

2020 in Review:

Going into 2020, many of the risks of 2019 had been somewhat eased: central banks looked to be more accommodative with the US Fed cutting interest rates for the first time since the Global Financial Crisis, a Phase 1 trade deal between US and China looked to set a path towards a more complete deal, and, the UK left the European Union. However, come mid-February, we saw the beginning of a sharp sell-off in equity markets as COVID-19, had spread across the globe causing countries to close off their borders, initiate lockdowns and effectively stop all non-essential economic activity. Consequently, the S&P 500 ended the longest bull run in US history in dramatic fashion: falling 20% in 22 days - the fastest time the index has done so in history.

Number of days from peak to reach -20% (and meet the commonly accepted definition of a bear market)

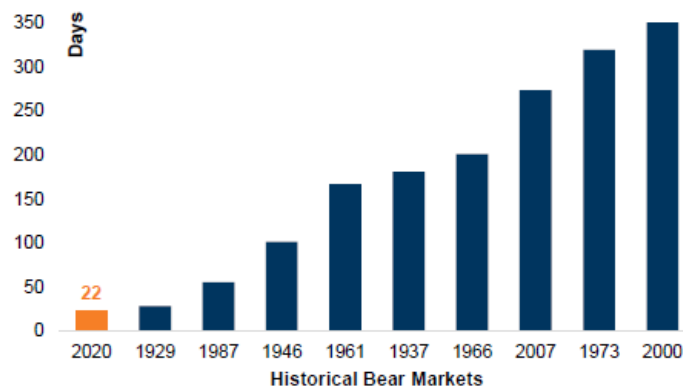


Figure 1, Source: Bloomberg, Goldman Sachs Research

However, as quickly as the Index fell into recession, the index rebounded - recovering its losses as unprecedented fiscal and monetary policies, combined with an apparent willingness of investors to look through the worst into the future, and later approved vaccines, led to a sharp equity rally into year-end. However, while equity markets may present a rosier outlook – and there is cause for optimism with 3 vaccines showing high late-stage efficacy rates – many regions are still battling to control the virus during this winter period creating a strain on health systems.

Fiscal and monetary stimulus responses:

With regions facing rising infection rates and national lockdowns, central banks and governments were required to announce unprecedented stimulus responses, cutting interest rates and passing stimulus packages aimed at saving jobs and businesses. In the US, for instance, the Fed cut interest rates twice in March, firstly by 50bps followed by a full 100bps cut, leaving the rate at 0.25%. Additionally, the government passed a \$2trillion stimulus bill in March – the largest emergency aid package in US history – followed by a further \$900billion package in December. The scale of national responses enabled many equity markets to rebound as fast as they had fallen.

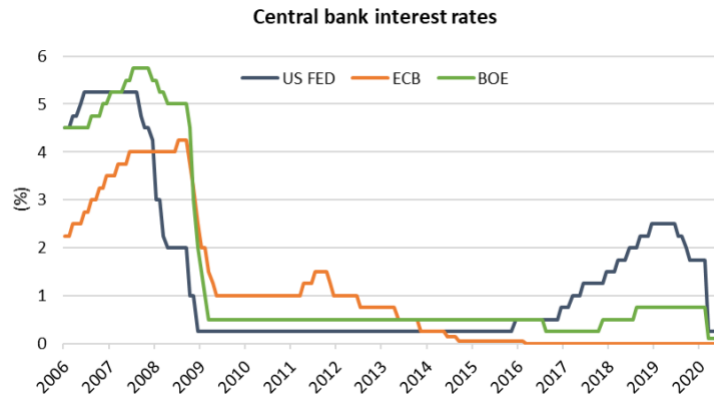


Figure 2, Source: Bloomberg, as of December 31, 2020

US Fed policy change:

Having already cut interest rates by 1.5% over the year in response to the pandemic, the US Fed also announced in August, a change in how the Federal Open Market Committee (FOMC) looks to adjust interest rates. Specifically, the FOMC now seeks to achieve an *average* inflation of 2% over time (although no time period was specified). This is a divergence from the previous method of pre-emptively adjusting rates and may allow inflation to run over 2% following a period of sub-2% inflation. All this acted as further support for equity prices as markets noted interest rates may therefore likely be lower for longer. This had the knock-on effect of continuing to drive equity prices higher, particularly higher growth stocks – such as those within the fund – which justify a proportionately higher valuation at lower interest rates versus stocks that are not growing.

COVID-19 Vaccines:

There was cause to be optimistic that an end may be in sight, as in November three coronavirus vaccines showed high last stage efficacy rates. The three developments consisted of a Pfizer/BioTech vaccine that showed a 90% efficacy rate, a Moderna vaccine that showed a 95% efficacy rate, and the Oxford University/AstraZeneca vaccine which showed an efficacy rate of 70% (or up to 90% with different dosage regimes). The news led to those stocks which had underperformed year-to-date to rebound strongly – most notably Energy, Banks and Autos - as the prospect increased of a return to relative normality sooner than may have been expected. However, while the late-stage results are clearly very positive news, there are still several challenges ahead with distribution and administration on a mass scale still required while the winter season has brought about rising infection rates in many regions, including the UK which faces its third national lockdown.

2020 US Election:

One of the major events of the year was the US election in which Joe Biden challenged and eventually won the presidency against incumbent Donald Trump. It was an election like no other, with Trump continually claiming

unsubstantiated claims of fraudulent voting and with the expected democratic “blue wave” win much narrower than many had anticipated. Having said that, at time of writing, Biden has been confirmed the next president and the Democrats have won a majority in the Senate, meaning they will control both chambers of Congress. This will make passing bills an easier (but not certain) task. This has thus far led to falls in big tech stocks and gains in industrial and renewable energy stocks as the prospect for passing new infrastructure spending bills and tackling Big Tech increases.

Some of the proposed policies Biden may look to pass include:

Taxes:

One of Trump’s major policies was reducing the corporate tax from 35% to 21%, providing a boost to company earnings, and enabling a record year of company share buybacks stemming from the increase in cash. Key companies that benefitted from this were US businesses with high proportions of US sales including Industrials and Consumer Staples. With increases in spending on Biden’s to-do list, one of his major policies would be to increase the corporate tax rate back up to 28% - still lower than the initial 35% - to help fund an already stretched budget off the back of coronavirus stimulus packages. Additionally, Biden would look to double the Global Intangible Low-Taxed Income rate to 21%, primarily effecting asset-light high IP sectors such as IT, Communication Services and Healthcare. Although the fund has high exposure to these areas, the majority of fund holdings are multinational corporations which should help dampen any negative effects. Besides, any tax proposal would likely come further into his tenor to not stifle any recovery post coronavirus, while a slim majority in the Senate may also result in a smaller tax increase.

Infrastructure & Clean Energy:

Offsetting some negative effects from higher tax bills would be a boost to the economy arising from Biden’s proposed \$2tn investment into infrastructure and renewable energy. As part of his plan, the US will rejoin the UN Paris Climate Accord and reduce carbon emissions to net-zero by 2050 – currently, the US is the largest economy which does not have a carbon-neutral target. Key winners within the portfolio are likely to include Schneider Electric, which focuses on energy management and industrial automation solutions, and Infineon, the power management semiconductor producer primarily used in automobiles.

China:

While there appears to be bipartisan support for a tougher stance on China, Biden is likely to take a different approach. While President Trump has made extensive use of trade tariffs, with an agreement on a phase 1 deal only signed at the end of 2019, Biden is likely to take a less aggressive approach, possibly jointly with allies as opposed to a unilateral approach. While a retraction of currently imposed sanctions may be a possibility, a halt in further escalations of these policies is more likely. The possibility of a clearer approach and less aggressive trade tactics would likely benefit the fund’s semiconductor holdings including the equipment manufacturers KLA Corp, Lam Research and Applied Materials which have had to navigate sanctions on sales to China’s chip foundry, SMIC, and leading smartphone and telecoms equipment business, Huawei.

