GUINNESS

Global Innovators Fund

Innovation | Quality | Growth | Conviction

A high-conviction global growth fund managed by Dr. Ian Mortimer, CFA, and Matthew Page, CFA

Annual review

2019

GUINNESS
ASSET MANAGEMENT

About the Fund

The Fund is a global growth fund designed to provide exposure to companies benefiting from innovations in technology, communication, globalisation or innovative management strategies. The Fund holds a concentrated portfolio of large and medium-sized companies in any industry and in any region.

Fund size	£213m
AUM in strategy	£350m
Fund launch date	31.10.14
Strategy launch date	01.05.03
Managers	Dr. Ian Mortimer, CFA Matthew Page, CFA
Analysts	Sagar Thanki Joseph Stephens

Performance 31.12.19

Cumulative % total return (GBP)	1 year	3 years	5 years	10 years
Strategy*	31.3	41.2	83.8	305.8
Index	22.7	33.1	79.0	201.2
Sector	21.9	31.1	66.1	148.8
Position in sector	11 /324	60 /286	57 /248	4 /172

Annualised % total return
from strategy inception (GBP)

Strategy*	12.62%
Index	10.00%
Sector	9.13%

Strategy	Guinness Global Innovators*
Index	MSCI World Index
Sector	IA Global

Past performance should not be taken as an indicator of future performance. The value of this investment and any income arising from it can fall as well as rise as a result of market and currency fluctuations. *Composite simulation of performance. Guinness Global Innovators Fund (UCITS) launched on 31.10.14. Performance data prior to this date is based on the actual returns of a US mutual fund managed by the same team using the same investment process as applied to the UCITS version. Source: Financial Express 0.99% OCF, bid to bid, total return, in GBP.

Summary

In 2019 the Guinness Global Innovators Fund produced a total return of 31.3% (in GBP), compared to the MSCI World Net TR Index return of 22.7%, therefore outperforming by 8.6% and ranking 11th out of 324 funds in the IA Global Sector.

- 2019 saw consistently strong equity markets with an easing of many the fears which surrounded the equity market sell-off in Q4 2018, including trade rhetoric, central banks' policies and, of course, Brexit.

  - Over the year, the fund saw three stocks return over 100% (New Oriental Education up 121%, Lam Research up 119% and KLA Corp up 104% in USD). 18 of the 30 stocks outperformed the MSCI World and three stocks featured in the S&P 500's top 10 performing stocks for the year (Lam Research up 119%, KLA Corp up 104% and Applied Materials up 90% in USD).

  - Growth stocks outperformed value, which led to a significant outperformance from the fund's largest sector and industry overweight exposures in Information Technology and semiconductor stocks.

  - Despite the US-China trade war, two of our domestically focused Chinese holdings were among the fund's top five performing stocks (New Oriental Education up 121% in USD and Anta Sports up 89% in USD).

  - In September we also saw the 'value rotation' whereby global value stocks significantly outperformed growth stocks – a sharp reversal of the prevailing trend. During the month, the fund was up 2.9% vs the MSCI World 2.2% (in USD), showing the positive effects of our value discipline.

- Performance over the short and long-term has been strong; the fund ranks in the top quartile of the IA Global Sector over 1 year, 3 years, 5 years and 10 years.

- The philosophy and process behind the Guinness Global Innovators remain the same:

  - The fund seeks to invest in innovative businesses with exposure to high intellectual property, high R&D areas including Artificial Intelligence, Industrial Automation and Financial Technology. We believe these areas can exhibit faster profit growth, larger profit margins and may be less susceptible to cyclical pressures.

- Not every innovative company is a good investment, so we focus on quality companies with strong balance sheets, that are highly cash generative, and that are trading at attractive valuations relative to their potential future growth. We believe these types of businesses are best placed to build and maintain a sustainable innovation advantage.
- The fund takes a long-term view, holding companies for 3-5 years on average, and is a concentrated portfolio (30 stocks) of equally weighted positions with an active share of over 90% versus the MSCI World benchmark.

- We believe the focus on innovative companies with long-term structural demand drivers, alongside our quality and value discipline, means the fund is well placed to capitalise on an evolving landscape whilst avoiding excessive risk associated with paying up too much for future growth. The fund currently trades at a 13% premium to the benchmark on a PE basis but is cheaper on FCF yield, with consensus estimates currently expecting earnings to grow at 17% year-on-year.

Annual review

The end of 2019 marked a decade since we took over the management of the Global Innovators strategy – a decade which saw an unprecedented growth rally, including the longest bull market in US history, following the Great Recession. Indeed, 2019 signed off the decade in suitable fashion, with the S&P 500 registering its highest total return since 2013. Many of the fears which drove the equity market sell-off in the second half of 2018 eased, including the US-China trade war, central banks' policies and, of course, Brexit. The year's equity rally was accompanied by generally weak economic data from many regions but was driven by a reversal of the equity valuation compression in 2018, especially during the sharp market sell-off in Q4 2018. The US Fed's pivot at the start of the year, from a stance of raising rates to potential rate cuts, aided this reversal. As other central banks took their cue from the Fed and began once again a period of monetary easing, markets continued to rally. Despite bouts of uncertainty over the remainder of the year (particularly in May and August), the market finished 2019 very strongly as fears of the trade war subsided on the potential for a 'Phase One' trade deal and a resounding victory for the Conservative party in the UK, finally gave some certainty over Brexit.

