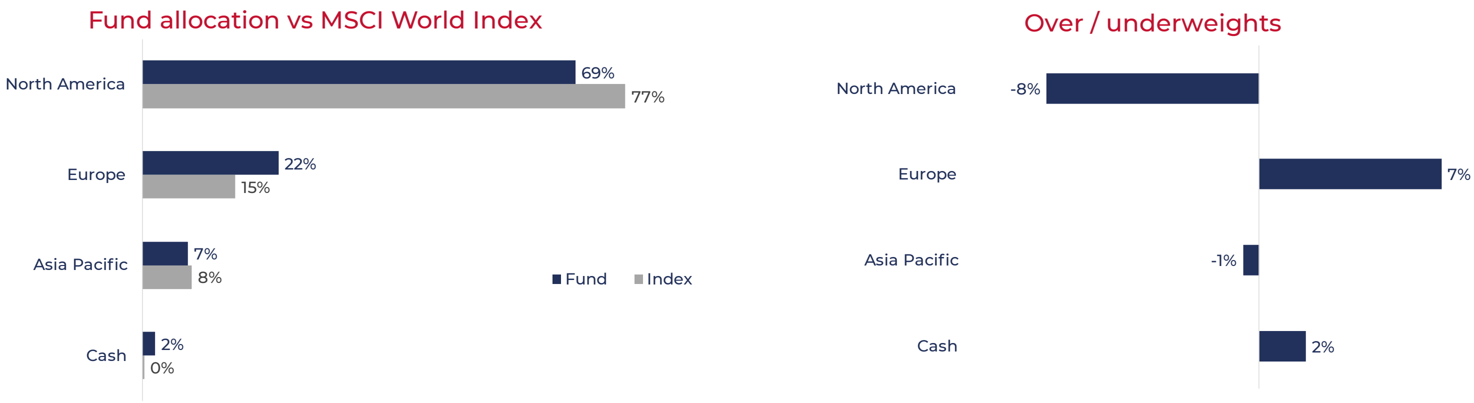
Sector breakdown of the fund versus MSCI World Index





Source: Guinness Atkinson, Bloomberg, as of December 31st 2024

Geographic breakdown versus MSCI World Index



Source: Guinness Atkinson, Bloomberg, as of December 31st 2024

Outlook

The Guinness Atkinson Global Innovators fund seeks to invest in high-quality growth companies, that have exposure to long-term secular growth trends and that are trading at reasonable valuations.

During the year, the Fund benefited from a number of tailwinds, including a rotation back towards 'growth' over 'value', following the start of the Fed's rate cutting cycle. Following from 2023, markets were also buoyed by developments in Artificial Intelligence– one of the nine key innovation themes in which the Fund has significant exposure. However, we also saw a year characterized by heightened volatility particularly across industries such as semiconductors. Thus, we are pleased with the Fund's outperformance this year and more broadly the longer-term performance. The Fund remains in the top quartile versus peers across 1, 3, 5-, 10-, 15-, and 20-year periods, despite the varying market conditions seen during the past few years and particularly the difficult environment for 'growth' stocks during 2022. Our focus on quality growth-at-a-reasonable-price has helped the Fund in more difficult market environments, not only benefiting from businesses who are able to withstand more difficult demand periods with strong balance sheets and higher margins, but also avoiding the volatile non-profitable tech businesses that have swung between large rises and falls, and often underperforming over longer time frames.

In addition, the Fund has good exposure to the long term secular trend that it Artificial Intelligence, investing in a number of the leading enablers and integrators within the space, and this has been the key driver of performance over 2024. However, the Fund is diversified across a number of other long term secular themes, that we believe should benefit from continued growth prospects with less sensitivity to the broader economic cycle. In our view, a diversified approach helps protect the Fund against the potential 'boom/bust' cycles that investing in a single theme may experience, thereby reducing volatility of returns but maintaining the ability to potentially capture the upside of strong growth trends. A focus on valuation further aids our ability to avoid costly de-ratings of more speculative companies when growth, or the macro environment, disappoints.

The table below illustrates how the portfolio at year-end reflects the four key tenets of our approach: growth, quality, value, and conviction. The Fund has superior growth characteristics to the broader market, with both a higher trailing revenue growth rate, alongside higher estimated growth over 2025 (vs 2024). Fund holdings, on average, offer higher quality attributes than the broader index, with a significantly greater Return on Capital and more robust balance sheets. The fund currently trades at a

22.9% premium to the benchmark on a 1 year forward P/E basis which we believe is reasonable relative to the more attractive set of characteristics.

