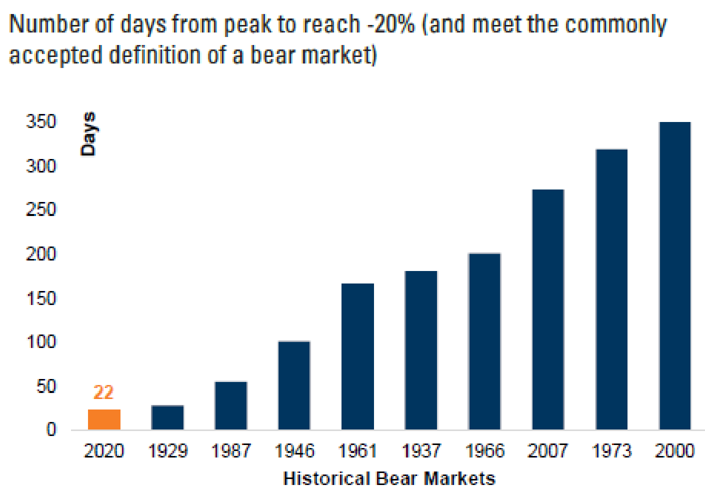
Guinness Atkinson

Global Innovators Fund

Managers Update – April 2020

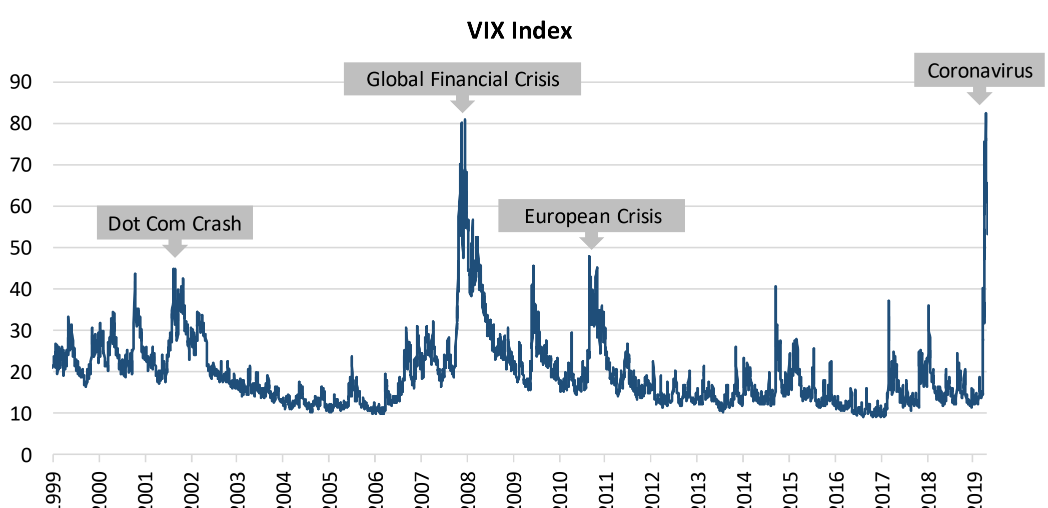
Quarter in review:

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 compete deal, and, of course, the UK left the European Union. However, come mid-February, a sharp sell-off in the equity market as the coronavirus, which originated in Wuhan, China, 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.



Source: Bloomberg, Goldman Sachs Research

The VIX Index of Volatility – otherwise known as the "fear gauge" – spiked upwards in February and into March, and it currently stands at a level *above* those seen during the European Crisis, Global Financial Crisis and Dot-Com Crash.



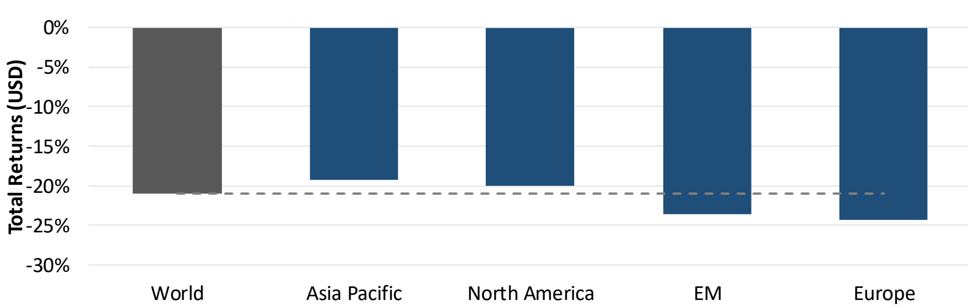
Source: Bloomberg (data as of 03.31.2020)

Since the outbreak began, we have seen:

