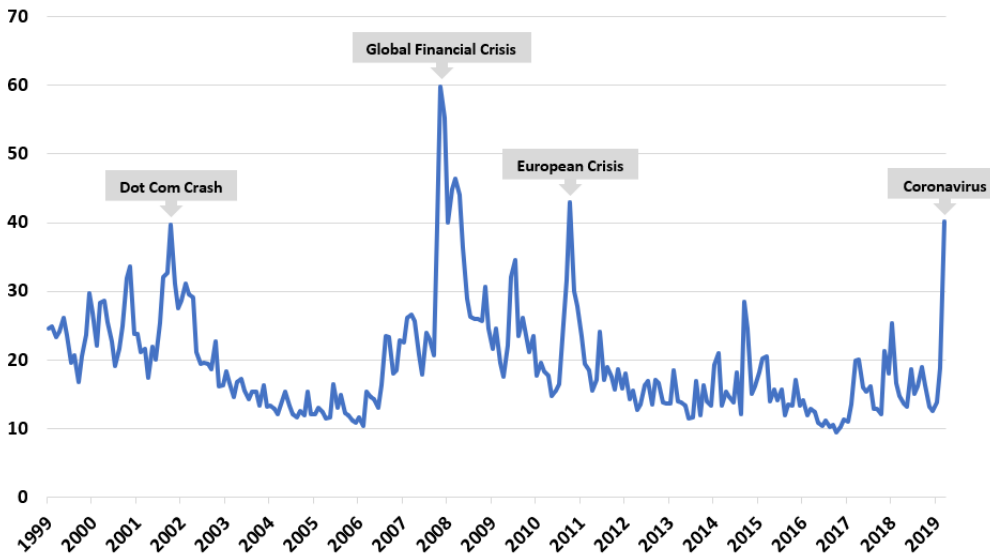
Guinness Atkinson
Global Innovators Fund
Managers Update – March 2020

February in review

The coronavirus outbreak, which originated in China in January, spread further around the world in February. Outside China, South Korea and Italy have had the largest number of cases. The extinguishing of January's hopes that this would be a China-only issue has knocked market confidence and increased uncertainty. Equity markets sold off particularly hard over the last week of February after rapid growth in the number of cases in South Korea and Italy and the number of new countries reporting cases increased each day.

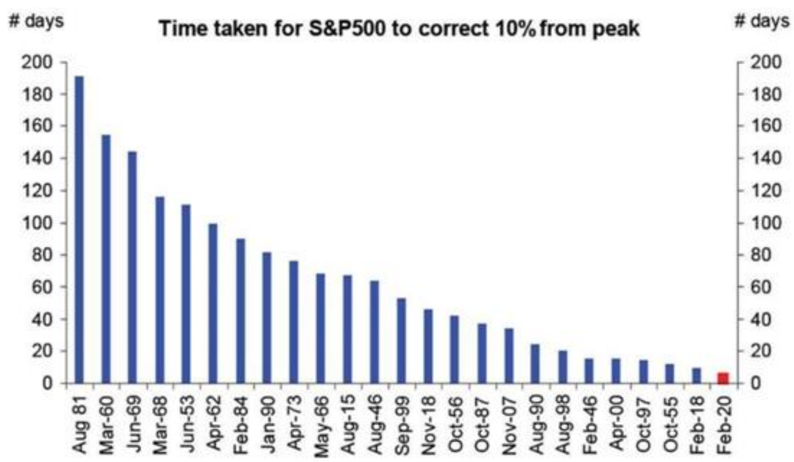
The VIX Index of volatility – otherwise known as the 'fear gauge' – spiked upwards in February and currently stands at levels similar to those seen during the European Crisis, Global Financial Crisis and Dot-Com Crash.

CBOE Volatility (VIX) Index



Source: Bloomberg. From December 31, 1999 to February 29, 2020.

The coronavirus uncertainty clearly alarmed markets and in the last week of February the S&P500 suffered its quickest correction on record, falling 10% from its recent peak in just six days.