The Global Innovators Fund performed strongly over the year, returning 31.3% (in GBP) versus the MSCI World Index with 22.7% (in GBP), therefore outperforming by 8.6% and coming 11th out of 324 funds in the IA Global Sector. The fund's performance can be attributed to strong stock selection from our semiconductor equipment manufacturers, Lam Research (up 121% in USD), KLA Corp (up 104% in USD) and Applied Materials (up 90% in USD), as well as our domestically focused Chinese holdings New Oriental Education (up 121% in USD) and Anta Sports (up 89% in USD). In addition, the fund benefited from a broader rally in the IT sector – the fund's largest sector overweight relative to the benchmark.

The fund's performance over the short and long term remains pleasing, ranking in the top quartile versus peers over 1, 3, 5 and 10 years.

Global Innovators strategy performance

	1yr	3yr	5yr	10yr
Guinness Global Innovators Fund	**31.3%**	**41.2%**	**83.8%**	**305.8%**
MSCI World Net TR Index	22.7%	33.1%	79.0%	201.2%
IA Global Sector	21.9%	31.1%	66.1%	148.8%
Position in IA Sector	11/324 funds	60/286 funds	57/248 funds	4/172 funds
Quartile	1st	1st	1st	1st

Figure 1, Source: Financial Express, as of 31st December 2019

Global Innovators Fund performance (Net Total Return in GBP)

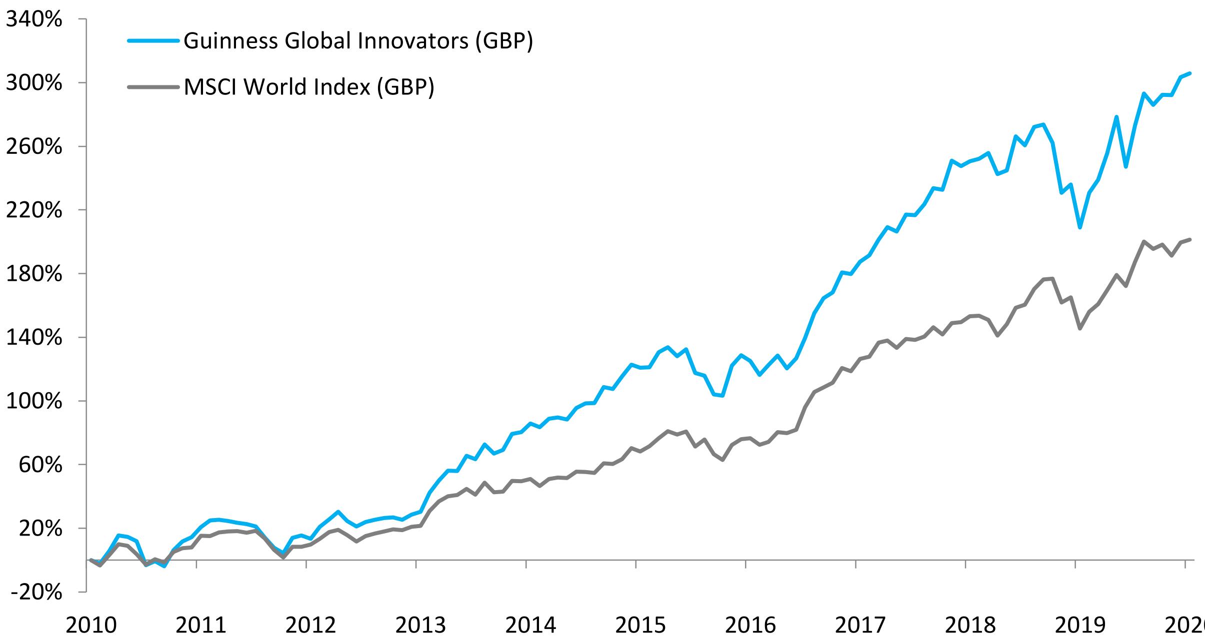


Figure 2: Global Innovators Fund performance (total return in GBP)

Past performance should not be taken as an indicator of future performance. The value of investments and any income arising from them can fall as well as rise as a result of market and currency fluctuations.

Looking at Innovation through Research & Development

As we reflect on this tremendous bull market, it is useful to consider the fund philosophy and the drivers of this growth market. The fund's strategy has always been to invest in innovative companies whose competitive advantages can be maintained over the long term. One approach in which these companies can do so is by investing in research & development (R&D). Here we consider the drivers of growth through the lens of R&D expenditure, how this translates to our Global Innovators Universe construction, and possible implications going forward into the new decade.

