Guinness Atkinson

# Global Innovators Fund Update

April 2018

## Quarter in review

Global markets started strongly in January but from late January onwards, a return of heightened volatility plagued the markets, with periods of weakness and periods of recovery. Overall in the quarter the MSCI World Index finished down 1.2% (Total Return in USD).

The ascent of major equity markets in January were led by emerging Asia and the US. However, the tranquility was disrupted as a selloff, led by the US, began on the 26th January. The selloff started after the January US jobs report indicated an acceleration in US wage growth, which showed average hourly wages climbed at a year-on-year rate of 2.9% in January and 2.7% in the previous month. This led to rising bond yields and a selloff in global equity markets into February. Investors were concerned that the return of inflation and higher rates could erode the profitability for companies trading at elevated valuations. By the end of January, many companies had reported earnings and out of around 400 companies that are tracked by 5 or more analysts, 70.5% had their price targets upgraded. Generally, reported earnings beat expectations.

After more than a year of equity markets trending higher, volatility returned abruptly in February. Global equity markets fell back over the month, giving up almost all the gains made in January. The MSCI World Index was back at 0% (total return, USD) at the end of February, having been up as much as 7% in January. Despite the return of market volatility, underlying economic and corporate data continued to indicate robust economic growth conditions. The strong global macro data may have played a role in preventing a more sizable market correction. The Eurozone's real GDP was up 2.7% (YoY, Q4 2017), with broad based growth across the region and the Purchasing Managers' Index (PMI) remained at elevated levels. The US also posted a healthy real GDP annualized growth rate of 2.5% (QoQ, Q4 2017), in line with market expectations. Asia underperformed during February's global correction. Despite this, the region's good fundamentals remain intact and Chinese growth was stronger than expected, at 6.8% year on year, for the fourth quarter. Europe was not immune from the global equity market sell-off with all sectors falling in the month. The technology sector outperformed the broader market – as the prospect of rising debt costs would relatively favor the strong cash positions of many technology firms, in Europe and Globally, and we saw continued strong earnings reports from companies in the sector.

March saw a technology-led sell-off which led the wider market lower alongside. This has been the worst quarter for global equities in more than two years. The technology sell-off was driven by speculation over regulatory pressure from privacy and anti-trust issues. This began because of company specific news from Facebook. As March drew to a close the US and China unnerved the global equity markets with fears of a trade war. This escalated after the US first announced tariffs on steel and aluminum then continued with a further $50bn of Chinese imports raising concerns that this could hurt global growth.