Source: Bloomberg, as of February 29, 2020

On March 2nd, the Organization for Economic Co-operation and Development (OECD) lowered its growth forecast for the global economy in 2020 from 2.9% to 2.4% but said a "longer lasting and more intensive coronavirus outbreak" could reduce global growth to 1.5% in 2020.

Exogenous shocks such as this are impossible to predict. They are the "unknown unknowns" or "black swans". They are events which are unpredictable and often unprecedented. We know neither when they will happen or how they will proceed.

There is no real precedent to this coronavirus outbreak. Neither the Spanish flu, SARS, MERs, Ebola, etc. are particularly useful in forecasting what will happen next. Health officials and governments appear to be operating on the basis that this virus will spread further, and all current efforts are focused on minimizing the spread. Meanwhile, efforts are made to develop a vaccine – a process that could take up to a year.

The global economy is therefore facing both a supply-side shock due to efforts to contain the virus leading to factories being shut in China (which can have a knock-on effect on supply chains) and a potential demand-led shock from concerned consumers and lower corporate spending.

Put simply, global growth is a function of Consumption + Investment + Government spending + Trade.

Last year we saw the effect that a trade war between the US and China had on global growth forecasts by dampening the Trade part of the equation. Consumption, however, was strong, as consumers continued to increase the amount spent on basic goods (food, etc.) and discretionary goods (smartphones, cars, etc.), offsetting a reduction in Trade.

The way the Coronavirus outbreak is affecting this equation so far is as follows:

1. In an effort to contain the virus, many factories in China were temporarily closed, meaning they were unable to manufacture and send their goods to their customers. This has the effect of reducing Trade.

2. Many people in China have had restrictions placed on their movements and the fear of the virus spreading has meant people have not been out spending as much money, affecting Consumption.

3. This uncertainty has meant manufacturers don't know when they will receive the components they need or when they will be able to ship goods to their customers. This has led to a downturn in the outlook for Investment from these companies, as reflected by the recent Purchasing Managers Index data from China which was very weak.

Over the last few days major central banks around the world have demonstrated their willingness and readiness to take action by providing liquidity and cutting interest rates. Indeed, some are projecting a 50bps cut later this month by the US Federal Reserve and potentially another 50bps cut later in the spring. This would be a dramatic fall in interest rates and would help some companies that need to borrow, thereby providing companies with the ability to invest when they might otherwise have been constrained. This would also provide some support to equity markets and make dividend yields even more attractive relative to bonds. However, central bank easing is clearly not going to stop the spread of a virus.

The other element left to support global growth is Government spending, and we will wait to see what fiscal stimulus governments around the world may be willing to implement, but it looks necessary in China and will likely be necessary in other countries if the virus cannot be sufficiently contained.

So, while the last week of February was painful, we now find ourselves at the beginning of March with central banks ready to cut interest rates, governments likely to provide a fiscal stimulus and equities trading at lower valuations. Historically this has been a good environment for equities.

The fund's performance in the recent market environment has been pleasing since we would usually expect a growth-oriented fund to underperform in a sharply falling market (and outperform in rising markets). Positive performance from Nvidia (+14.30% in USD over February), New Oriental Education (+5.22%) Tencent (+3.11%), and Applied Materials (+0.55%) aided relative performance, and 22 out of 30 stocks held in the portfolio outperformed the benchmark in the month. Of the 22 stocks that outperformed the benchmark, some were software companies that could be considered less exposed to a manufacturing supply shock (such as Adobe, Paypal, Facebook, Amazon, Alphabet), but some also were more cyclical businesses such as Industrials (Continental, Schneider Electric, Eaton, Roper) or semiconductor equipment manufacturers (Applied Materials, Lam Research, KLA) that might typically underperform in such a market environment. All these companies have the characteristics that we desire for the portfolio:

Innovation: We seek companies exposed to secular growth themes which should therefore be more insulated from 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 invest in companies we believe have 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 balance sheets and those with weak ones. 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 the balance and the market quickly discounted this scenario.