Growth vs Value:

Throughout 2020, growth continued to outperform value, with the market rewarding those companies that could continue to grow despite the pandemic. However, with earnings still relatively difficult to predict and valuations spiking back up to historic highs for many companies, many believe markets have now become overly stretched.

Relative returns (Growth – Value)



Figure 3, Source: Bloomberg, as of December 31, 2020

However, we believe there may be a few reasons why the market is correct to price in historically high multiples today:

1. **The discount rate has fallen dramatically.** Central banks have slashed interest rates, are creating huge amounts of money through quantitative easing, and are guiding that interest rates will remain low for a long period of time. This is different from the financial crisis where it took much longer for central banks to act.
2. **Information Technology makes up a larger proportion of the global index today** and is dominated by companies that are able to grow through this period (e.g. FAANGS).¹
3. **A fall in the discount rate justifies a proportionally higher multiple for a company that is growing compared to a company that is not.**

Either way, it is going to be difficult to see how the multiple will expand considerably from here and therefore the next equity market rally will need to be driven by companies that can grow their earnings. These are going to be harder to find and therefore will justify a premium multiple.

¹ FAANG is an acronym referring to the stocks of the five most popular and best-performing American technology companies: Facebook, Amazon, Apple, Netflix, and Alphabet (formerly known as Google). (source: Investopedia)

To this end, we believe growth will remain scarce and as such, **growth companies will continue to prosper**, while debt levels will be higher and consequently, **strong balance sheet companies will prosper**. With the fund's focus on businesses with strong balance sheets (fund net debt/equity 7% vs MSCI World 63%), and companies exposed to innovative themes transforming industries, whether that be artificial intelligence, cloud computing, clean energy or the internet of things, we believe this fund is well-positioned to find those scarce sources of growth.

Battle in Big Tech:

While IT stocks led the equity market recovery, it was not without potential new uncertainties. Over October, a landmark anti-trust case was brought against Alphabet, parent of Google, by the Department of Justice (DoJ) in a first attempt to take on Big Tech's dominance. The DoJ's accusation is of Alphabet stifling competition by using billion-dollar agreements with the likes of Apple to keep Google's search engine as the default engine on most smartphones. While this reflects an escalation in Washington's attempts to combat Big Tech's growing dominance, the lawsuit is not likely to reach courts until 2022 combined with possible appeals, the impact on Alphabet's income statement is not likely to be felt (if at all) for a sustained period, even if DoJ were to win the case.

However, we note a growing interest in tackling big tech, not only in the US but also in China, where regulators sent a clear signal of their intentions to rein in their tech giants that have dominated multiple industries to foster better competition. Having suspended Ant Financial's initial public offering in November, the regulators then proceeded to post guidelines aimed at tightening a number of practices from uses of consumers data and promotional subsidies, to the tightening of regulatory filings around acquisitions that may have previously been deemed anti-competitive. These guidelines would predominately affect China's big 3 tech giants, Alibaba, Tencent and Baidu, (of which the fund only owns Tencent) which control large portions of several industries. We continue to believe Tencent, as well as our big tech US holdings, offer attractive growth opportunities across many different areas and we are cognizant that not all companies will be affected equally, however, an evolving landscape could provide headwinds and we will therefore continue to monitor the situation closely.

US-China relations:

Tensions between the world's two largest economies continued over the year as President Trump sought to ban Chinese-owned social media apps TikTok and WeChat, while further sanctions were also placed on Chinese company Huawei. The new set of sanctions require companies to obtain a license before selling any microchip to Huawei made using US equipment or software. This was an escalation from previous sanctions that allowed the sale of chips to the business as long as they were not designed by the Chinese company or its subsidiaries. The news, cited as a "death sentence" for the Chinese business by some analysts, was taken as a negative for the fund's semiconductor equipment manufacturers. Weakness for the semiconductor holdings was further compounded after the US placed sanctions on China's leading semiconductor foundry, Semiconductor Manufacturing International Corporation (SMIC), requiring companies to acquire a license before exporting software or equipment to the business. However, while the fund's three semiconductor equipment manufacturers, Lam Research, KLA Corp and Applied Materials, were understandably weak on the above news, they all performed strongly over 2020, up 64.0%, 48.0%, and 43.3% respectively, as more general demand continued to increase through acceleration in remote working, content streaming and other innovations.

Innovation Theme performances

We have always believed innovative businesses tend to outperform their peers, driven by wider margins, faster profit growth and less susceptibility to cyclical pressures. The latter point is an outcome of the evolving demand that these companies can exhibit that may offset some of the broader weakness in economies leading to shallower

troughs in earnings. Throughout 2020, we were pleased to see that this indeed held true, with the majority of holdings within the Global Innovators fund, not only experiencing robust demand throughout the pandemic, but actually an acceleration in demand *because* of the pandemic. No better quote may encapsulate this than Microsoft’s CEO Satya Nadella, claiming that:

“We’ve seen two years’ worth of digital transformation in two months,”

In fact, looking at how our innovation themes have performed using a basket of Guinness Atkinson-defined bellwethers, every theme except Advanced Healthcare outperformed the MSCI World over 2020.

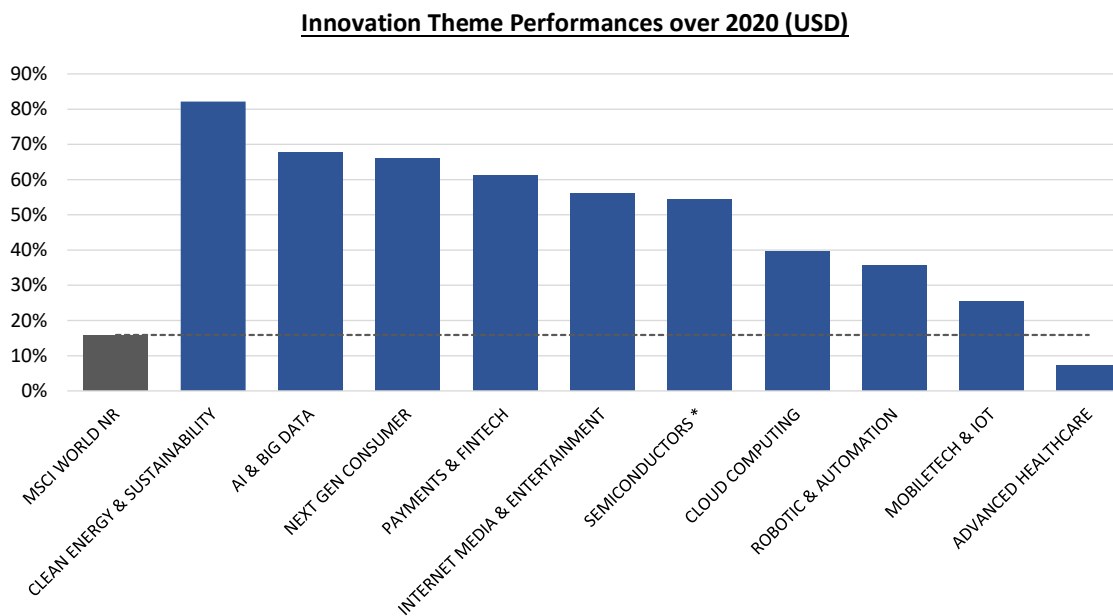


Figure 4, Source: Guinness Atkinson Asset Management, Bloomberg, as of December 31, 2020

*Semiconductors is not one of our innovation themes, however, these companies fit into multiple themes and as such we find it beneficial to include in this analysis

Indeed, upon reviewing a few of these themes we find good reason for the performance:

- **Clean Energy & Sustainability** was the biggest winner as nations prioritized clean energy projects in the recovery from the pandemic. This was emphasized by China’s newest commitment to be carbon -neutral by 2060 and incoming US President Biden’s proposed \$2tn investment into renewable energy and infrastructure.
- **Next Gen Consumer**, which includes eCommerce, healthy living and Everything-as-a-Service businesses saw robust demand, particularly as consumers were forced to accelerate their eCommerce spending habits at the detriment to the high-street which spent considerable time in lockdown. The pandemic also highlighted the need for businesses to have an online presence to adapt to changing habits. No business highlighted

this more so than Primark – the exclusively brick and mortar chain - which in April claimed: *“From making sales of £650m each month, since the last of our stores closed on 22 March, we have sold nothing”*.