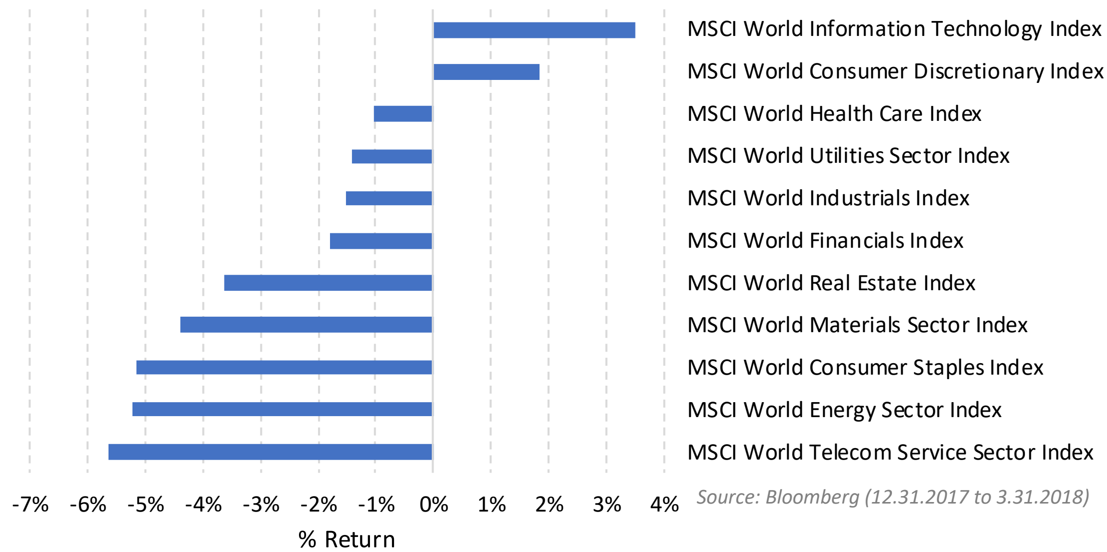
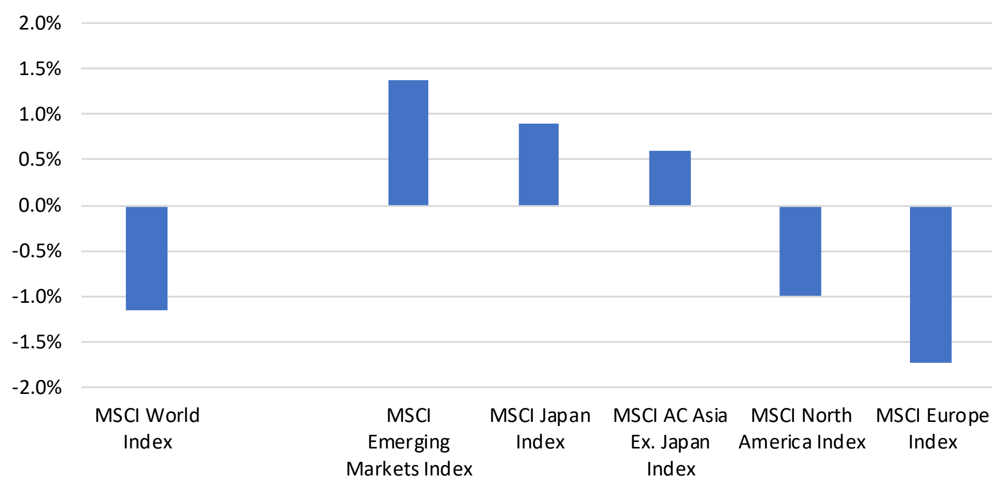



**Figure 2: Sector performance in Q1 2018 (all TR in USD)**

Figure 2 above illustrates the individual sector performances of the MSCI World Index over Q1 2018. Despite IT companies posting weaker performance in March, over the quarter IT was the best performing sector, followed in performance by Consumer Discretionary companies. All other sectors posted negative performance over the period.

Geographically Asia and Emerging Markets were the best-performing regions (in USD terms), as Figure 3 below highlights. Europe and the U.S. returns were weaker and generally performance was subdued across all regions.




*Source: Bloomberg (12.31.2017 to 3.31.2018)*

**Figure 3: Regional performance in Q1 2018 (all TR in USD)**

## Performance drivers

Figure 4 shows the over and underweight positioning of the fund by sector. Our overweight relative to the benchmark in Information Technology (about 36% overweight as of 03.31.2018) and our underweight positioning in Consumer Staples (about 9% underweight) were positives during the quarter. The chart below shows the sector breakdown of the fund in absolute terms and relative to the benchmark.