- Global cases surpass 1 million with over 80,000 deaths recorded
- Europe become the epicenter of the coronavirus with Italy, Spain, France and the UK all individually having more confirmed deaths than China
- Central banks slash interest rates and pass unprecedented fiscal packages, sums of which surpass that of the Global Financial Crisis responses
- Significant fiscal stimulus announcements to shore up businesses and protect workers – the US, for example, passed a fiscal package worth over $2tn
- More than 6.6 million people in the US file for jobless claims in the week ending March 28th, eclipsing the previous record of 695,000, set in 1982.
- China began to recover, with stores re-opening (Nike now says 80% of its stores have re-opened) and the Manufacturing PMI for China rebounding to 52.0 for March from February's record low of 35.7 (the 50 level separates contraction from expansion)

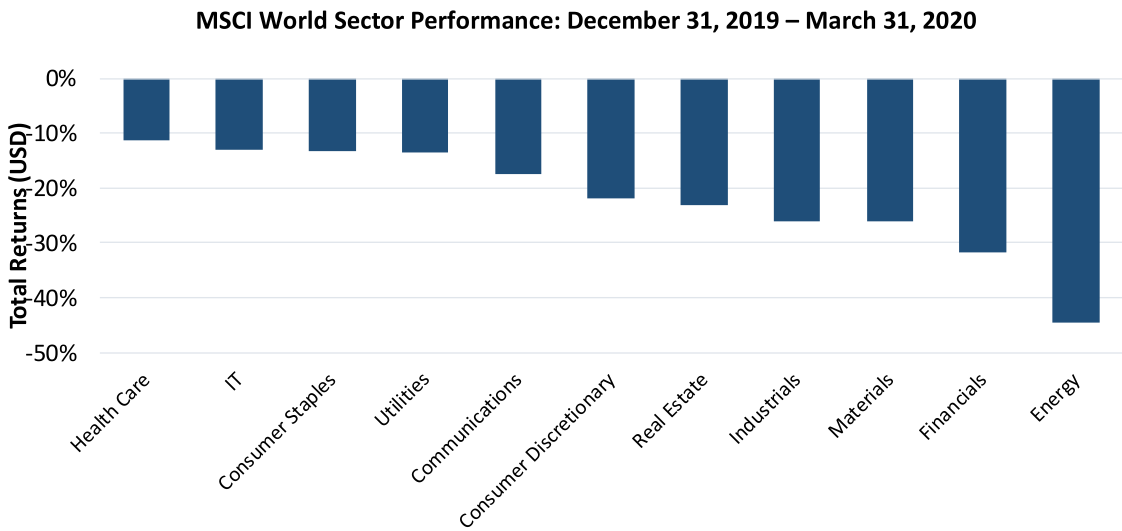
Looking across regions we find significant falls across equity markets as the coronavirus spread across the globe. Europe was the worst performing region given its new status as the epicenter of the outbreak, while the US also struggled as vast stimulus packages and interest cuts were not enough to offset investor sentiment in the continued spread of the virus as the US also overtook China in number of cases and jobless claims skyrocketed. The Asian region, and more specifically China, performed strongly into the end of the quarter as a slowdown in new cases and deaths led to a return of business activity, giving investors some confidence in the regions efforts to contain the virus. The fund's exposure to North America was the largest regional contributor to fund performance: positive stock selection from businesses including Microsoft and Nvidia as well as not owning any companies in the banking sector, more than offset the slight drag from being underweight the US.

MSCI World Regional Performance: December 31, 2019 – March 31, 2020



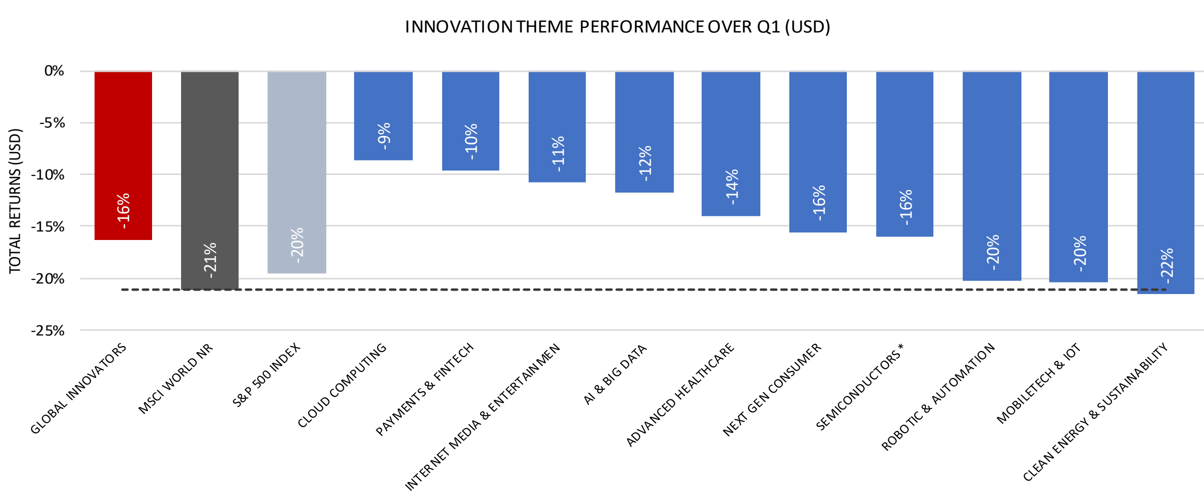
Source: Bloomberg (data as of 03.31.2020)