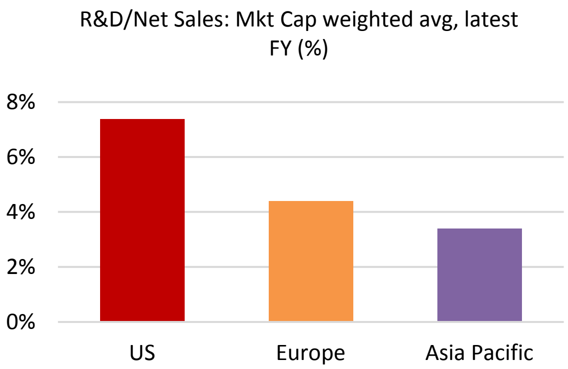


Figure 3, Source: Bloomberg, as of 31st December 2019

Whilst R&D alone is certainly not sufficient to define a company as innovative, when we look at R&D expense around the world and start to break it down by region and sector, we see an interesting picture.

When we look at R&D as a proportion of net revenues in different regions, we see that the average US company spends twice as much as in Asia Pacific and substantially more than in Europe. This can be partly explained by the large technology sector in the US market.

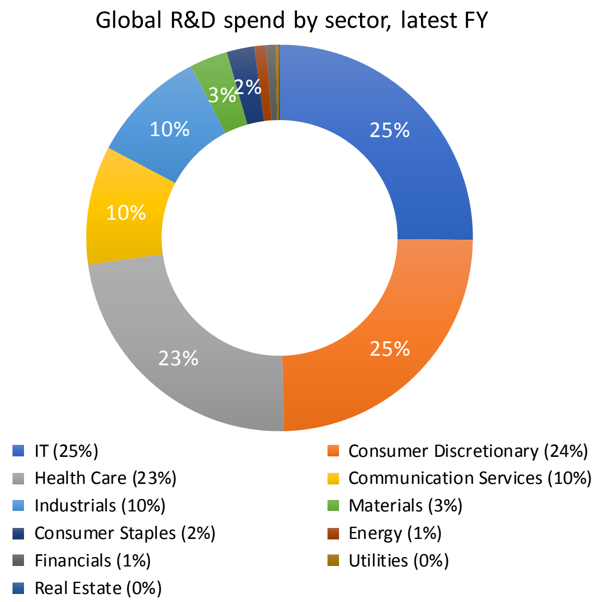


Figure 4, Source: Bloomberg, as of 31st December

When we break down the total R&D spend, we see that five sectors make up 92% of total R&D spend. These are IT, Consumer Discretionary, Health Care, Communication Services, and Industrials. Indeed, this tallies with where we see some of the most exciting innovation themes today. Within IT, we see many opportunities including Artificial Intelligence & Big Data, Cloud Computing, Augmented and Virtual Reality, Internet of Things. In Consumer Discretionary, we see Next-Generation Consumer, Payments and Mobile Technology, overlapping with 5G and Internet Media & Entertainment in the Communication Services sector. In Health Care we see Genomics, MedTech, Biotech and Speciality Pharmaceuticals, while Industrials is dominated by Robotics and Automation, Logistics, and efficiency. However, we see far less exciting innovation themes in the Consumer Staples, Energy, Financials, Utilities and Real Estate sectors.

Research and Development costs for companies are different to capital expenditures. Research and Development expense for a company consists of money spent on developing new knowledge and applying the findings from this research to designing and inventing new products, prototyping and testing, etcetera. Capital expenditure is normally associated with assets that you can see, such as a new factory or the equipment within it. Costs associated with Research and Development are normally less visible as they tend to be an investment to develop intellectual property. It also gets expensed in the year that the cost was incurred which means we can get a fairly accurate picture of whether companies have been increasing or decreasing their spend on R&D over time. Crucially, management will only want to be continuing to spend or increasing their R&D budget if they can see that their R&D spend has been delivering a return on investment through the growth in earnings and have conviction that it will continue to deliver earnings growth into the future.

Below we contrast total R&D expenditure by sector from 2010 to 2018. In the five sectors where we identify the most exciting innovation themes, we have seen R&D expense grow on average by 73% over this period, while in the other six sectors it has only grown by 10%. This suggests that management teams continue to see R&D as an important growth engine in the future.