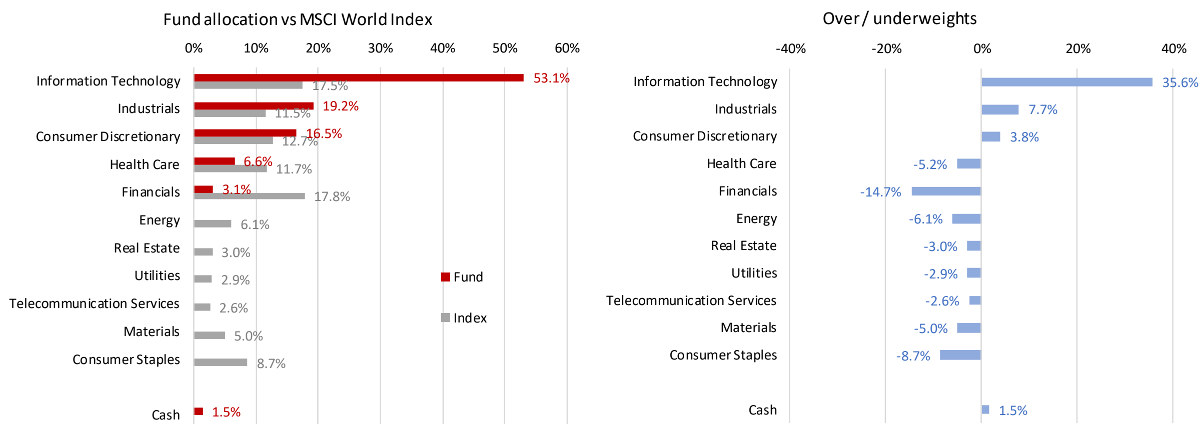



**Figure 4: Sector breakdown of the fund versus MSCI World Index. Guinness Atkinson Asset Management, Bloomberg (data as of 03.31.2018)**

In terms of geographic exposure, the fund is slightly underweight the US when compared to the benchmark (56% vs 62%, as measured by country of domicile). This underweight made no discernible difference to performance last quarter. Our overweight relative to the benchmark in Asia Pacific Ex. Japan (about 16% overweight as of 03.31.2018) and our underweight positioning in Europe (about 8% underweight) contributed positively to performance during the quarter.

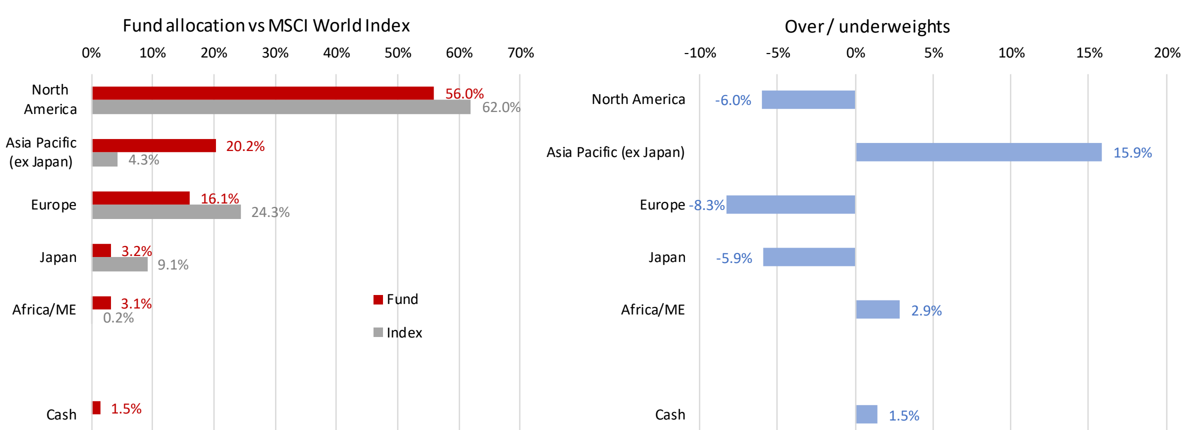



**Figure 5: Geographic breakdown of the fund versus MSCI World Index. Guinness Atkinson Asset Management, Bloomberg (data as of 03.31.2018)**

As we have highlighted in previous reviews, historically the Global Innovators Fund has tended to outperform in months where the index performance has been positive and underperform in months where the index performance has been negative. In a quarter where markets have seen high volatility and have been weak overall, it was pleasing to see the fund outperformed the index in each respective month.

Individual companies that performed well over Q1 were Nvidia (+19.8% total return in USD), Cognizant Technology (+13.6% total return in USD) and Cisco Systems (+12.8% total return in USD).