On a sector level, Energy equities fell sharply as oil prices collapsed post the OPEC+ meeting disbanding on March 3rd. WTI fell from $60 per barrel at the start of the year to $20 at quarter end. Elsewhere, Financials fell as interest rates were cut by central banks globally and markets assessed risk to corporate credit. Within the sector, banks led the declines, down 37% in the quarter. Health Care stocks outperformed as their defensive characteristics and relevance to the current sell off came to the fore. Staples and Utilities rounded out "risk off" relative outperformance with IT continuing to perform well as the market rewarded the generally stronger balance sheets and cash positions in the sector as well as stock specific opportunities that arose from lockdowns across developed nations. Financials and Energy were the fund's largest sector contributors to performance as we continue to own no companies in these sectors. Our overweight exposure to IT also provided positive contribution while our underweight exposures to Health Care and Consumer Staples were the main contributors to negative relative performance vs the benchmark.



Source: Bloomberg (data as of 03.31.2020)

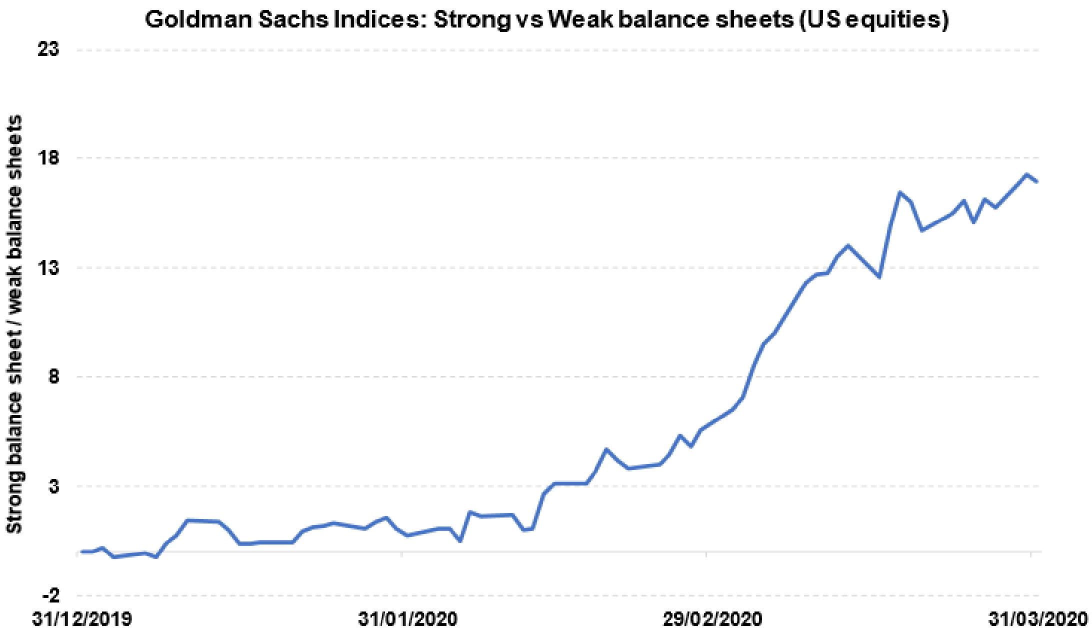
We have begun to look more closely at how our innovation themes performed during the quarter using baskets of bellwether stocks (which we have defined). Here we find all but one of the ten themes we have identified as part of our universe construction methodology outperformed the broader MSCI World. Cloud Computing was the best performing theme over the quarter, as demand for cloud-based products remained relatively robust as employees worked from home and consumers streamed their videos and games. Similar arguments can be made for many more of our innovative themes, whose demand has held up relatively well in this period of distress. Although the fund benefitted in general from having exposure to all these themes, the fund's largest exposures to Cloud Computing (19%), Internet, Media & Entertainment (17%), Advanced Healthcare (13%), AI & Big Data (12%) and Payments & FinTech (11%) – the top 5 performing themes - resulted in greater performance for the fund over the quarter.