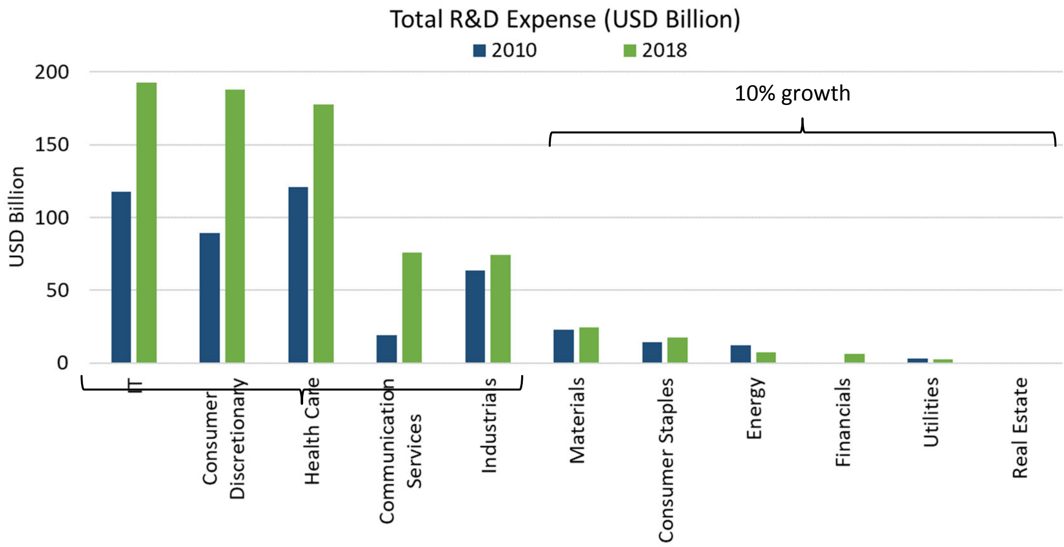


Figure 5, Source: Bloomberg, as of 31st December

If we look at how the different global sectors have performed over the same period, we see a strong correlation between the R&D spend and performance. Four of the five top R&D spenders (IT, Consumer Discretionary, Health Care and Industrials) are in the top five sector performers. On separating these returns into the return from multiple expansion, earnings growth and the return from dividends, we see that it has been earnings growth that has been the main contributor to these sectors' excellent performance.

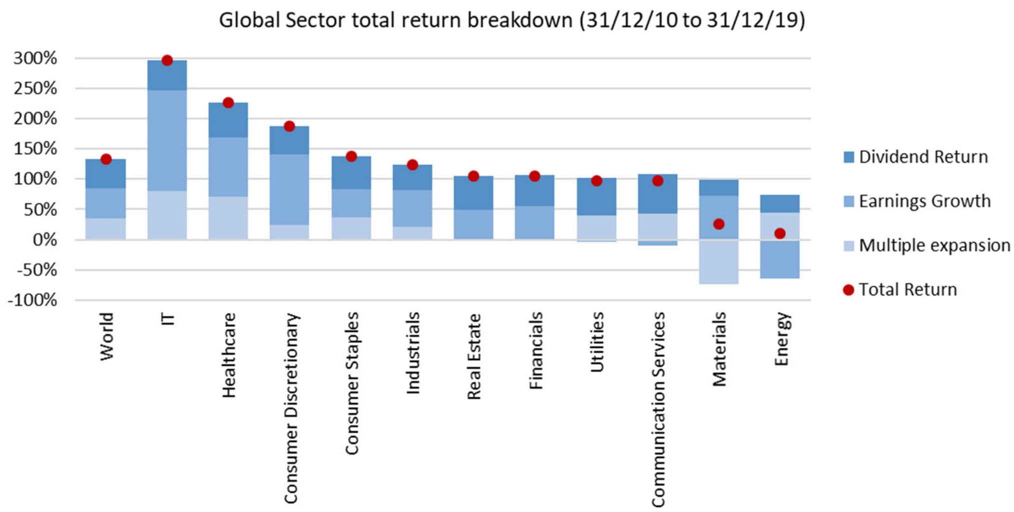


Figure 6, Source: Bloomberg, as of 31st December 2019

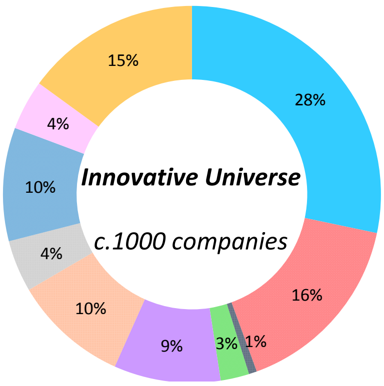
Whilst it would be erroneous to conclude that companies should simply invest in R&D to generate superior earnings growth and thus deliver superior share price performance, we can conclude that management teams continue to see a good return on their R&D investments and therefore are continuing to grow their R&D spending. Furthermore, this analysis aligns with the historic exposures of the fund; the largest regional exposure is to the US, whilst the largest sector exposures are to IT, Industrials, Consumer Discretionary and Communication Services. This gives us confidence that the types of companies we seek have a strong probability of outperforming in the future as they continue to invest in R&D, subsequently building and maintaining their competitive advantages and being an engine for earnings growth for the next decade.

While looking for innovation through the lens of R&D is interesting, we find it beneficial to search for innovation by theme in order to begin constructing our investible universe. In doing so, we can adapt our search for themes in response to an evolving landscape, which an R&D lens may not capture. The resulting set of themes also enables us to view the fund exposures in a way that by sector or by geography may not facilitate.

Innovative Themes

Themes	Sub-Themes
Advanced Health Care	Biotech, Genomics, Speciality Pharmaceuticals, MedTech
Artificial Intelligence & Big Data	Machine Learning, Analytics, Autonomous Vehicles
Augmented & Virtual Reality	Gaming, Design, Simulation
Clean Energy & Sustainability	Electric Vehicles, Circular Economy, Resource Efficiency
Cloud Computing	Cyber Security, Networking, Software-as-a-Service
Internet, Media & Entertainment	Social Networks, Streaming, Gaming, eLearning
Mobile Technology & Internet of Things	Smartphones, Wearables, Smart Devices, 5G
Next Gen Consumer	Ecommerce, Products-as-a-Service, Healthy Living
Payments & FinTech	Digital Wallet, Blockchain, Payments Infrastructure
Robotics & Automation	Robots, Sensors, Logistics, 3D Printing

Figure 7: Themes of the Guinness Global Innovators Fund

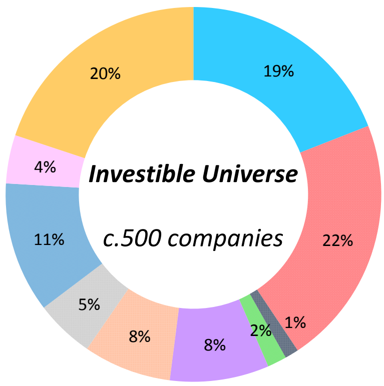


By using these themes as building blocks, we can begin to construct our Innovative Universe, seeking companies with exposures to the themes identified across sectors and regions. As can be viewed in figure 8, our Innovative Universe is diverse across themes with the most significant exposures towards Advanced Health Care, Artificial Intelligence & Big Data and Robotics & Automation.