Portfolio metrics versus MSCI World Index

		Fund	MSCI World Index
Growth	Trailing 5-year sales growth (annualized)	13.7%	4.3%
	Estimated earnings growth (2024 vs 2023)	22.4%	15.7%
Quality	Return-on-Capital	21.4%	8.6%
	Median net debt / equity	19.8%	39.1%
Valuation	PE (2025e)	23.6x	19.2x
	PE (2025e) vs MSCI World Growth*	23.6x	27.7*
Conviction	Number of stocks	30	1480
	Active share	79%	-

Source: Guinness Atkinson, Bloomberg, as of December 31st 2024

Though the outlook for 2025 offers much uncertainty, market developments over 2024 point to strength, laying stable foundations for the year ahead. Concerns early in the year over hotter inflation, a hard landing scenario and weakening consumer sentiment have largely abated. Inflation has continued to trend towards targeted levels, reports of jobs data have surprised to the upside and GDP growth particularly in the US has held up, which allowed the Federal Reserve to deliver the much-awaited start of the interest rate-cutting cycle. Despite this broad optimism, we are aware that risks remain. Donald Trump's return to the presidency introduces policy uncertainty, particularly around tariffs, corporate taxes, and energy policies. His proposed tariffs on imports, if implemented aggressively, could elevate inflation and increase volatility in global markets. Focusing on the US equity market, we enter 2025 with elevated valuations as many stocks are trading at a premium to long term averages. This leaves equities vulnerable to external shocks or negative catalysts. In such an environment, we remain grounded in our investment philosophy of finding high quality stocks with exposure to long term secular growth themes as these companies have scope to grow while being protected by better fundamental characteristics in terms of margins and balance sheets but also performing well during cyclical upswings. We are confident that the Fund's focus on high quality growth stocks, underpinned by structural changes stands us in good stead going forward. Our bottom-up approach helps to identify these quality growth companies, while also maintaining a valuation discipline. In addition, our equally weighted positions limit over-reliance on any single company. We continue to focus on these key tenets in the Fund and remain confident of this process over the long term.

May we wish you a happy and prosperous New Year, and we look forward to updating you on the progress of the fund over the course of 2025.

Portfolio Managers

Matthew Page, CFA

Dr Ian Mortimer, CFA

Fund Summary

In 2024, the Guinness Atkinson Global Innovators Fund produced a total return of 21.9% (TR in GBP), compared to the MSCI World Net TR Index return of 20.8%, therefore outperforming by 1.1%. The IA Global Sector returned 12.6% (in GBP), with the Fund therefore outperforming its peer average by 9.3%.

Since launch (May 2003) the strategy ranks 2nd out of 90 Funds in the IA Global sector. It has produced a cumulative total return of 1,396.5% (TR in GBP) compared to the sector average of 556.9% – an outperformance of 839.6%. Over 10 years, this outperformance is 125.3%.

2024 proved to be another impressive year for equities. The S&P 500 has now delivered two consecutive years of over 20% return, for the first time since the 1990s. Global equity markets delivered robust returns against a complex backdrop of evolving monetary policy, geopolitical uncertainty, and divergent regional economic performance. Chief among the driving forces was the Federal Reserve's long-awaited pivot to a rate-cutting cycle, fuelling optimism across equity markets. Meanwhile, excitement around artificial intelligence only heightened, driving technology stocks and particularly the Magnificent 7 stocks to new highs, though cracks began to show as the sustainability of this performance has come under question. Donald Trump's decisive election victory added to this year's performance as the dollar surged to two year highs and brought growth stocks back into favor.

Despite initial concerns about a slowing economy and persistently high inflation, US equities thrived, underscoring the nation's ongoing economic resilience. The S&P 500 posted an impressive return of 25.0%, leading major global indices. Although the "Magnificent Seven" mega-cap AI stocks once again played a crucial role, the market breadth notably improved, as robust GDP growth of 2.6% (quarter-on-quarter annualized) translated into stronger corporate earnings across a broader range of sectors. Enthusiasm surrounding AI remained a key theme throughout the year, sustaining the momentum in technology, which was the top-performing sector for the second consecutive year.

The Federal Reserve's policy shift was pivotal. After maintaining a restrictive stance through 2023, the Fed began cutting rates in September 2024 as inflation showed signs of consistent moderation. This pivot provided much-needed relief to financial conditions, bolstering investor sentiment. However, markets quickly tempered their expectations as resilient US growth and sticky inflation kept the pace of rate cuts slower than initially anticipated. Consequently, while equities benefited from improved liquidity conditions, bond markets struggled, with global investment-grade bonds delivering negative returns of -1.7% amid rising yields and a strengthening US dollar.