- **Cloud Computing** was a key enabler in allowing the economy to continue functioning, however slow. Data centers, such as those built by Amazon or Microsoft, have allowed workers to work remotely, in addition to enabling the streaming of video content and video games in which consumers have shifted to in order to pass time while at home. Fund holding KLA Corp highlighted the lasting effect on how businesses operate going forward claiming: *“Third-party estimates suggest that cloud capacity would need to increase tenfold to service the peak workloads seen as shelter-in-place rules went into effect. Although these heightened workloads are likely a short-term phenomenon, this event will underscore the need for companies to invest more in infrastructure and business continuity capabilities as the data economy and our dependence on technology continues to expand over time.”*
- **Advanced Healthcare** was the only theme to underperform the MSCI World over 2020 as elective surgeries were cancelled and drug trials postponed. However, there were bright spots as the pandemic created a surge in demand for some products such as those Medtronic highlighted here: *“There are specific product categories for Medtronic that are being -- we are seeing significant increases in demand. And I would point to things like ventilators, pulse oximeters ... And we are seeing within our Diabetes Group a move for patients to want to increase their on-hand level of supplies.”*

Review of 2020 fund performance

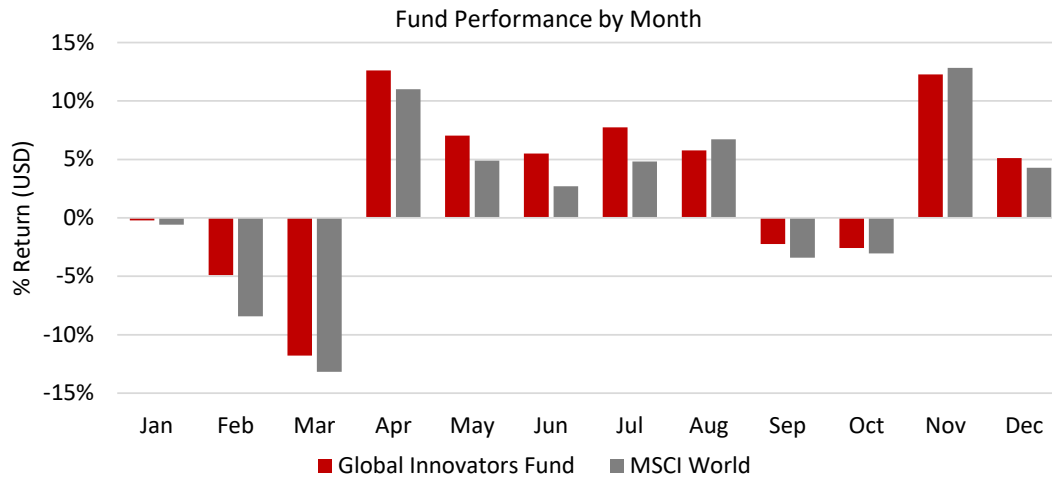


Figure 5, Source: Bloomberg, as of December 31, 2020

The fund performed very well in 2020, up 36.17% in USD, outperforming both in the sell-off and subsequent market rally. This highlighted the effects of investing in high-quality businesses exposed to transformational trends as the market rewarded companies with robust balance sheets and those businesses that could continue to grow throughout the pandemic. As a consequence, the fund outperformed the MSCI World in each quarter and in 10 of 12 months, with fund holdings Nvidia and PayPal both returning over 100% (USD) over the year as the pandemic accelerated demand for their products.

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.

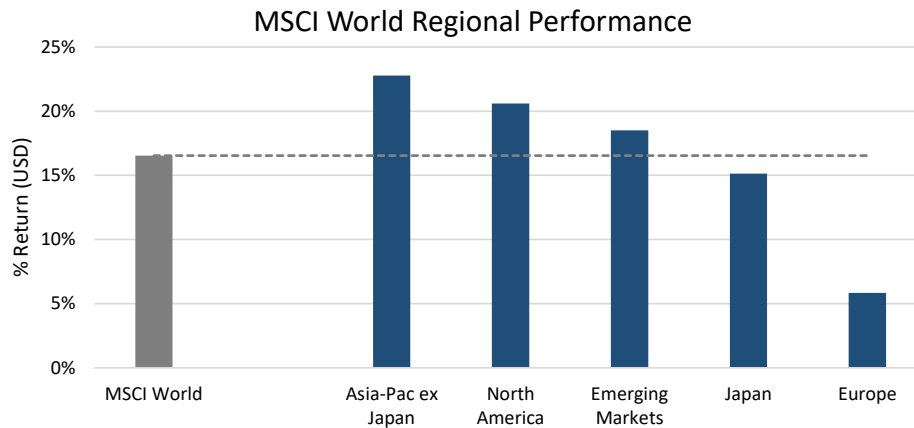


Figure 6, Source: Bloomberg, as of December 31, 2020

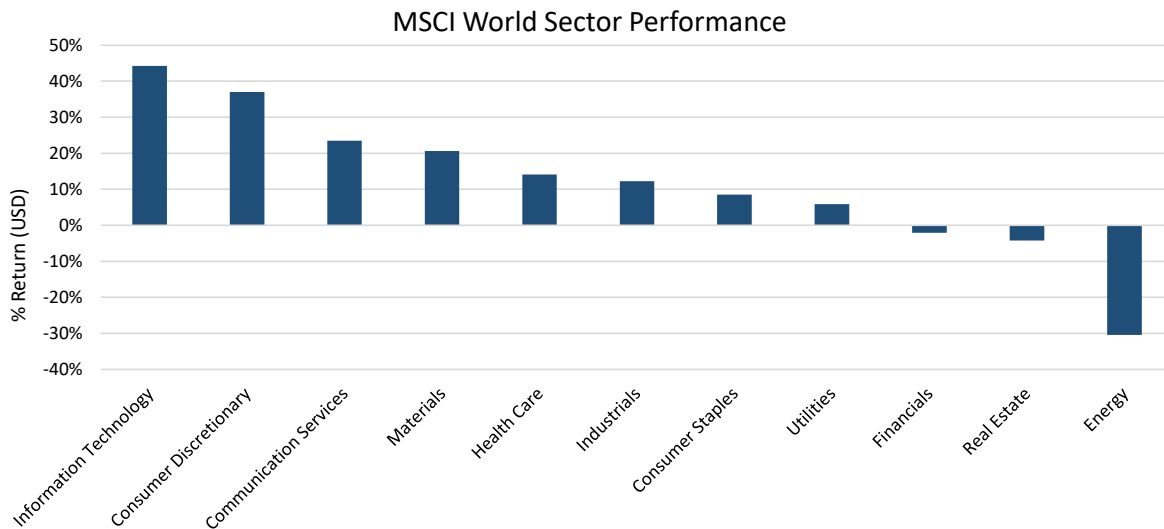


Figure 7, Source: Bloomberg, as of December 31, 2020

Over the **1st quarter**, global equity markets experienced a sharp decline in reaction to the growing threat of COVID-19 that saw regions enter national lockdowns, Central banks slash interest rates and governments pass unprecedented fiscal packages. As a consequence, for the first quarter of 2020, the Guinness Atkinson Global Innovators Fund provided a total return of -16.2% (USD) against the MSCI World Index net total return of -21.1% (USD). Hence, the fund outperformed the benchmark by 4.9% (USD). Furthermore, it was pleasing to see the fund not only outperformed in each of the three months of the quarter but also during the initial market rally (12.31.2019 – 02.19.2020) and in the preceding drawdown (02.19.2020 – 03.23.2020).