Source: Bloomberg, Guinness Atkinson Asset Management (data as of 03.31.2020)

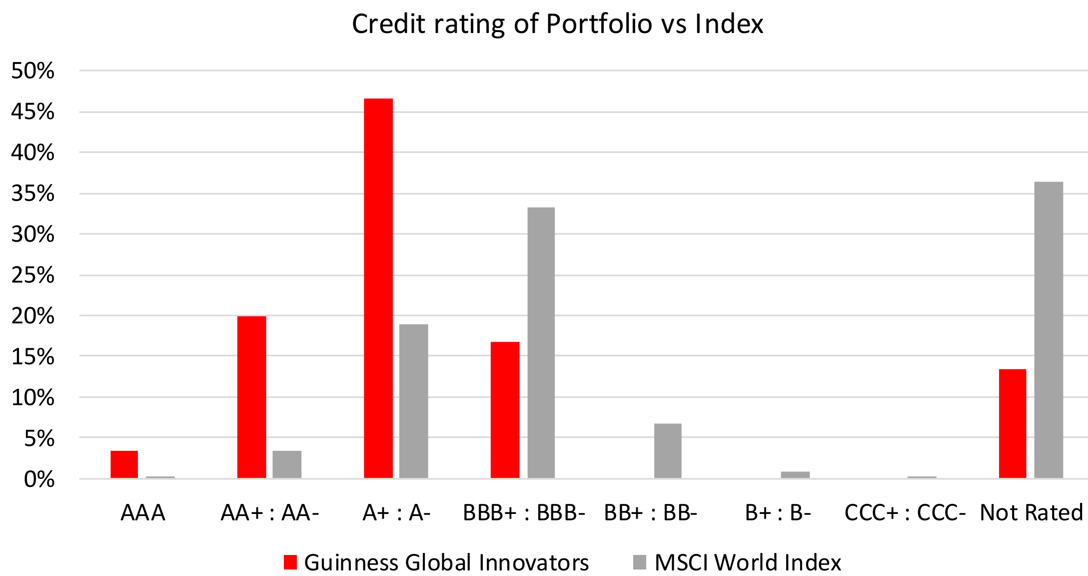
**Semiconductors is not one of our innovation themes, however these companies fit into multiple themes and as such we find it beneficial to include in this analysis*

One of the main differentiators between companies that performed (relatively) well in the quarter and companies that performed poorly was balance sheet strength. The market punished those companies with weak balance sheets and rewarded those with strong balance sheets who were better placed to navigate the demand shocks we are witnessing and would be less likely to require external capital in a stressed market.



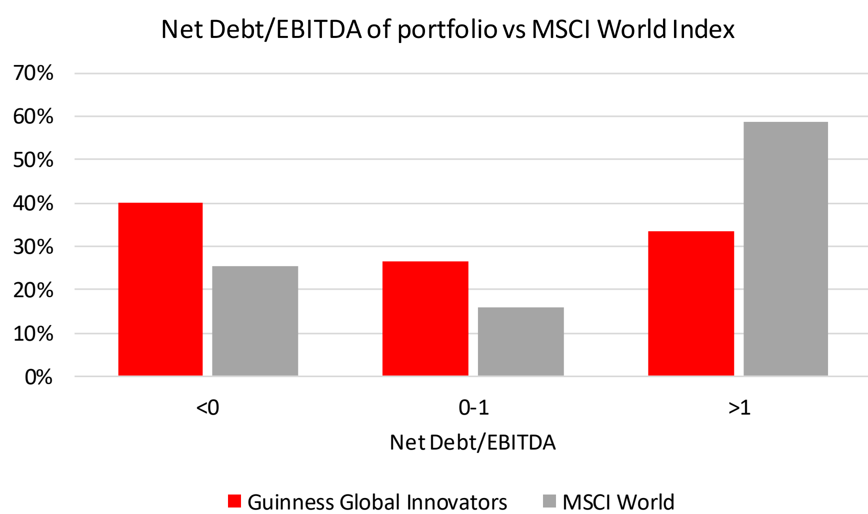
Source: Goldman Sachs Research, Bloomberg, rebased at 12.31.2019

This again highlights the importance of balance sheet strength, particularly in times of distress. We have always considered balance sheet strength as part of our company analysis and a weak balance would be a significant "red flag". There are many ways to define a strong balance sheet and the ability of a company to service its debt with credit rating agencies attempting to capture both in their rating. The below chart shows that that 87% of companies in the Global Innovators Fund have an investment grade credit rating (AAA to BBB- based on S&P ratings), compared to only 56% of the MSCI World.



Source: Guinness Atkinson Asset Management, Bloomberg (data as of 03.31.2020)

If we look instead at net-debt-to-EBITDA ratios, 40% of the portfolio has more cash than debt (ratio <0) vs 25% for the MSCI World; and 33% have a ratio greater than 1 vs almost 60% for the benchmark. This gives us confidence that our companies not only seem to have relatively better prospects of survival, but they may be better positioned to continue rewarding shareholders.