Nvidia continues to see strong demand for their graphics processing unit chips from computer gaming, and datacenters that are machines driving the analysis behind big data, artificial intelligence and machine learning. Their chips are also key to the development of autonomous vehicles giving the company an exciting avenue for future growth. Earnings were reported in early February, beating analyst estimates by 10.14%, the largest earnings surprise since February 2011.

Cognizant Technology, the custom IT consulting and technology services company, has seen improving profitability as it continues to undertake strategic changes amid activist pressure. Its focus on expanding emerging IT products to capture growing demand for cloud, analytics and security services has been well received by investors.

Cisco Systems was in the middle of making the transition to a business model based on software and recurring revenue last year. This took longer than expected and in June, it lowered sales and earnings forecasts. This transition is now nearing completion and benefiting Cisco in terms of profitability and strength of balance sheet. Cisco has had three consecutive positive earnings surprises since June 2017. The company aims to derive 50% of sales from software by 2020, as opposed to nearly 100% derived from hardware in the recent past. Several high-growth products, including programmable switches, security and collaboration products, are helping offset the weakness in legacy product sales.

Individual companies that underperformed over Q1 were Comcast (-14.4% total return in USD) and Facebook (-9.5% total return in USD).

Comcast, the US media and television broadcasting services company, made a $31bn proposal for Sky, a UK satellite-TV provider. This offer represents a 16% premium to 21st Century Fox's planned takeover of the company. This is part of Comcast's plan to use Sky as a launch pad to expand its European presence. Market sentiment over the proposal was negative over doubts regarding growth prospects and the business models of legacy satellite players, in a market with rising competitive threats.

Facebook has had a weak quarter as it is the center of a storm over data use and anti-trust issues. Large technology stocks have seen a broad sell-off due to speculation over regulatory pressure from these issues. We continue to hold Facebook in the fund. We expect strong Facebook user growth from non-US markets, as well as an increase in average revenue per user. Applications such as WhatsApp and Facebook Messenger are currently unmonetized and Instagram has only recently begun a monetization program. We believe the combination of strong user growth and potential for monetization of these apps is undervalued in the market. From a fundamentals viewpoint the company remains in a strong position. Facebook's cash flow return on investment has been trending upwards for the previous 6 years, posting 25% for 2017. The company has no debt, spends a good amount on R&D for future IP creation and is currently trading at historic lows in terms of valuation metrics. We are following any further developments closely, especially in terms of any additional regulation that may be implemented. We expect some increased costs as a result of further regulation, but we still believe Facebook can achieve a desirable investment return from a mix of cash-flow growth and from a re-rating. Due to the recent sell off the company now trades on only 15x 2019 earnings estimates with expected y-o-y earnings growth of ~20%.

One factor that explains in part the good relative performance of the fund over the beginning of this year is the outperformance of growth stocks that began in earnest in January 2017, continued in Q1 overall, despite value taking a lead in March.


**Figure 6: Value vs growth index performance since January 2017 (all TR)**

## Changes to portfolio

We made three changes to the portfolio in the quarter: we bought KLA Tencor, Lam Research and Baidu and sold Intel, Verifone and WisdomTree.

intel Verifone WisdomTree

Intel has been held in the fund since February 2011, performing well over the holding period, with particularly strong performance materializing in 2017. Earnings released in October 2017 exceeded market expectations but we did not see strong growth continuing throughout 2018 and beyond. Cash flow return on investment has also been declining in recent years, adding to the potential risks.

Verifone provide the technology and infrastructure that allow merchants to offer a variety of payment options including chip and pin, contactless card payments and the likes of Apple Pay and Google Wallet. The company was bought on the original thesis of benefitting from the rollout of chip and pin technology in the US which was being driven by a shift in card fraud liability to merchants that do not offer this technology. The adoption of this has remained slow and demand for Verifone's payment terminals has slowed alongside softer card-network rules regarding fraud liability for non-chip terminals, decreasing the urgency to upgrade in certain merchant segments. This combined with a declining cashflow return on investment profile and increasing debt on their balance sheet contributed to our decision to sell Verifone.