Figure 8: Innovative Universe breakdown by theme

However, being innovative does not necessarily make a company a good investment. Therefore, we apply filters looking for quality financial characteristics to reduce our list to a higher-quality manageable group we call our Investible Universe. Here we see the exposure breakdown is not dissimilar to our Innovative Universe, but our Advanced Health Care exposure is lower by c.10%, mainly due to a large number of biopharmaceutical companies filtered out by lack of profitability.

Figure 9: Investible Universe breakdown by theme



Finally, via our systematic and repeatable investment process we can prioritise companies for further due diligence before applying fundamental analysis and evaluating a company's competitive advantage and risk and return assessment – with significant weights on a company's valuation, since we strongly believe a key risk of investing in innovation is paying up too much for expected future growth. The resulting portfolio is diverse across themes with no more than 20% in any one theme today.

Giving transparency to these exposures, we find the majority of our invested companies have exposures to multiple themes. For example, Amazon continues to extend its reach through e-commerce, the cloud, and media and entertainment, while our semiconductor holdings enable many of the innovative technologies across various themes.

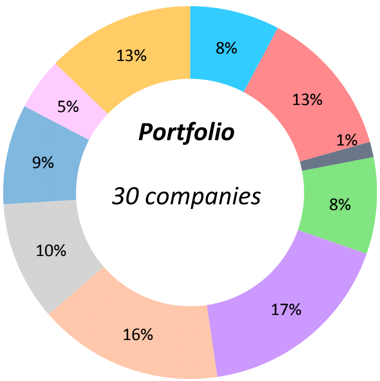


Figure 10: Portfolio breakdown by theme

Figure 11, Source: Guinness Asset Management, Bloomberg, as of 31st December 2019

Whilst it would be easy to identify the fund's risk exposures based on the major sectors invested in – IT, Consumer Discretionary, Industrials and Communication Services – we would argue this may be too simplistic and that the fund exposures based on the identified themes give a much more holistic way of viewing the risk and return opportunities. In this way we find that the fund is exposed to a diverse set of themes and hence end-markets, many of which transcend simple sectoral bucketing.

Overview of the year

Equity markets rose with the easing of economic and geopolitical fears that had led to the sharp sell-off at the end of 2018. The year's rally was driven by a reversal of equity valuation compression during 2018, despite the generally weak economic data from many regions.

Easing monetary policies

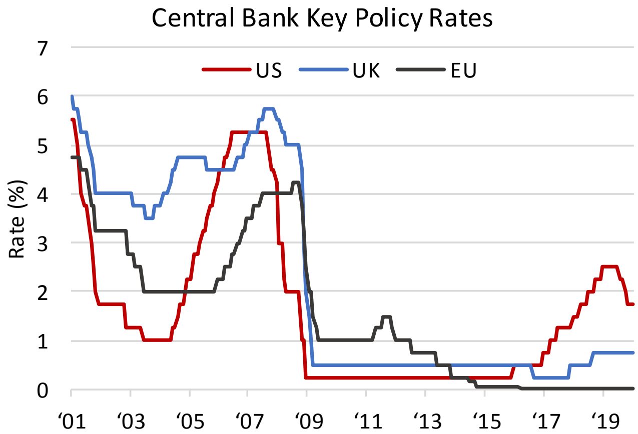


Figure 12, Source: Bloomberg, as of 31st December 2019

In the not-so-distant past, investors were faced with the prospect of major central banks tightening their monetary policies by reducing their balance sheets and increasing interest rates. It was only in December 2018 that Jerome Powell, Chairman of the US Fed, claimed that the US interest rate was effectively set on an 'autopilot' of periodic increases over the coming year. However, in January investors welcomed a more dovish tone as Powell signalled that slowing growth from regions including China and Europe, as well as the US government shutdown, was enough to warrant the possibility of no further interest hikes in the year. Since then, the US Fed has gone on to cut the interest rate by 25bps on three occasions while restarting a bond purchasing programme. It was a sign that the global economy was not as rosy as hoped for. The European Central Bank (ECB) also enacted a new ambitious monetary policy whereby it cut rates further into negative territory, coupled with an open-ended bond purchase programme as Europe tussles with its own deteriorating economic data, particularly in the manufacturing sector. Elsewhere, China continued in its attempt to stimulate its economy as GDP growth slowed. Indeed, China has cut the Required Reserve Ratio (RRR), the percentage of deposits banks must hold back, eight times since early 2018, releasing billions of yuan into the economy.