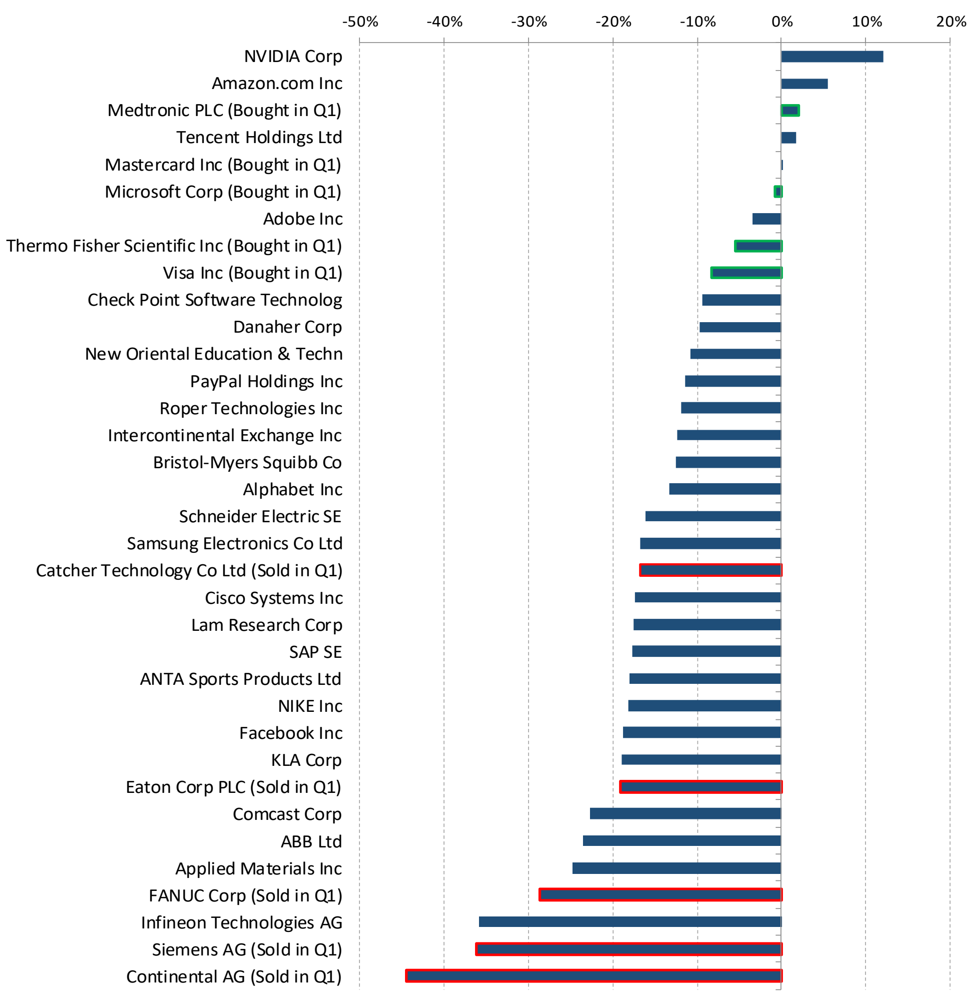


Source: Guinness Atkinson Asset Management, Bloomberg (data as of 03.31.2020)

<u>Stock performances over Q1 2020 (total returns USD):</u>

The fund benefited from strong stock selection over the quarter, with existing holdings Nvidia, Amazon and Tencent all providing positive returns. 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 enables 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. Although Amazon's ecommerce business was not immune to supply chain disruption, their online-only business will have held up relatively well as high street stores closed and consumers flocked online. Conversely, our exposure to European industrials including Continental, Siemens, Infineon (a semiconductor company that has large proportion of its revenue derived from the automotive sector) and Fanuc the Japanese robotics manufacturer, was a drag on the portfolio.

Individual Performance of Fund Constituents



Source: Guinness Atkinson Asset Management, Bloomberg (data as of 03.31.2020)

Changes to the portfolio:

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. 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, hydraulic 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.

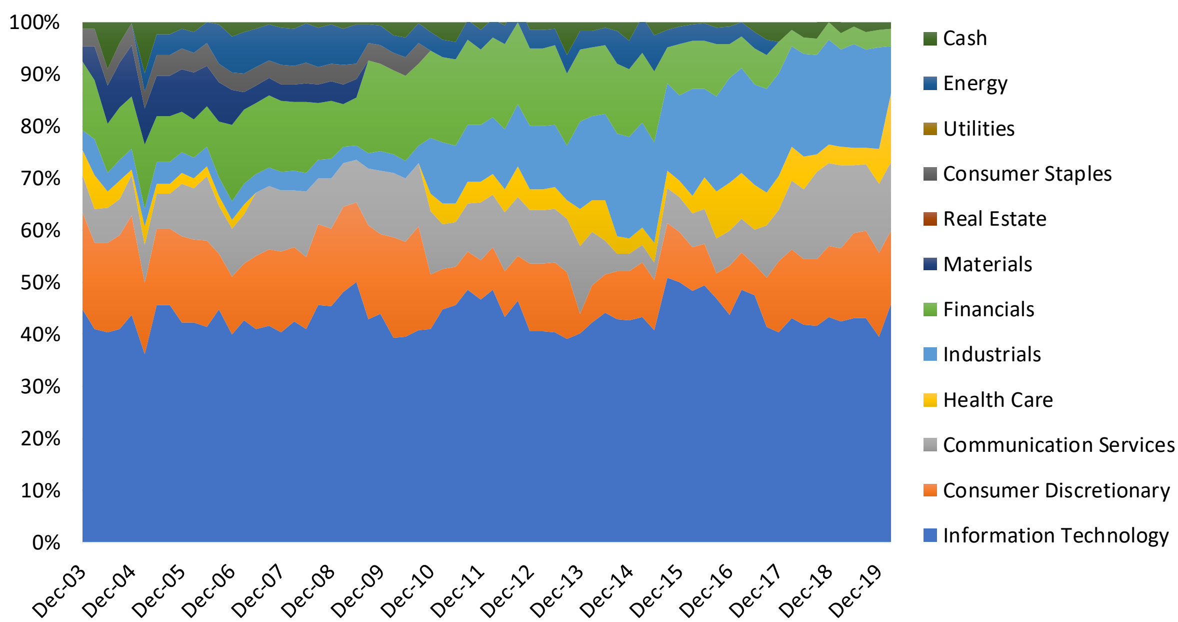
Microsoft commands the second largest market share in the cloud computing market (behind Amazon, also owned in the portfolio), which has seen tremendous growth as consumers demand increasingly cloud-based products and services. Alongside cloud computing, the company derives revenues from a diverse portfolio 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.