WisdomTree an ETF provider, sold off due to weaker Q4 2017 earnings, which were reported in early February amid weaker markets. Their business suffered outflows in Europe and inflows slowed in its Canadian operations. WisdomTree has been struggling to capture market share from larger passive rivals in the U.S. market. This has contributed to a decreasing CFROI and lowered growth expectations.

KLA Tencor, a US based supplier of semiconductor process control and yield management solutions, is at the forefront of improving yields and reducing failure rates in the semiconductor industry. The company's products include defect inspection and calibration products. We see potential for the overall industry to expand, with the key market drivers being data centers, high performance computing, autonomous driving and artificial intelligence. KLA Tencor offered an attractive valuation of 14.4x with a strong cashflow return on investment profile and well covered debt. We think the company is in a strong position to meet our return requirements at a valuation which provides some downside protection.

Lam Research, the US manufacturer of semiconductor processing equipment has been at the forefront of innovative wafer fabrication. Wafer manufacturing has been integral to a range of secular trends within the Information Technology sector. On a company level, Lam Research has seen improving cashflow return on investment while maintaining a strong balance sheet. The company has continually invested in R&D to help preserve its competitive edge. Recently earnings and margins have been trending upwards. When looking at the company on a valuation basis it is attractively priced versus its own history, trading below its long-term average forward P/E and cheaper than the majority of its peers.

Baidu, a Chinese based search engine internet company has been strengthening its core online marketing business using AI and big-data technology to enhance its search, news feed and video products. Their margins are expected to improve with the sale of non-core business and focus on investment in core products. The recent spin-off of iQiyi, their streaming platform, in the US being a good example. In the period of market uncertainty at the end of January the share price dropped almost 20% and far more than the market, which provided us a favorable entry point to a company with a strong balance sheet, good level of CFROI at a reasonable valuation, with potential to grow its revenue and earnings.

## Positioning

The below chart highlights the geographic weighting of the portfolio both in terms of where the companies are domiciled and where their revenues come from – which can often be more illuminating.

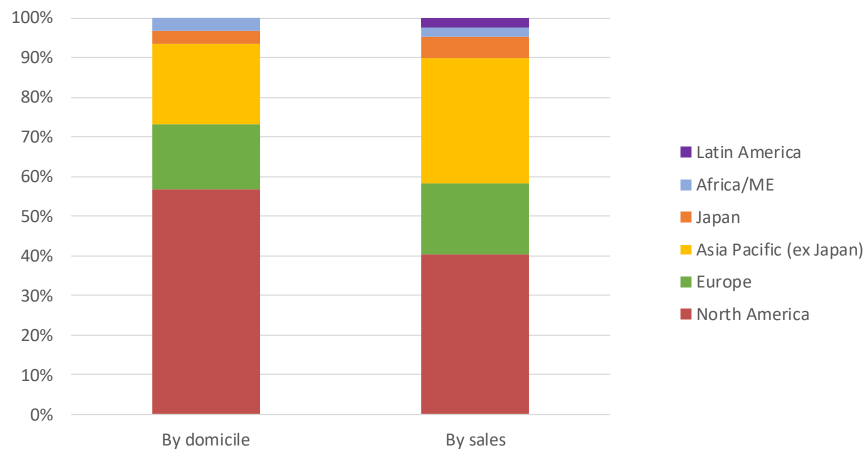



**Figure 7: Geographic breakdown of the fund. Guinness Atkinson Asset Management, Bloomberg (data as of 03.31.2018)**

We would note two main points; (i) the lower exposure to the US the fund has when considered by revenues (about 40%) versus by domicile (about 56%), which arises because some companies are domiciled in the US but have large global exposure (such as Applied Materials); and (ii) the larger exposure to Asia by revenues (about 37%) than by domicile (about 23%).