Trade, trade, trade

Figure 13, Source: Bloomberg, as of 31st December 2019

Trade talk continued to feature in 2019. As the US and China continued to enact tit-for-tat tariffs throughout 2018 and into 2019, the effects of the trade war became more evident. China's GDP growth rate dropped to 6% year-on-year (YoY) and US imports from China slowed. 2019 began with somewhat improved trade news as President Trump pushed back further tariff increases previously set for March. However, come May, with Trump growing increasingly discontent with the lack of progress on key trade issues, the US increased tariffs on $200bn of Chinese imports from 10% to 25% and placed Chinese smartphone and telecoms business Huawei on a blacklist, preventing US companies from selling to the company without a license. The news sent many global stocks down as Huawei relies heavily on US semiconductor companies such as Xilinx for its 5G telecoms. By the end of the year there was some reprieve for investors as a 'Phase One' deal, which had been touted for some months, was finally agreed between the two sides.

The agreement entails:

- China promising to ease pressure on US companies over technology transfer, which should be positive for the US technology sector if it comes to fruition
- The withdrawal of tariffs that were threatened to be imposed by the US on December 15th 2019, which will benefit US tech companies (laptops and cell phones would have been subject to those tariffs) as well as some US retailers (who would have had price increases on imported goods from China that they sell, from personal care products to clothing to household goods)
- China's promise to purchase additional amounts of agricultural goods from the US, with a commitment to $40bn to $50bn of purchases in each of the next two years
- The partial rollback of the September tariffs from 15% to 7.5%.

Elsewhere, Trump held off on adding tariffs to European auto exports, giving auto manufacturers some relief and helping to prevent the European Manufacturing PMI from deteriorating further. However, the US is reportedly still considering 100% tariffs on French goods in a dispute regarding a new digital tax that Trump believes unfairly discriminates against US companies. Further, Trump also threatened to impose a 5% tariff on all Mexican goods from June in an effort to control immigration coming from Central America, through Mexico and into the US. The move threatened to undermine the efforts made in 2018 to revamp the NAFTA agreement signed by the US, Mexico and Canada. However, Mexico quickly made concessions leading to Trump's withdrawal of impending tariffs.

With the US presidential election due in 2020, we should expect trade headlines to continue to feature heavily as candidates court public approval.

Brexit

Boris Johnson won a decisive victory over Jeremy Corbyn's Labour Party in the UK general election on December 12th, clearing the way for the Tory leader to take Britain out of the EU at the end of January 2020. Brexit's precise shape is still to be defined, with December 2020 set as a preliminary deadline for negotiations. At this point, it looks possible that the UK may exit the EU's single market (which allows for the free movement of goods and services among the different countries in the EU), but remain in or align with the customs union (which establishes a common system of tariffs and import quotas for trading with non-members).

Growth returns to flavour

At the start of 2019, global equity markets surged higher, leading to a strong outperformance by the fund in the first four months. Markets favoured the Technology stocks that had sold off heavily in Q4 2018. The bounce-back came after the Fed pivoted at the start of the year, reversing course on interest rate rises. This set the tone for Growth stocks to continue their ascent and the trend persisted for most of the year.

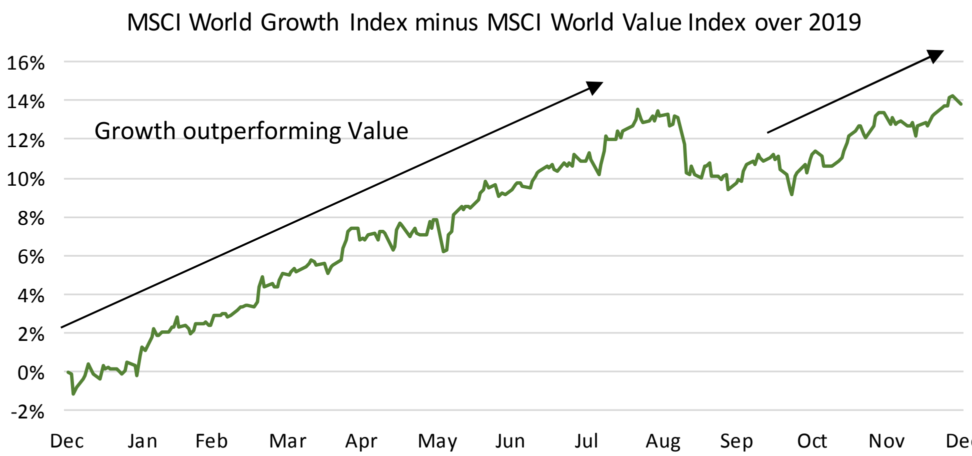


Figure 14, Source: Bloomberg, as of 31st December 2019

Review of 2019 fund performance

The fund performed well in 2019, up 36.6% in USD, benefitting from the return to a 'risk-on' attitude arising from easing economic and geopolitical fears, as well as good stock selection in our semiconductor equipment manufacturers and domestically focused Chinese holdings. Indeed, the only significant underperformance came in May when an unexpected escalation in US-China trade tensions sent stocks down globally, and especially semiconductors stocks. Over the year, the fund saw three stocks return over 100% (New Oriental Education up 121%, Lam Research up 119% and KLA Corp up 104% in USD), while 18 of its 30 stocks outperformed the MSCI World and three stocks featured in the S&P 500's top 10 performing stocks for the year (Lam Research up 119%, KLA Corp up 104% and Applied Materials up 90% in USD).