During the sell-off, the market punished companies with weak balance sheets due to demand shocks and heightened credit market stress. Quality companies with the characteristics we look for such as high return on capital, therefore outperformed. Additionally, the fund had and continues to have, no exposure to the hardest-hit areas of the market:

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no energy, no banks, no airlines, no restaurants, no travel companies. Overall, the fund benefitted from an overweight exposure to the Information Technology sector (the 2nd best performing sector over the quarter), while being underweight Energy and Financials (the two worst performing sectors over the quarter, with Banks the main drag on Financials). In particular, the market rewarded companies that could continue to grow throughout the pandemic, with holdings Nvidia (up 12.1% USD) and Amazon (up 5.5% USD), the fund’s top two performers over the quarter. Nvidia benefitted from an increase in video gaming from consumers in lockdown as well as robust demand for their graphic processing units (GPUs) in data centers that provide the infrastructure that enable cloud-based products. Amazon, which commands the largest market share of the cloud computing market (Amazon Web Services, AWS) similarly benefitted from the relatively robust demand for their cloud computing capabilities as more people worked remotely, streamed video and ultimately used cloud-based products.

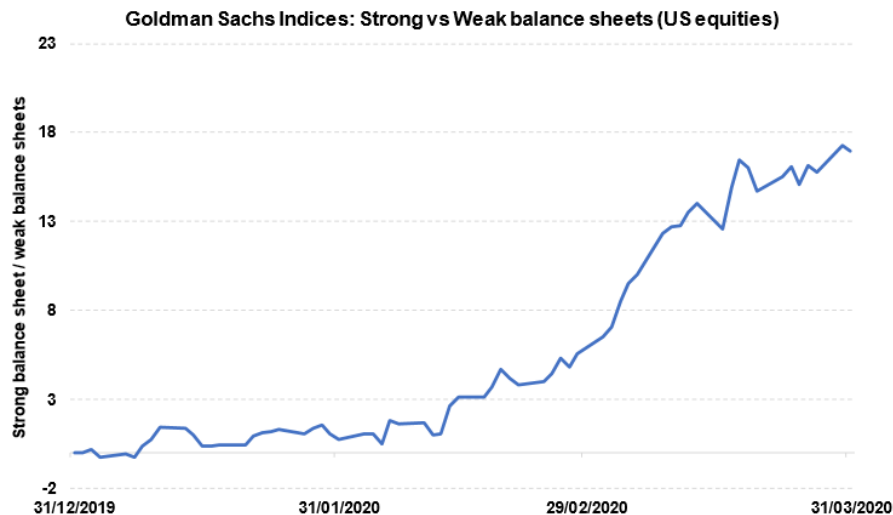


Figure 8, Source: Bloomberg, as of December 31, 2020

For the 2nd quarter of 2020, the Guinness Atkinson Global Innovators Fund provided a total return of 27.4% (USD) against the MSCI World Index net total return of 19.4% (USD). Hence, the fund outperformed the benchmark by 8.0%. Having outperformed during the first quarter, including the drawdown beginning in February, the fund subsequently extended its outperformance in the proceeding equity market rally. By quarter-end, the MSCI World has recovered around three-quarters of the losses sustained in the drawdown versus the Guinness Atkinson Global Innovators Fund which had since recovered all of its losses, sitting ahead of its February peak.

Equity markets recorded one of the best quarters in recent decades in Q2, as COVID-19 cases eased in many regions and central banks continued to support their respective economics with unprecedented packages of loose monetary policies including ultra-low interest rates. As governments continued to precariously balance opening up economies with the risk of further spikes in cases, many regions including Europe and parts of Asia (notably China) saw low case numbers which enabled governments to open up businesses including restaurants, pubs and barbers. During the quarter, the fund benefitted from positive asset allocation from the fund’s largest absolute and relative overweight exposure, Information Technology (IT). Additionally, good stock selection within IT aided performance with 7 of the fund’s top 10 performers (led by PayPal, up 82.0% in USD over the quarter) from the sector. A slight drag, however, was not owning Apple - the largest position in the MSCI World - which returned 43.8% (in USD) over the quarter. Stock selection from the fund’s Industrial exposure was a positive for the fund, with our 3 positions, Schneider, ABB

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and Roper Technologies, all showing robust performance as many regional manufacturing PMIs bounced back strongly after a few poor months.

For the **3rd quarter** of 2020, the Guinness Atkinson Global Innovators Fund provided a total return of 11.1% (USD) against the MSCI World Index net total return of 7.9% (USD). Hence, the fund outperformed the benchmark by 3.3% (USD). Equity markets began the quarter where Q2 left off, with a strong rally in markets as investors looked to easing in lockdown restrictions. However, hopes were tempered as COVID cases in many regions began to rise, most notably in the US in early July before parts of Europe (Spain and France) surpassed previous highs. On the other hand, vaccine trials did begin later in the quarter, principally from Oxford University. The most prominent news over the quarter came from the US where election debates began, President Trump and the First Lady contracted COVID-19, and tensions between the US and China once again made headlines with the possible banning of social media apps TikTok and Tencent's WeChat and the blacklisting of Chinese semiconductor foundry, SMIC. This meant the fund's holdings in Tencent and semiconductor equipment manufacturers such as Applied Materials, were weaker (relative) in the quarter. However, markets were buoyed by the US Fed's decision in August to shift policy and target an average inflation rate of 2%, which was quickly interpreted as implying interest rates would be more likely to stay lower for longer. Overall, during the quarter, the fund's exposure to healthcare stocks was the largest contributor to sector performance with strong stock selection from MedTech companies Thermo Fisher (up 21.9% in USD over Q3), Danaher (up 21.9%) and Medtronic (up 14.0%). The fund's 0% exposure to Energy stocks was the 2nd biggest sector contributor to the fund's relative performance as the energy sector continued to underperform. Conversely, weaker stock selection in Industrials was a drag primarily driven by a weak quarter from Roper Technologies (up 1.9% in USD over Q3) and a lack of exposure to transportation stocks – the 2nd best-performing industry group over the quarter as a boom in parcel delivery continued.

Moving into the **4th quarter**, two of the market uncertainties became a little clearer, with several COVID-19 vaccines showing high late-stage efficacy rates and Joe Biden winning the US presidency. All this made for a reversal in fortunes for those stocks that had underperformed over the year. Consequently, value stocks outperformed their growth counterparts over the quarter with some of the previously worst performing industries, Energy and Banks, subsequently, the best performing industries over Q4. This created a drag on the portfolio as we continue to own no stocks within these areas. However, although IT had a weaker quarter, within that, semiconductors performed very well with portfolio holdings and industry peers, reporting increases in demand and bullish outlooks. Subsequently, semiconductor holdings made up 5 of the fund's top 10 performing stocks over the quarter (Applied Materials, up 45.6%, Samsung, up 44.0%, Lam Research, up 42.7%, Infineon, up 36.7%, and KLA Corp, up 34.1%). Additionally, strong stock selection from our Chinese Consumer Discretionary stocks, Anta Sports (up 53.4%) and New Oriental Education (up 24.3%) was a positive for the portfolio as the Chinese region had seemingly been able to contain the virus and move to open up the economy once more. Consequently, over the 4th quarter, the Guinness Atkinson Global Innovators Fund provided a total return of 14.9% (USD) against the MSCI World Index net total return of 14.0% (USD). Hence, the fund outperformed the benchmark by 0.9% (USD).

Individual stock performances in 2020

The chart below shows the fund constituents’ performances over 2020 in USD.