In terms of sector weightings, the fund has zero weighting to Utilities, Materials, Telecoms, Consumer Staples and the newly created Real Estate sector (previously included in Financials but now counted separately by MSCI). The largest overweight positions are in Information Technology and Industrials. On the large overweight position to Information Technology it is worth noting that it is split between the three different subsectors of semiconductors (about 17% of the portfolio), software and services (about 22%), and technology hardware (about 14%).

To put this data into a historical context the two charts below show how the exposure of the fund has evolved since we launched the strategy back in 2003.

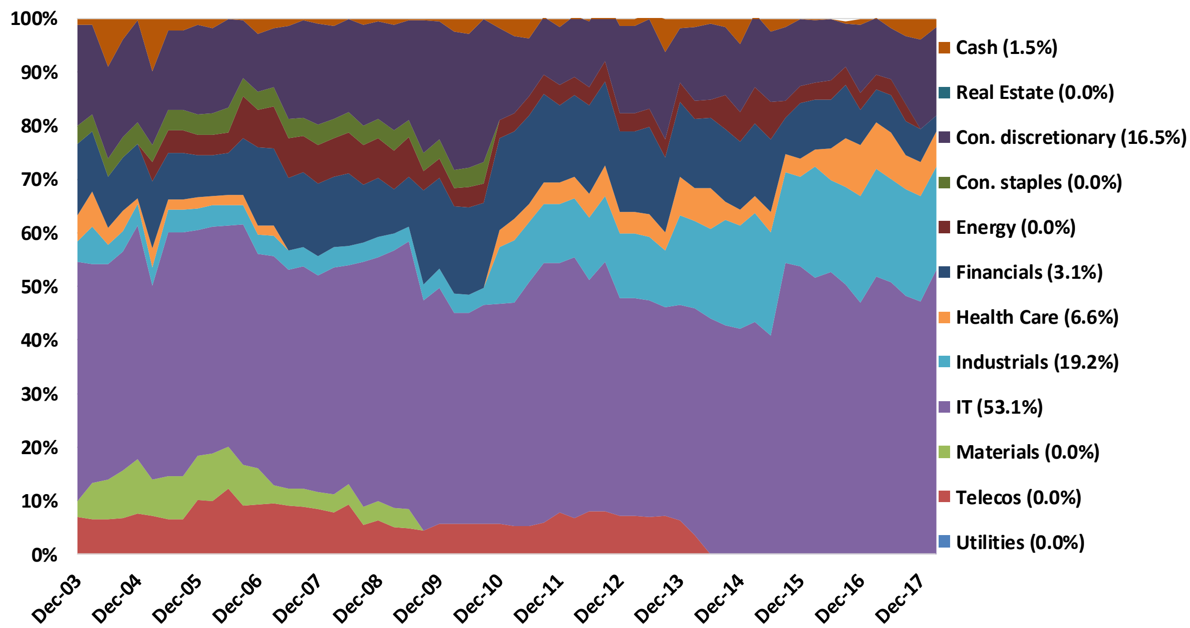



**Figure 8: Portfolio sector breakdown. Guinness Atkinson Asset Management, Bloomberg (03.31.2018)**

From a sector perspective, the three changes we made last quarter reduced our exposure to Financials by 3.3% and increased our exposure to Information Technology by an equivalent amount.

From a geographic point of view, the purchases and sales made in Q1 increased our Asia exposure and decreased our U.S. exposure by 3.3% each.