Outside the US, regional performances were mixed. In Europe, the picture was slightly less optimistic as the region struggled with weakening economic momentum with persistent headwinds from high energy costs and rising trade competition affecting sectors such as manufacturing. Political instability in France and Germany exacerbated challenges and consequently European stocks underperformed, delivering a modest 8.1% return compared to the 19.2% gain seen in developed markets overall. Elsewhere, emerging market equities returned 8.1%, driven by a late-year rally in Chinese stocks following the announcement of fiscal stimulus and government support in the region. Notably, gold, emerged as a strong performer, delivering a remarkable 27.1% return as investors sought protection against fiscal uncertainty and geopolitical risk.

Looking ahead, the broadening of equity market performance and prospects of further rate cuts set a cautiously optimistic tone for 2025. However, with fiscal challenges looming and geopolitical risks still elevated, investors may face a more volatile environment in the coming year.

Over 2024, fund performance relative to the MSCI World Net TR Index can be attributed to a number of factors:

- The Fund held six of the 'Magnificent Seven' stocks that have continued to dominate developed market equity performance. The fund held Apple, Alphabet, Amazon, Meta, Microsoft and Nvidia but did not own Tesla.
- Through the year, a number of events brought 'growth' stocks into favor namely the Fed's first interest rate cut, continued enthusiasm for Artificial Intelligence and Trump's election success within the final months of the year, all benefiting Fund performance over 2024.
- The Fund's largest overweight position was to the Information Technology sector and this contributed to positive asset allocation as it was among the top-performing sectors over the year (+33.1% USD). Further, having no exposure to the weaker performing sectors of Materials, Energy and Consumer Staples provided a material benefit to performance.
- Stock selection within the Information Technology sector was the greatest detractor to relative Fund performance. The software company Adobe, (-25.5% USD), was the Fund's weakest performer over the year as the company struggled with intensifying competition and monetization of its AI tools.

as of 12.31.2024 (in USD)	**1 year**	**3 years annualized**	**5 years annualized**	**10 years annualized**
Global Innovators, Investor Class[1]	**19.54%**	**5.42%**	**14.15%**	**12.20%**
Global Innovators, Institutional Class[2]	**19.83%**	**5.67%**	**14.43%**	**12.45%**
MSCI World Index NR	**18.67%**	**6.33%**	**11.15%**	**9.94%**

All returns after 1 year annualized.

[1] Investor class (IWIRX) Inception 12.15.1998 Expense ratio* 1.24% (net); 1.28% (gross)
[2] Institutional class (GINNX) Inception 12.31.2015 Expense ratio* 0.99% (net); 1.13% (gross)

[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).

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.

*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, 2027. 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 12/31/2024:

1.	Nvidia Corp	3.98%
2	Mastercard Inc	3.82%
3.	TSMC	3.78%
4.	LSEG	3.76%
5.	Amazon	3.72%
6.	Ametek	3.58%
7.	Visa Inc	3.57%
8.	Alphabet	3.56%
9.	Anta Sports	3.55%
10.	Netflix	3.47%

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 CBOE Volatility Index (VIX) is a real-time index that represents the market's expectations for the relative strength of near-term price changes of the S&P 500 Index (SPX). Because it is derived from the prices of SPX index options with near-term expiration dates, it generates a 30-day forward projection of volatility.

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.

The Nasdaq-100 (NDX) is a large-cap growth index. It includes 100 of the largest domestic and international non-financial companies listed on the Nasdaq Stock Market based on market capitalization.

Bloomberg Magnificent 7 Total Return Index is an equal-dollar weighted equity benchmark consisting of a fixed basket of 7 widely-traded companies classified in the United States and representing the Communications, Consumer Discretionary and Technology sectors. It includes mega-cap, tech-focused US companies—Alphabet, Amazon, Apple, Meta Platforms, Microsoft, NVIDIA and Tesla.

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.

The CAPE ratio is a valuation measure that uses real earnings per share (EPS) over a 10-year period to smooth out fluctuations in corporate profits that occur over different periods of a business cycle. 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.

Compound annual growth rate, or CAGR, is the mean annual growth rate of an investment over a specified period of time longer than one year. It represents one of the most accurate ways to calculate and determine returns for individual assets, investment portfolios, and anything that can rise or fall in value over time.

EBITDA, or earnings before interest, taxes, depreciation, and amortization, is an alternate measure of profitability to net income

Personal consumption expenditures (PCE), also known as consumer spending, is a measure of the spending on goods and services by people of the United States. According to the Bureau of Economic Analysis (BEA), a U.S. government agency, PCE accounts for about two-thirds of domestic spending and is a significant driver of gross domestic product (GDP)

The CDP (formerly the Carbon Disclosure Project) is an international non-profit organization based in the United Kingdom, Japan, India, China, Germany, Brazil and the United States that helps companies, cities, states, regions and public authorities disclose their environmental impact.

One cannot invest directly in an index.

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