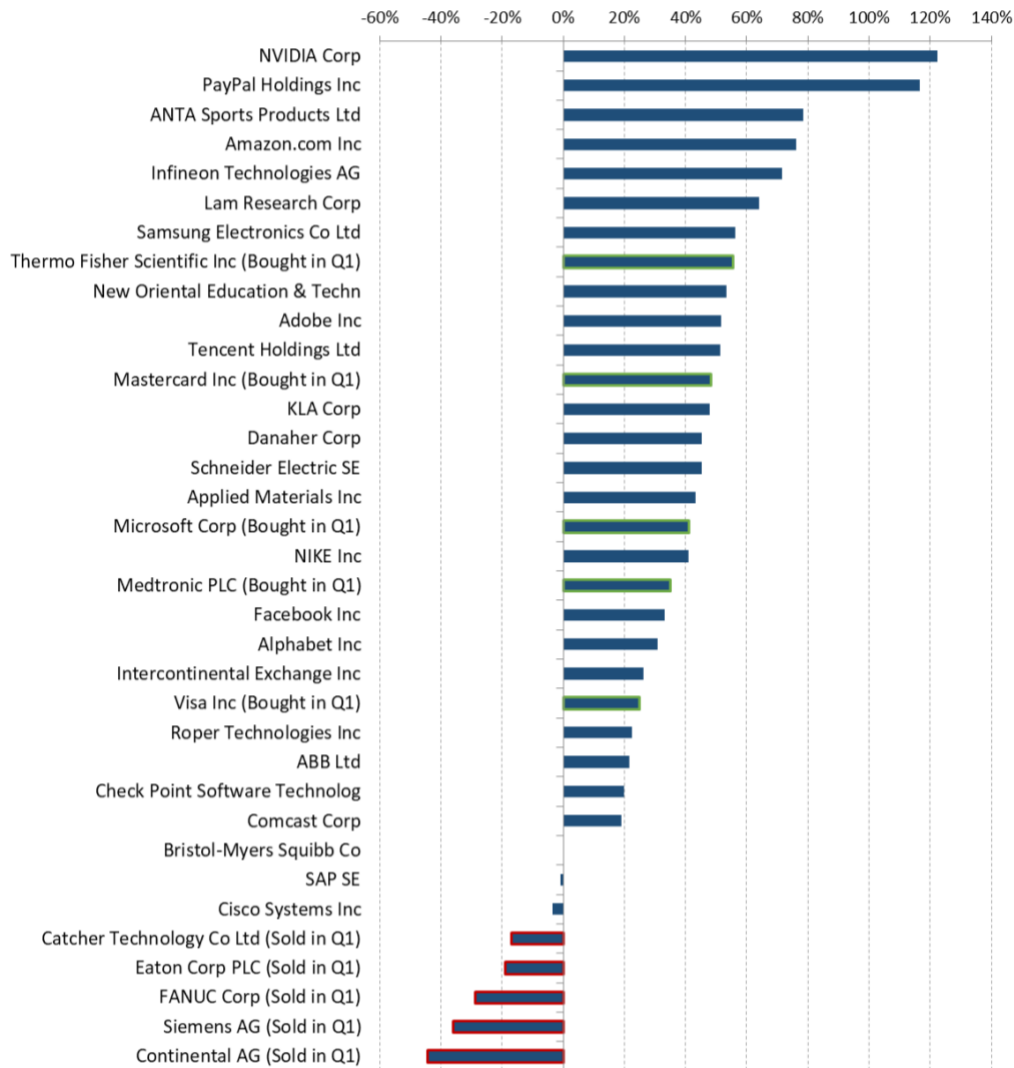


Figure 9, Source: Bloomberg, as of December 31, 2020

Individual companies that performed well over the year included Nvidia (122.3% in USD) and PayPal (116.5% in USD).



Continuing on from what was a stellar 2019, in which **Nvidia** rose 77.0% (USD), the stock rose a further 122.3% (USD) in 2020 as national lockdowns accelerated demand for the company’s Graphic Processing Unit (GPU) chips. Originally

used to render video game graphics, Nvidia’s GPUs are now one the main enablers of innovations today, from accelerating computation in data centers enabling more consumers to work remotely, to artificial intelligence and autonomous vehicles – not to mention Nvidia’s historic stronghold, gaming, which until recently was the company’s largest revenue driver and which saw increased demand over lockdown as consumers had ample spare time to fill. Consequently, Nvidia’s gaming revenue grew over 25% in each of the first 3 quarters of 2020 while the datacenter segment grew 80%, 167% and 162% over those 3 quarters. With the business’s products continuing to find new end-market applications, we continue to see strong long-term growth in a business with clear market leadership.

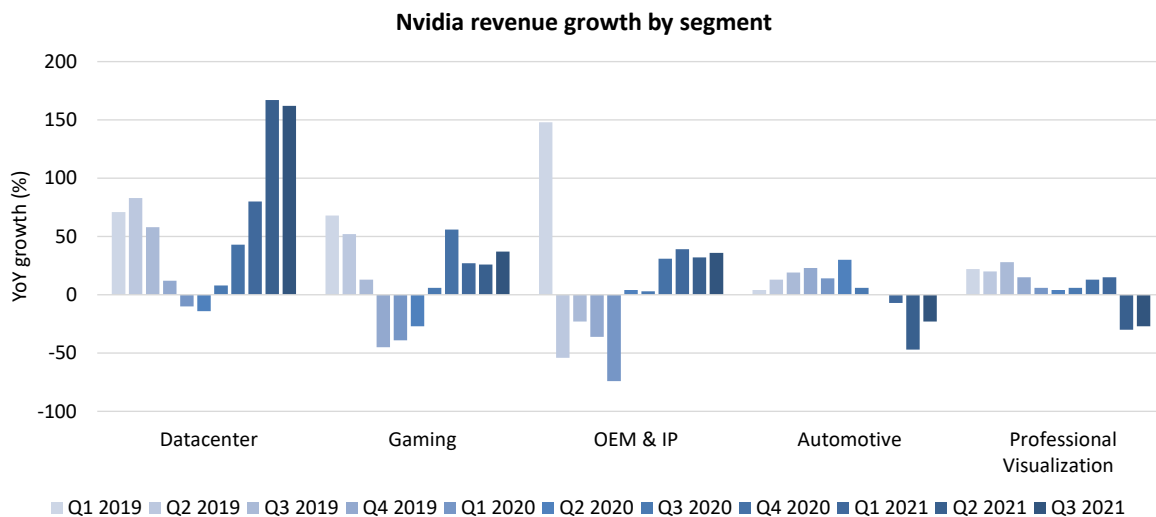


Figure 10, Source: Bloomberg, as of December 31, 2020

PayPal was another stock that benefitted from lockdowns with an acceleration in the shift toward eCommerce at the expense of traditional high-street stores, resulting in accelerating spending volume growth on PayPal’s platforms up to 36% yoy in Q3. Indeed, as an eCommerce-first payment platform, PayPal has benefitted greater than most payment peers that have a relatively higher exposure to offline/on-site payment processing which translated into better-than-expected guidance updates over the year from PayPal management. While we may expect that growth to moderate some-what going into 2021 as lockdowns end, we can expect a lasting effect on consumer’s preference for eCommerce, and as such, we continue to believe PayPal can outperform the broader market and payment peers.

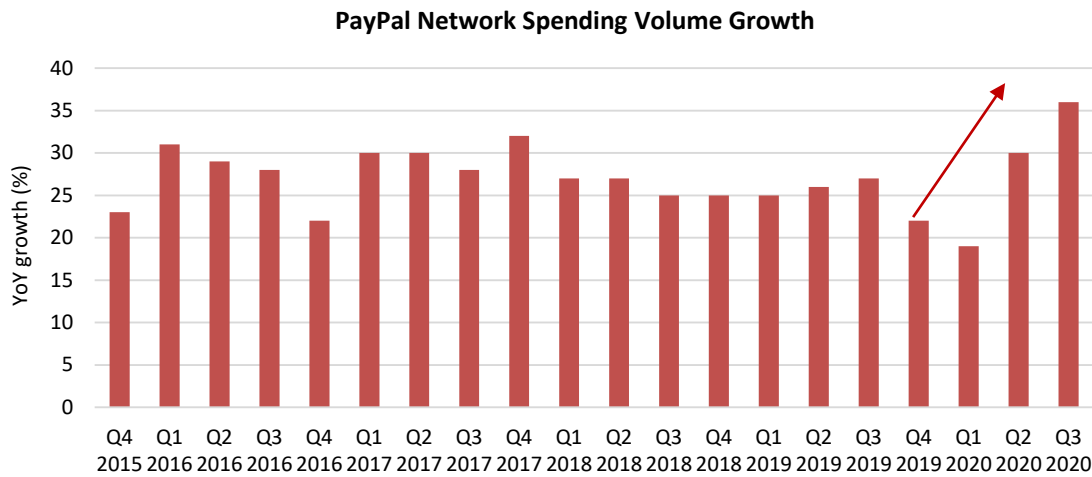


Figure 11, Source: Bloomberg, as of December 31, 2020

Individual companies that underperformed over the year included Cisco (-3.5% in USD) and SAP (-0.9% in USD).