Portfolio characteristics

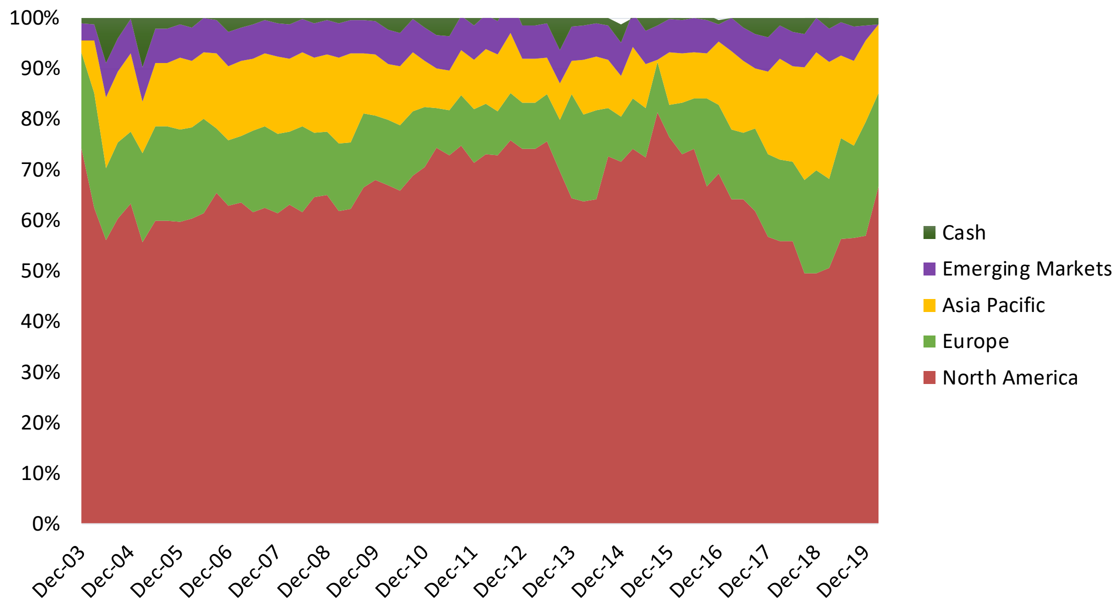
The two charts below show how the exposure of the fund has evolved since we launched the strategy back in 2003. We continue to hold no exposure to Real Estate, Energy, Materials, Consumer Staples and Utilities. Technology remains our largest exposure, split between three sub-sectors: semiconductors; software and services; and technology hardware. On a regional basis, North America continues to be the largest exposure (67%), with Europe (19%) and Asia Pacific (14%) sharing similar exposures.

Portfolio Sector Breakdown



Source: Guinness Atkinson Asset Management, Bloomberg (Data as of 03.31.2020)