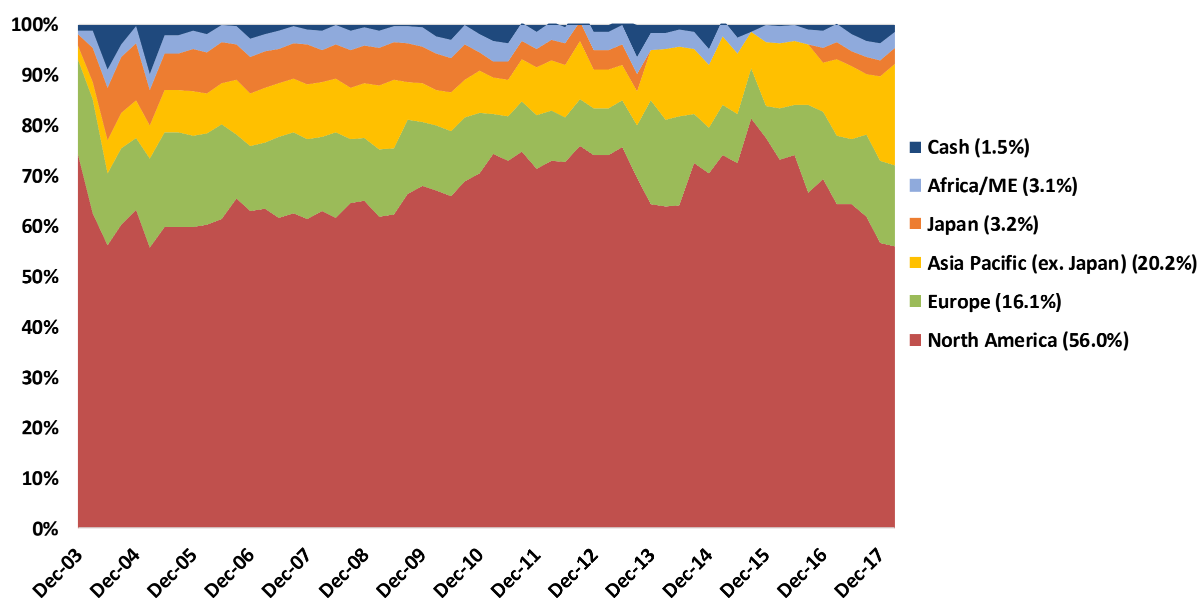



**Figure 9: Portfolio geographic breakdown. Guinness Atkinson Asset Management, Bloomberg (03.31.2018)**

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### Key fund metrics today

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

| | | Fund | MSCI World Index |
|---|---|---|---|
| **Innovation** | R&D / Sales | 8% | 6% |
| | CAPEX / Sales | 7% | 10% |
| **Quality** | CFROI (2017) | 17% | 12% |
| | Weighted average net debt / equity | -7% | 62% |
| **Growth (& valuation)** | Last 3-year sales growth (annualized) | 14% | 6% |
| | Estimated earnings growth (2019 vs 2018) | 12% | 10% |
| | FCF yield | 5% | 4% |
| | PE (2018e) | 17.0 | 15.7 |
| **Conviction** | Number of stocks | 30 | 1649 |
| | Active share | 94% | - |

**Figure 10: Portfolio metrics versus index. Guinness Atkinson Asset Management, Credit Suisse HOLT, Bloomberg (data as of 03.31.2018)**

As the table above shows, the fund still has superior characteristics to the broad market; higher spend on intellectual property, less capital intensive, far higher cash flow returns on investment, net cash, with higher growth prospects, at only a modest premium in terms of valuation.

### Outlook

Generally speaking, the fund has outperformed in periods of rising markets and underperformed slightly in periods of falling markets. It is oriented towards growth, but not at any price. Therefore, its recent outperformance in weaker markets is very pleasing to see considering the fund has a long-term beta of 1.1.

As a result of the outperformance seen at the start of this year, the fund is now trading at an 8.1% premium to the broad market on a PE ratio basis (fund 17.0x 2018 expected earnings vs MSCI World Index 15.7x). The longer-term premium of the fund versus the broader market has been in the 10-20% range, and so we still believe the portfolio offers good value relative to the market today. We also note the FCF yield of the fund is higher than the benchmark (4.9% vs 4.3%). Moreover, when we look at the portfolio on an expected earnings growth basis the portfolio is expected to have higher earnings growth relative to the index (with 12% vs MSCI World Index at 10%).

We thank you for your continued support.