Cisco, the world’s largest hardware and software supplier within the networking sector as well as the leader in cybersecurity systems, underperformed over the year as the company struggled with a slow recovery in enterprise IT spending. Indeed, the company reported results in August that were broadly in-line with expectations, however, the company guided lower for next quarter. This was against the trend for most companies that were seemingly past their respective troughs in revenues and were guiding for a recovery. The primary driver of the sluggish growth was the slow recovery in enterprise IT spending. However, there were some pockets of positivity with security revenue, for instance, rising 12% over the company’s 2020 fiscal year which ended in July, led primarily by double-digit growth in cloud security systems. Additionally, the company has broadly surpassed its 2017 targets for the business with software contributing 29% of revenues (target 30%), software & services contributing 51% (target 50%) and subscriptions as a proportion of software making up 78% of revenues (target 66%). While the company is facing some near-term headwinds, we remain optimistic regarding its exposure to long-term transformations including data networking and cybersecurity as well its internal transformation to more subscription-based services.

In addition, **SAP**, Europe’s largest IT business and leading Enterprise Resource Planning (ERP) software provider, also struggled, falling 0.9% over 2020 which included a 21.9% fall after the company’s October earnings release. The German business, which is the middle of transforming its business into a cloud-based software provider, cut forecasts for 2020 and forewent their previous 2023 targets, instead opting for more conservative 2025 targets. The move comes as enterprises slow their spending as they continue to face uncertainty (impacting SAP’s revenue growth), while an acceleration in demand for their cloud-based software - ahead of company expectations - while a positive in the long-run, reduced near-term revenue recognition and margins. While we continue to monitor the business, SAP remains an attractive investment, with increasingly “sticky” revenue from higher proportions of subscription-based software, and the ever-increasing digitalization of business processes with enhanced analytics.

Changes to the portfolio

We sold five positions and initiated five new positions over the course of 2020.

Number of changes to the portfolio

	2015	2016	2017	2018	2019	2020
Buys	6	7	4	5	3	5
Sales	6	7	4	5	3	5
Total Holdings	30	30	30	30	30	30

Changes to the portfolio over Q1:

We made 5 changes to the portfolio over the quarter, selling positions in Continental, Siemens, Fanuc, Catcher Technologies and Eaton, while initiating new positions in Visa, MasterCard, Microsoft, Medtronic and Thermo Fisher. In short, we exited positions in companies we believed to be more at risk given the current economic climate while entering positions in high-quality businesses which have been on our watchlist for some time but had question marks over their valuation and the equity market selloff in Q1 provided an attractive entry point. In terms of exposure to our Innovation themes, the switches increased our allocation to Advanced Healthcare, Payments and Fintech and Cloud Computing whilst reducing our exposure to Robotics & Automation and Clean Energy & Sustainability.



Continental, the manufacturer of tires and chassis used in electric and autonomous vehicles, has struggled recently as growth in car sales slowed, particularly in China, the largest auto market in the world. While the company trades on an attractive valuation given its oligopoly on tires and focus on innovative electric and autonomous sectors, the coronavirus fallout has pushed any growth from these innovative areas further out and as such we felt there were better investments available.

Siemens, the conglomerate with businesses focusing on the areas of electrification, automation and digitalization, had been held in the portfolio since 2016. While the company has spun off several divisions leaving a company more focused on high IP, high growth areas, we felt there was little by way of short-term initiatives that the firm could deploy to spur near-term growth.

Fanuc is the second largest producer of robotic arms primarily used in the manufacturing of automotive and electronics with this technology set to transcend into increasing numbers of applications. While the company is attractively positioned for the future of robotics and automation, Fanuc's end markets have been some of the hardest hit from the coronavirus slowdown and could possibly delay the technology from finding new applications as it requires large upfront costs. Additionally, the leading producer of robotic arms, ABB, is also held in the portfolio and as such we felt it best to reduce our exposure to this area considering the slowing macroeconomic environment.

In selling Catcher and Eaton, we essentially banked a “relative profit”. Despite being more cyclical businesses, they had held up well relative to their respective sectors in the selloff yet still had near term headwinds. We therefore decided to sell both positions and buy into better quality companies that had also sold off but where longer-term growth was more certain and potentially greater.



Catcher Technologies is the manufacturer of aluminum and magnesium casings for smartphones and laptops. Our original thesis was that although the company derives a material portion of its revenue from Apple, the company was able to generate competitor-leading margins (net margin 23% at time of purchase) and we felt consumers desire for increasingly premium products should increase the demand for Catcher’s products in new and more sophisticated smartphones and laptops. However, with smartphone sales already facing slowing growth, we felt the current environment raised further questions over the time lag before consumers would begin purchasing luxury items again, coupled with increasing competition which had eroded Catchers competitive advantage.

Eaton, the power management company, manufactures energy efficient products that help customers manage their electrical, hydraulically, and mechanical power more sustainably. With the company deriving ~10% of its revenues from aerospace, 14% from automotive and a further (undisclosed) portion from oil and gas, we felt the company was not best placed to weather the current slowdown versus more asset light investment opportunities that were exposed to more robust end-markets.



Visa and **Mastercard** have a duopoly on the global (ex-China) card network market. These businesses are responsible for handling billions of daily transactions connecting merchants with consumers accounts. While cross border transactions account for a material proportion of revenues for these businesses (of which will now be materially affected while countries lock down their borders), their domestic to domestic transactions should remain relatively robust during this period and could even benefit as more people are forced to pay by card rather than cash (as people move online while shops are closed and even in essential selling stores where they are recommending paying by card to reduce to transfer of the virus). These businesses continue to push into new regions including China, where UnionPay holds a monopoly, and use new technologies including blockchain to find solutions to unstructured business-to-business transactions.



Microsoft commands the second largest market share in the cloud computing market (behind Amazon, also owned in the portfolio), which has seen tremendous growth as consumers demand increasingly cloud-based products and services. Alongside cloud computing, the company derives revenues from a diverse portfolio of products and services including the world’s largest desktop operating system in Windows and its Office applications along with emerging technologies such as Artificial Intelligence, virtual reality headsets and mobile computing (smartphones, laptops and desktops).



While drug pricing pressures have created some uncertainty in pharmaceuticals, MedTech is an area we have liked for some time as having more stable recurring revenues but often traded on historically high multiples. Again, the recent sell off provided an opportunity to enter these new positions in two high quality medical technology

companies. **Medtronic** is the largest pure-play MedTech business in the world initially specializing in pacemakers and defibrillators but over time has expanded into providing a vast portfolio of medical equipment from stents, ventilators, diabetes insulin pumps to robotic surgery. **Thermo Fisher** similarly produces a wide array of medical equipment deriving over 50% of its revenue from consumables creating highly recurring revenue. Both companies exhibit strong balance sheets and wide moats which are derived from the strong relationships that they have built up with hospitals and practitioners and their subsequent knowledge of these specific products.

We made no changes over the remaining quarters.

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.