Portfolio Geographic Breakdown

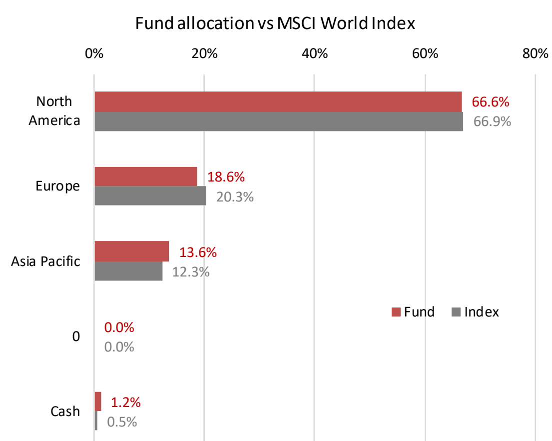


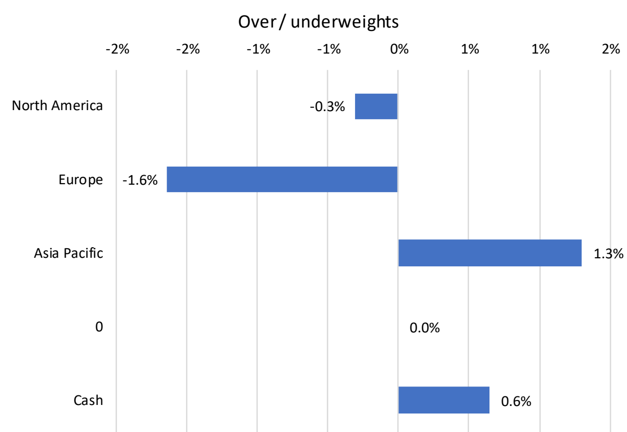
Source: Guinness Atkinson Asset Management, Bloomberg (Data as of 03.31.2020)

The overall effects of the five switches we made during the quarter were an increase in our exposure to the US while reducing our exposure to Europe, Asia Pacific and Emerging Markets, while the switches also increased our exposure to IT and Healthcare while reducing the exposure to Industrials and Consumer Discretionary.

The fund's allocation to regions are now similar to that of the MSCI World. However, this was a result of bottom-up stock picking and not a "top down" decision.

Geographic Breakdown of the Fund Versus MSCI World Index

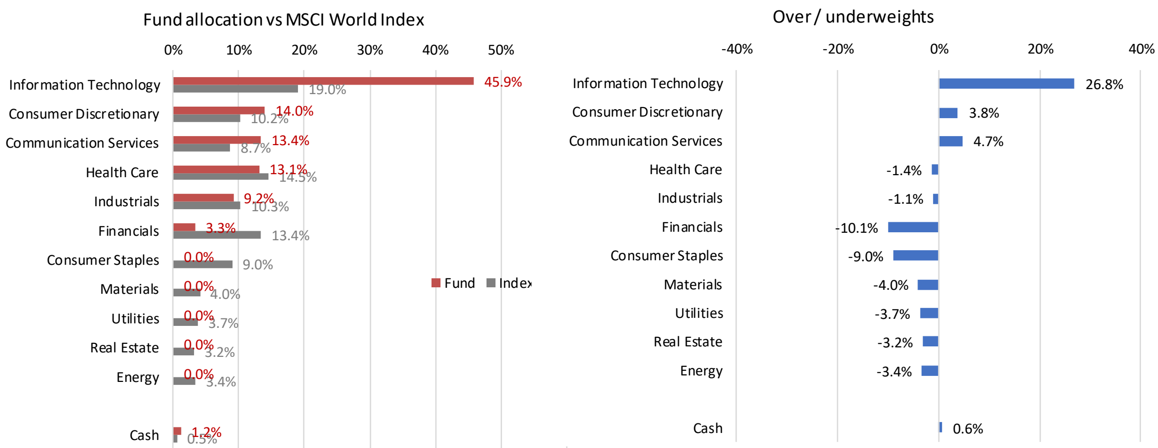




Source: Guinness Atkinson Asset Management, Bloomberg (Data as of 03.31.2020)

On a sector level, the fund continues to have a large overweight to IT (26.8%), while the fund's 0% exposure to Real Estate, Energy, Materials, Consumer Staples and Utilities leaves these areas underweight relative to the benchmark.

Sector Breakdown of the Fund Versus MSCI World Index



Source: Guinness Atkinson Asset Management, Bloomberg (Data as of 03.31.2020)

Key fund metrics today

Innovation: We seek companies that are exposed to secular growth themes, which should therefore be more insulated to cyclical growth cycles. Our industrials exposure for example includes companies such as Schneider Electric which is growing strongly in areas such as building efficiency and automation.

Quality: We only invest in companies with good (and ideally growing) returns on capital and strong balance sheets. In the recent sell off, a clear distinction was seen between businesses with strong vs weak balance sheets – companies which have taken on too much debt have been "propped up" by low interest rates but a shock to revenues has the potential to alter this balance and the market quickly discounted this scenario.

Growth and valuation: We look to buy good growth companies at reasonable valuations and specifically we try to avoid paying too high a premium for expected future growth – as this is inherently less predictable.

Conviction: Although we run a concentrated portfolio of 30 stocks, we equally weight each position. This caps stock specific risk to approximately 3.3% thereby limiting the impact to the overall portfolio of a single company performing particularly poorly.

The four key tenets to our approach are innovation, quality, growth, and conviction.