### Portfolio managers

Dr Ian Mortimer, CFA

Matthew Page, CFA

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**Analysts**

Joshua Cole, CFA

Sagar Thanki

**Performance**

In March, the Guinness Atkinson Global Innovators Fund produced a total return of 1.07% (investor class) versus the MSCI World Index return of -1.15%. The fund therefore outperformed the index by 2.22%.

| as of 03.31.2018 (in USD) | YTD | 1 year | 3 years annualized | 5 years annualized | 10 years annualized | Since inception annualized |
|---|---|---|---|---|---|---|
| Global Innovators, Investor Class[1] | 1.07% | 24.62% | 12.66% | 16.13% | 10.90% | 8.19% |
| Global Innovators, Institutional Class[2] | 1.13% | 24.94% | 12.88% | 16.27% | 10.96% | 8.22% |
| MSCI World Index | -1.15% | 14.21% | 8.60% | 10.35% | 6.55% | 5.86% |

| as of 12.31.2017 (in USD) | YTD | 1 year | 3 years annualized | 5 years annualized | 10 years annualized | Since inception annualized |
|---|---|---|---|---|---|---|
| Global Innovators, Investor Class[1] | 34.75% | 34.75% | 12.68% | 18.53% | 9.29% | 8.24% |
| Global Innovators, Institutional Class[2] | 35.07% | 35.07% | 12.87% | 18.65% | 9.35% | 8.27% |
| MSCI World Index | 23.10% | 23.10% | 9.91% | 12.30% | 5.68% | 6.00% |

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

Institutional class (GINNX) Inception 12.31.2015 Expense ratio* 0.99% (net); 1.38% (gross)

*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, visit https://www.gafunds.com/our-funds/global-innovators-fund or call (800) 915-6566.*

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**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 reduce its fees and/or pay Fund 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 .99% for the Institutional class and 1.24%for the Investor class through June 30, 2018. To the extent that the Advisor waives its fees and/or absorbs expenses to satisfy this cap, it may seek repayment of a portion or all of such amounts at any time within three fiscal years after the fiscal year in which such amounts were waived or absorbed, subject to the 0.99% for the Institutional class and 1.24% for the Investor class expense cap.

Total returns reflect a fee waiver in effect and in the absence of this waiver, the total returns would be lower

**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 may invest in derivatives which involves risks different from, and in certain cases, greater than the risks presented by traditional investments**.

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 03/31/2018, are:

| | |
|---|---|
| 1. Cisco Systems Inc | 3.84% |
| 2. Cognizant Technology Solutions Corp – A Shares | 3.75% |
| 3. Catcher Technology Co Ltd | 3.73% |
| 4. ANTA Sports Products Ltd | 3.69% |
| 5. Samsung Electronics Co Ltd | 3.62% |
| 6. NIKE Inc | 3.57% |
| 7. Paypal Holdings Inc | 3.53% |
| 8. Continental AG | 3.44% |
| 9. Roper Industries Inc | 3.42% |
| 10. The Boeing Co | 3.39% |

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

Cash flow return on investment (CFROI) is a metric developed by Credit Suisse HOLT that seeks to calculate cash flow return on investment adjusted for inflation and on a standardized global/industry basis.

In accounting and finance, EBIT is earnings before interest and taxes. It is a measure of a firm's profit that includes all expenses except interest and income tax expenses. It is the difference between operating revenues and operating expenses.

Opinions expressed are subject to change at any time, are not guaranteed and should not be considered investment advice.

*This information is authorized for use when preceded or accompanied by a prospectus for the Guinness Atkinson Global Innovators Fund. The prospectus contains more complete information, including investment objectives, risks, charges and expenses related to an ongoing investment in The Fund. Please read the prospectus carefully before investing. The prospectus may be obtained by calling 800-915-6566 or visiting* https://www.gafunds.com/resource-insight-center

**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.

Purchasing Managers' Index (PMI) is an indicator of the economic health of the manufacturing sector.

One cannot invest directly in an index.

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