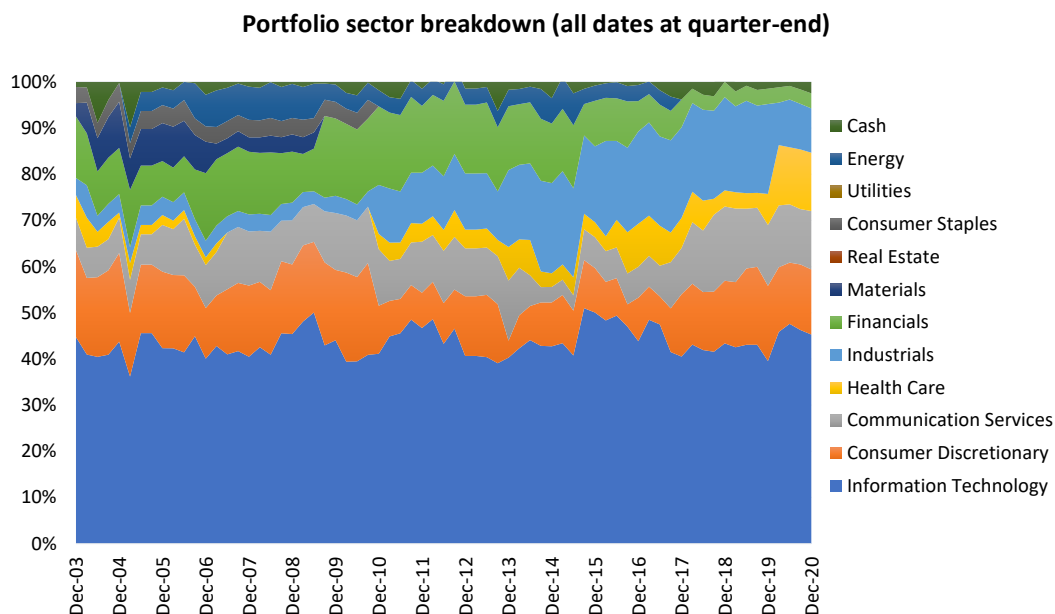


Figure 12, Source: Bloomberg, as of December 31, 2020

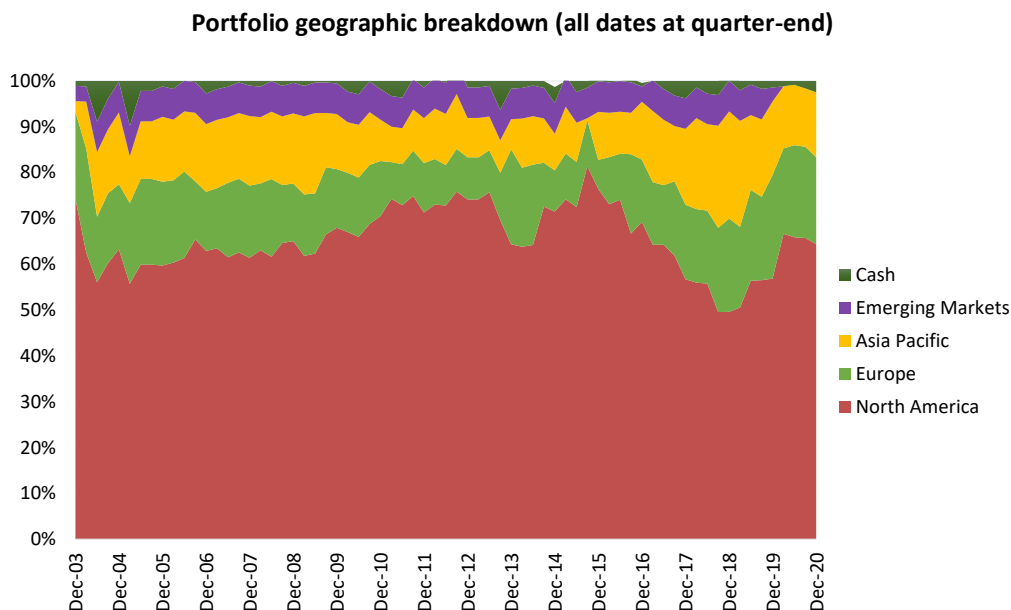


Figure 13, Source: Bloomberg, as of December 31, 2020

Over 2020, the net effect of purchasing Microsoft, Visa, Mastercard, Thermo Fisher and Medtronic while selling Fanuc, Siemens, Catcher Technologies, Eaton and Continental was an increase in the exposure to Health Care and IT in addition to a decrease primarily in the exposure to Industrials as well as Consumer Discretionary.

Change in portfolio sector allocation (12.31.2020 vs 12.31.2019)

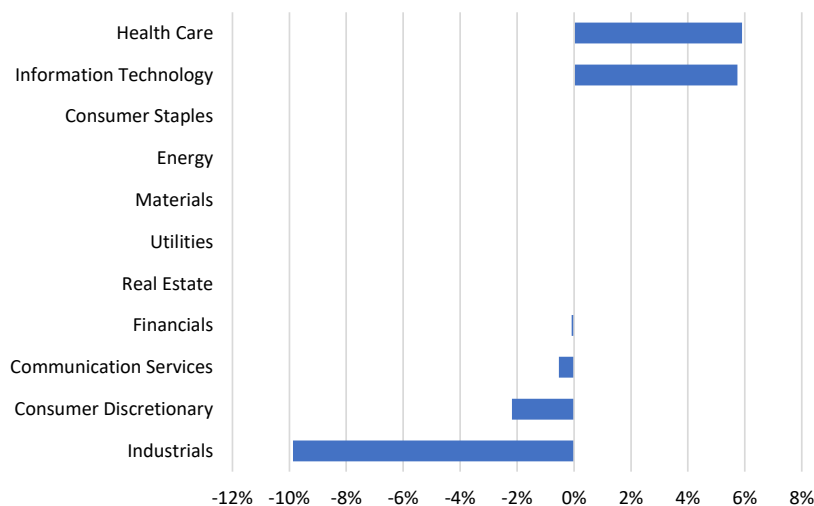


Figure 14, Source: Guinness Atkinson Asset Management, Bloomberg, as of December 31, 2020

In terms of the portfolio’s geographic breakdown, the portfolio continues to have a bias to the U.S and we increased this during 2020 by ~8%. In turn, this reduced our exposure across Asia, EM and Europe.

Change in portfolio geographic allocation (12.31.2020 vs 12.31.2019)

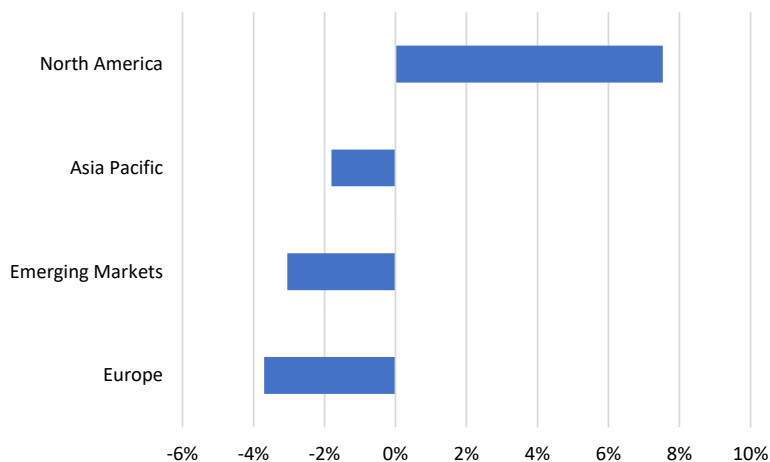


Figure 15, Source: Guinness Atkinson Asset Management, Bloomberg, as of December 31, 2020