Portfolio Metrics versus Index

		Fund	MSCI World Index
Innovation	R&D / Sales	10%	7%
	CAPEX / Sales	5%	10%
Quality	CFROI (median 2020)	18%	8%
	Return-on-Equity	17%	13%
	Weighted average net debt / equity	5%	62%
Growth (& valuation)	Trailing 3-year sales growth (annualized)	14%	10%
	Estimated earnings growth (2021 vs 2020)	18%	14%
	FCF yield	4.8%	5.6%
	PE (2020e)	19.4	15.4
Conviction	Number of stocks	30	1190
	Active share	88%	-

Source: Guinness Atkinson Asset Management, Credit Suisse HOLT, Bloomberg (Data as of 03.31.2020)

With borders closed, countries locked down and business activity drastically slowed, we believe our approach of investing in quality companies that can better weather economic uncertainty is highly desirable. Further, by taking a long-term view and investing in companies exposed to innovative themes, the recent sell off could provide a fantastic opportunity to buy into long-term winners at reduced valuations. To reiterate what we mentioned earlier, although these innovative companies are not immune to economic slowdown, the short-term impact created by the coronavirus outbreak could give way to an acceleration in innovation adoption: businesses will look to accelerate their digital presence, employers may demand more cloud-based working environments and ultimately consumer behaviors may change as they turn to more online products and services.

We thank you for your continued support.

Portfolio Managers

Matthew Page, CFA

Dr Ian Mortimer, CFA

Summary performance

For the first quarter of 2020, the Guinness Atkinson Global Innovators Fund provided a total return of -16.18% (USD) against the MSCI World Index net total return of -21.05% (USD). Hence, the fund outperformed the benchmark by 4.87% (USD). Furthermore, it is pleasing to see the fund not only outperformed in each of the three months of quarter but also during the market rally (12.31.2019 – 02.19.2020) and in the proceeding drawdown (02.19.2020 – 03.31.2020).

The fund performed well over a quarter that contained distress, volatility and the end to the longest bull-run in US history. The fund was constructed to invest in high quality businesses exposed to long-term innovative themes such as cloud computing and advanced healthcare. As a consequence, the fund invests in asset light businesses (capex/sales of fund 5% vs MSCI World 10%) which tend to have larger margins (operating margin 19% vs MSCI World 12%) and who do not require substantial external financing to grow (net debt/equity of fund 5% vs MSCI World 62%). In times like these, it is these companies – low fixed costs, large cash piles and long-term demand drivers – that, we believe, have the best opportunity to not only weather tough economic times, but ultimately, outperform when the times revert to “norm”.

During the quarter, the fund’s performance can be attributed to:

- Overweight exposure to the Information Technology sector, while being underweight Energy and Financials. These were the main contributors to positive relative performance vs benchmark in the quarter from a sector allocation point of view.
- Good stock selection within Industrials (Eaton, Roper Technology) offset negative effects of the portfolio overweight to this underperforming sector.
- Good stock selection within Consumer Discretionary (Amazon, New Oriental Education), Financials (Intercontinental Exchange), and Communication Services (Tencent).
- Underweight Health Care and Consumer Staples were the main contributors to negative relative performance vs benchmark from a sector allocation point of view.
- The market punished companies with weak balance sheets due to demand shocks and heightened credit market stress. Quality companies therefore outperformed with companies showing high returns on capital, such as those we own in the fund, rewarded.
- We had no exposure to the hardest hit areas of the market: no energy, no banks, no airlines, no restaurants, no travel companies.

While the companies in the fund are by no means immune to a global slowdown, the short-term impacts of COVID-19 could give way to long-term opportunities for many of the businesses we invest in. Specifically, the current environment has forced companies into revaluating their business models which could ultimately lead to an acceleration in global digital adoption going forward.

- Better online presence by businesses who now more than ever recognize the need to have continuous communication and distribution channels with consumers in all environments
- Businesses recognizing the importance of being flexible regarding working conditions – accelerating the need for cloud-based remote working infrastructure
- A change in the psychological behavior of the consumer – increased demand for online classes from fitness to education.

These changes will be powered by many of the innovative themes we seek from cloud computing to ecommerce and internet, media and entertainment. By taking a long-term view and investing in companies exposed innovative themes, the recent sell off could provide a fantastic opportunity to buy into long-term winners at reduced valuations.

as of 03.31.2020 (in USD)	1 year	3 years annualized	5 years annualized	10 years annualized
Global Innovators, Investor Class[1]	-2.62%	5.61%	6.21%	10.45%
Global Innovators, Institutional Class[2]	-2.40%	5.87%	6.44%	10.57%
MSCI World Index NR	-10.39%	1.92%	3.24%	6.57%

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* 1.25% (net); 1.30% (gross)

[2] Institutional class (GINNX) Inception 12.31.2015 Expense ratio* 1.00% (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).

*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, 2020. 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 3/31/2020:

1.	NVIDIA Corp	4.01%
2.	Tencent Holdings Ltd	3.86%
3.	Amazon.com Inc	3.83%
4.	NIKE Inc	3.72%
5.	Cisco Systems Inc	3.65%
6.	Medtronic PLC	3.57%
7.	Facebook Inc	3.53%
8.	Microsoft Corp	3.46%
9.	Lam Research Corp	3.46%
10.	SAP SE	3.44%

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.

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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