Growth and valuation: We aim to buy good growth companies at reasonable valuations. Specifically, we try to avoid paying too high a premium for expected future growth as it is inherently less predictable. The recent market turmoil began at a point when market valuations were elevated and a return to higher growth in 2020 was predicted (compared to the slower growth seen in 2019). The S&P500 started the year at a forward multiple of 19X and expected earnings growth of around 14%. Simply adjusting the expected growth to zero (as we saw occur in the 2019 earnings compared to 2018) would account for the drop in the index over the sell-off in February. If we were then to adjust down the market multiple to reflect this lower-growth environment, then the index price would drop commensurably again. This is not our prediction of what will occur necessarily, or indeed how the market reacted to recent events, but it does highlight the risks of paying too high a price for future growth, since expectations can change very rapidly and can have the compounding effect of multiple compression alongside.

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

If we consider the portfolio on each of these metrics today we see the fund continued to own less capital-intensive businesses with higher returns on capital and almost no net debt which were exposed to better growth areas whilst trading at cheaper valuations on a FCF yield basis compared to the benchmark MSCI World Index.

Portfolio Metrics vs Index (MSCI World)

		Fund	MSCI World Index
Innovation	R&D / Sales	9%	7%
	CAPEX / Sales	5%	9%
Quality	CFROI (median 2019)	16%	8%
	Weighted average net debt / equity	3%	80%
Growth (& valuation)	Trailing 3-year sales growth (annualized)	14%	9%
	Estimated earnings growth (2020 vs 2019)	17%	11%
	FCF yield	5.1%	5.0%
	PE (2020e)	18.5	15.9
Conviction	Number of stocks	30	1652
	Active share	92%	-

Source: Guinness Atkinson Asset Management, Credit Suisse HOLT, Bloomberg. As of February 28, 2020.

Black swans, as we mentioned, are unpredictable and unprecedented. We don't know when they will occur and what the outcome will be. They come out of the blue and can affect markets rapidly, and therefore we believe our portfolio always needs to be prepared for such eventualities. However, for the patient investor with a long enough time horizon this black swan may offer the opportunity to buy good quality, innovative growth companies a lot more cheaply than was possible a few weeks ago.

Portfolio Managers

Matthew Page, CFA

Dr Ian Mortimer, CFA

Thank you for your continued support.

Summary performance

For the month of February, the Guinness Atkinson Global Innovators Fund produced a total return of -4.6% (in USD) against the MSCI World Index net total return of -8.5%. The fund therefore outperformed the benchmark by 3.9%.

Global equity markets rallied in the first half of February but fell particularly sharply between February 19th and the month end; the MSCI World Index fell 11.9% in USD. Over the same period the fund fell 10.9%, outperforming by 1.0%.

The fund performed very well over a month of distress and volatility, with strong stock selection the main contributor. Although the fund has an overweight exposure to Asia Pacific stocks relative to the MSCI World, the underlying holdings in this region have held up well. In fact, two of the fund's domestically focused Chinese holdings, New Oriental Education (+5.2% in USD) and Tencent (+3.1% in USD), were the second and third-best performers over the month. The fund has no exposure to the particularly hard-hit areas of the market such as travel & tourism, airlines, and the energy sector, which also benefitted relative performance.

as of 02/29/20	1 YR	3 YR Annualized	5 YR Annualized	10 YR Annualized
Global Innovators, Investor Class[1]	13.34%	11.26%	8.30%	12.78%
Global Innovators, Institutional Class[2]	13.62%	11.54%	8.53%	12.90%
MSCI World Index NR	4.64%	7.23%	5.88%	8.74%

as of 12/31/19	1 YR	3 YR Annualized	5 YR Annualized	10 YR Annualized
Global Innovators, Investor Class[1]	37.00%	15.38%	10.28%	13.34%
Global Innovators, Institutional Class[2]	37.35%	15.66%	10.50%	13.45%
MSCI World Index NR	27.67%	12.57%	8.74%	9.47%

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 2/29/2020:

1. Adobe Inc 3.69%
2. Tencent Holdings Ltd 3.68%
3. Samsung Electronics Co Ltd 3.55%
4. Lam Research Corp 3.55%
5. Applied Materials Inc 3.54%
6. Amazon.com Inc 3.46%
7. Schneider Electric SE 3.45%
8. NVIDIA Corp 3.45%
9. Alphabet Inc - A Shares 3.42%

10.	Facebook Inc	3.42%

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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