Sector breakdown of the fund versus MSCI World Index

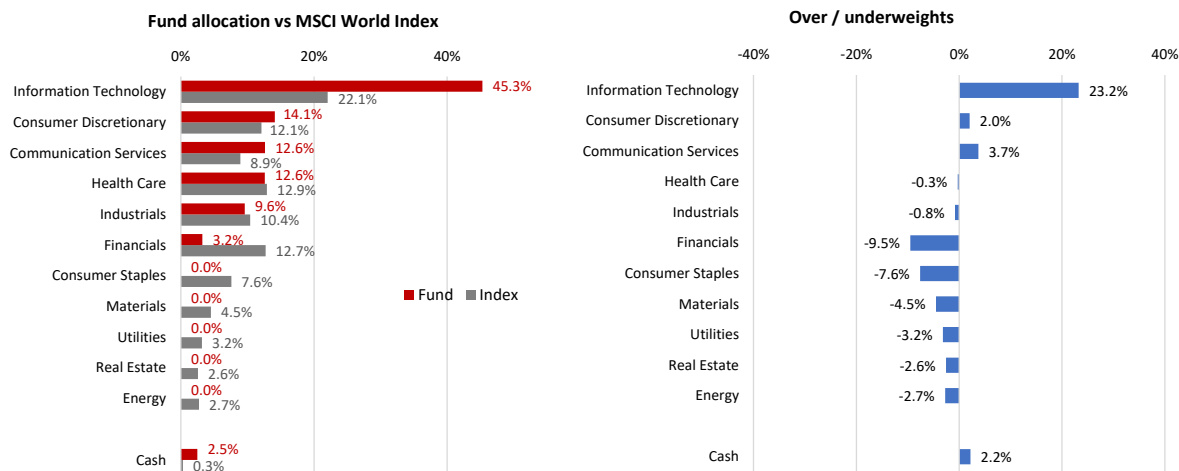


Figure 16, Source: Bloomberg, as of December 31, 2020

Geographic breakdown versus MSCI World Index

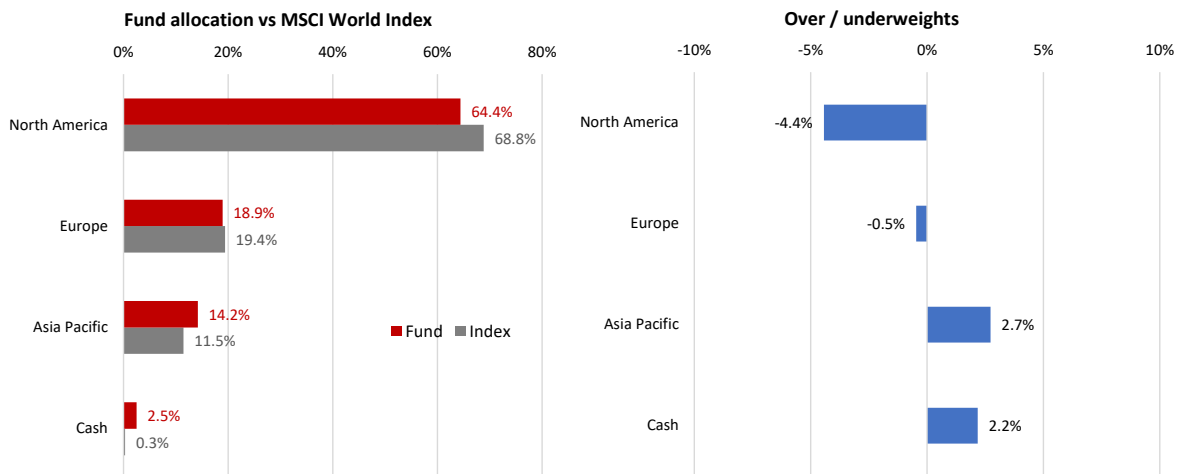


Figure 17, Source: Bloomberg, as of December 31, 2020

Outlook

The Guinness Atkinson Global Innovators fund seeks to invest in quality innovative companies trading at reasonable valuations. By doing so, we seek to invest in companies that are experiencing faster profit growth, larger margins and are less susceptible to cyclical pressures. While we are pleased with the performance seen over 2020, we continue to believe that the fund remains well-positioned.

Portfolio metrics versus MSCI World Index

The table below illustrates how the portfolio at year-end reflects the four key tenets of our approach. The four key tenets of our approach are innovation, quality, growth, and conviction. The fund has superior characteristics to the broad market; higher spend on intellectual property through research and development (R&D), less capital intensiveness, higher cash flow returns on investment, with higher historic growth. The fund currently trades at a 17% premium to the benchmark on a PE basis which we believe is a small price to pay for this attractive set of characteristics.

		Fund	MSCI World Index
Innovation	R&D / Sales	10%	8%
	CAPEX / Sales	6%	8%
Quality	CFROI (median 2020)	18%	8%
	Return-on-Equity	18%	8%
	Weighted average net debt / equity	7%	63%
Growth (& valuation)	Trailing 3-year sales growth (annualized)	13%	11%
	Estimated earnings growth (2022 vs 2021)	16%	17%
	FCF yield	3.1%	3.9%
	PE (2021e)	25.0	21.5
Conviction	Number of stocks	30	1630
	Active share	85%	-

Figure 18, Source: Guinness Atkinson Asset Management, Credit Suisse HOLT, Bloomberg, as of December 31, 2020

As we look ahead to 2021, it is clear that the spread of COVID-19, mass vaccination and subsequent economic recoveries will remain very important factors in how equities perform over the coming year. However, despite an unprecedented 2020, the fund’s strategy has shown its effectiveness in seeking to invest in quality companies that continue to grow through their exposure to innovation themes. As such, we remain optimistic that the fund can remain robust despite whatever uncertainties 2021 may bring, while continuing to benefit from a recovery in the economic backdrop.

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 2021.

Portfolio Managers

Matthew Page, CFA Dr Ian Mortimer, CFA

Summary performance

In 2020, the Guinness Atkinson Global Innovators Fund produced a total return of 36.17% (TR in USD), compared to the MSCI World Net TR Index return of 15.9%, therefore outperforming by 20.27%.

- 2020 saw a “black swan” event in the form of the COVID-19 pandemic, causing a sharp drop in equity markets before staging a strong rally into the end of the year. Pleasingly, the fund was able to outperform both in the sell-off (02.19.2020 – 03.23.2020, fund TR -31.5% USD vs MSCI World TR -34.0% USD) and in the subsequent rally (03.23.2020 – 12.31.2020, fund TR 86.8% USD vs MSCI World TR 70.0% USD).
- Growth stocks outperformed value over 2020 which led to a significant outperformance from the fund’s largest sector and industry overweight exposures in Information Technology and Semiconductor stocks. However, even with investors rotating back into value stocks over the 4th quarter, the fund still outperformed the benchmark on strong stock selection within the IT and Consumer Discretionary sectors.

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- Over the year, the fund benefitted from investing in stocks exposed to innovative transformations that subsequently accelerated as a result of the pandemic and lockdowns. As a result, there were a number of positions in the fund that performed particularly well with two stocks returning over 100% (Nvidia up 122.3% USD, PayPal up 116.5% USD).
- The market rewarded companies with strong balance sheets and those that could continue to grow despite the pandemic. The fund currently exhibits a net Debt/Equity of 7% vs the MSCI World 63%.

as of 12.31.2020 (in USD)	1 year	3 years annualized	5 years annualized	10 years annualized
Global Innovators, Investor Class ¹	36.17%	15.78%	18.02%	15.07%
Global Innovators, Institutional Class ²	36.46%	16.06%	18.32%	15.21%
MSCI World Index NR	15.90%	10.51%	12.18%	9.86%

All returns after 1 year annualized.

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.

¹ Investor class (IWIRX) Inception 12.15.1998 Expense ratio* 1.24% (net); 1.35% (gross)

² Institutional class (GINNX) Inception 12.31.2015 Expense ratio* 0.99% (net); 1.21% (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).

*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 0.99% for the Institutional class and 1.24% for the Investor class through June 30, 2021. 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.

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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 12/31/2020:

1. ANTA Sports Products Ltd	3.99%
2. PayPal Holdings Inc	3.85%
3. NIKE Inc	3.63%
4. ABB Ltd	3.54%
5. Tencent Holdings Ltd	3.51%
6. Samsung Electronics Co Ltd	3.49%
7. Alphabet Inc - A Shares	3.45%
8. Danaher Corp	3.42%
9. New Oriental Education & Technology Group Inc	3.42%
10. Adobe Inc	3.39%

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.

Basis Points (BPS) refers to a common unit of measure for interest rates and other percentages in finance. 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 financial instrument.

One cannot invest directly in an index.

Active share measures the extent of active management in a portfolio compared to the corresponding benchmark listed.

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