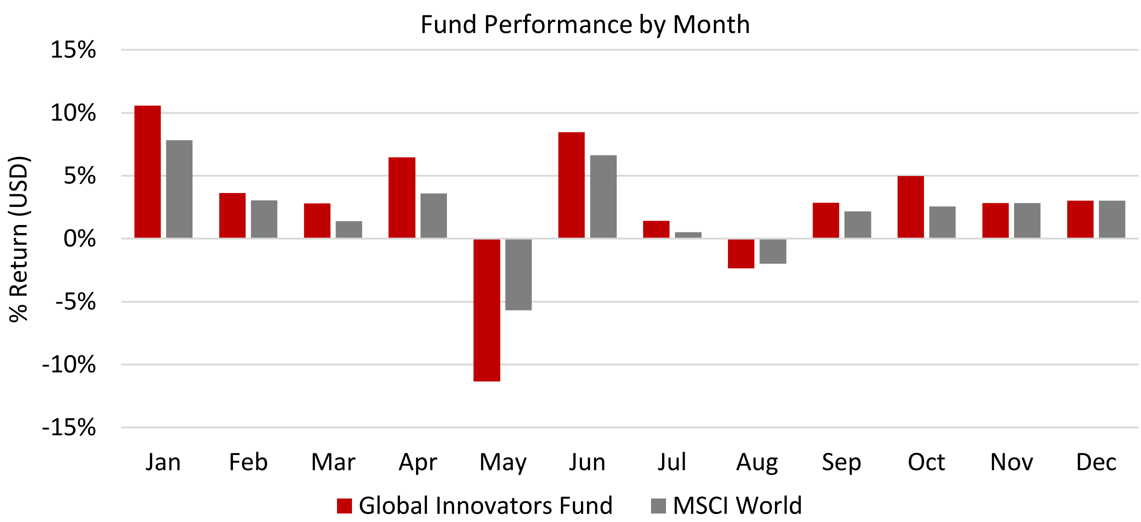


Figure 15, Source: Bloomberg, as of 31st December 2019

Over the 1^{st} **quarter**, dovish tones from the US Fed on interest rates and positive noise out of US-China trade talks helped boost the fund's Chinese-exposed stocks such as New Oriental Education and Anta Sports. The fund's semiconductor holdings rose with bullish comments by management teams on the medium-term outlook for the sector. In the 1^{st} quarter, the fund was up 17.8% in USD vs MSCI World 12.5% in USD. The fund's overweight exposure to Asia Pacific ex-Japan, and in particular China, was the largest regional contributor to outperformance with the most significant returns coming from New Oriental Education (up 64.4% in USD) and Anta Sports (up 41.8% in USD). In addition, the fund's largest regional exposure, North America, produced significant stock selection attribution as our overweight positions in semiconductor companies and global conglomerates Danaher and Roper Technologies produced strong returns. On a sector level, our overweight position to IT, the highest-performing sector over the quarter, produced the largest contributions to the fund's outperformance. In particular, the portfolio's exposure to semiconductor holdings such as Nvidia (up 34.6% in USD) and KLA Tencor (up 34.3% in USD), provided the most significant contribution to the performance, having been on a drag on the portfolio over Q4 2018.

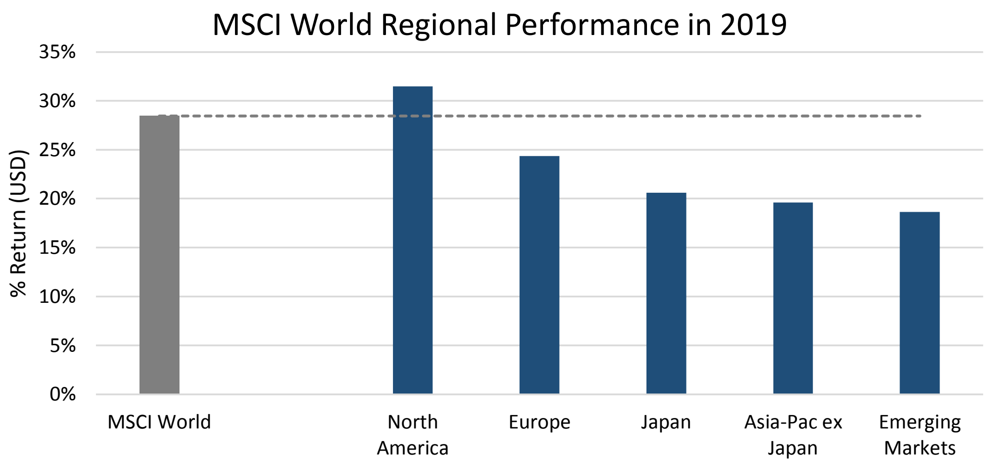


Figure 16, Source: Bloomberg, as of 31st December 2019

In the 2nd **quarter,** outperformance of the fund during April and June was not enough to offset the underperformance during May after the reignition in the US-China trade dispute which negatively impacted our semiconductor exposure in particular (fund up 2.4% in USD vs MSCI World 4.0%). However, the increasing likelihood of US interest rate cuts and the resumption of trade talks at the G20 summit enabled equity markets to continue their rally into June with the S&P 500 hitting record highs. Over the quarter as a whole, the fund's overweight exposure to Asia Pacific ex-Japan was the largest regional drag, having been one of the largest contributors to fund outperformance over Q1. Our exposure to European equities was the largest regional contributor to fund performance, with strong stock performance from SAP (up 20% in USD) and Schneider Electric (up 19% in USD) the primary reason. On a sector level, our overweight position to IT contributed positively, but stock selection from holdings such as Cognizant and Checkpoint Software was a drag. The fund's exposure to the Industrials sector made up the largest proportion of positive attribution, with stock selection from Schneider Electric (up 19% in USD) and ABB (up 11% in USD) the largest contributors.

Over the 3rd **quarter**, despite the underperformance during August after the escalation in the US-China trade, the fund outperformed, returning 1.9% (in USD) vs the MSCI World 0.5% (in USD). Overall, strong IT returns, particularly from our semiconductor names, drove a large part of the outperformance over Q3 with KLA Tencor, Lam Research and Applied Materials returning 35.6%, 23.7% and 11.7% (in USD) respectively. In addition, the fund benefitted from strong stock selection from our US holdings again – mainly the semiconductor names – and Asia Pacific stocks such as Anta Sports (up 21.0% USD) and New Oriental Education (up 14.7% USD) which continued to add to their significant gains for the year. Over the entire quarter, the fund's exposure to the US was the largest regional contributor on strong selection. Stock selection was also behind Asia Pacific's positive contribution to fund performance over the quarter. On a sector level, our overweight positions to IT and Consumer Discretionary were strong contributors, but our exposure to Industrials was a drag on portfolio performance as continued weakness in European manufacturing data led to the relative underperformance by companies such as Siemens and Schneider Electric. In September we also saw the 'value rotation' whereby global value stocks significantly outperformed growth stocks in the month – a sharp reversal of the prevailing trend. During the month, the fund was up 2.9% vs the MSCI World 2.2% (in USD), showing the positive effects of our value discipline.

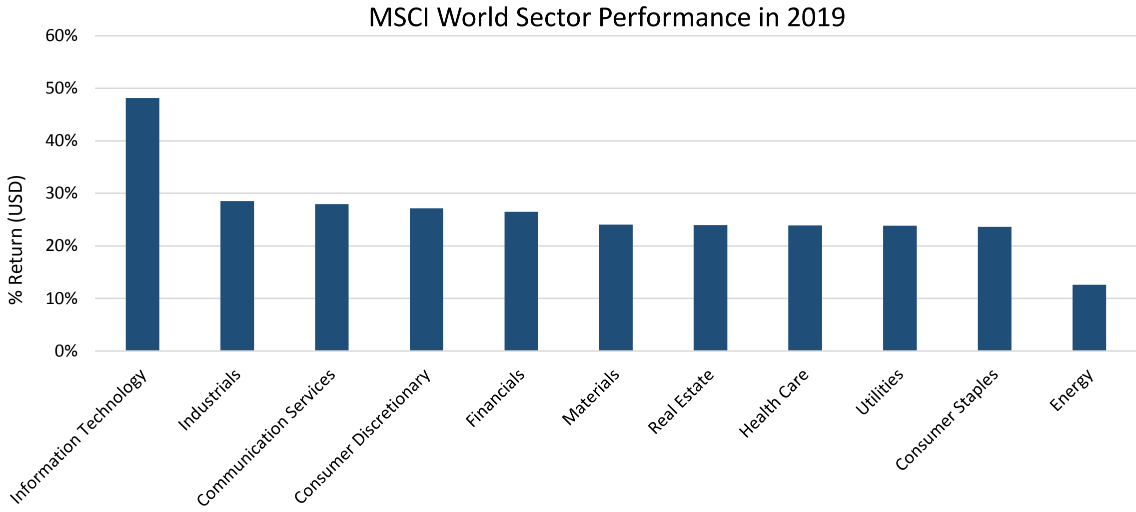


Figure 17, Source: Bloomberg, as of 31st December 2019

The year ended in a similar fashion to how it began, with the fund strongly outperforming – up 11.2% (in USD) versus the MSCI World up 8.6% (in USD) over the **4th quarter**. A general 'risk-on' attitude came with the 'Phase One' agreement between the US and China, which was a positive step for relations and the first step to a possible full deal, central banks continuing to add stimulus to their respective economies – with the US Fed cutting the benchmark interest rate for the 3rd time in the year and China once again cutting the RRR – and a resounding win for the Conservatives in the UK general election. Indeed, our overweight exposures to cyclical sectors, Industrials, Communication Services, IT and Consumer Discretionary all provided positive contributions to fund performance versus the benchmark. IT once again provided the largest contribution with our semiconductor holdings rallying mainly on the 'Phase One' deal struck between the US and China. Additionally, our exposure to European Industrials was positive for the portfolio with the European and German Manufacturing PMIs not as weak as expected – albeit still in contraction. This enabled holdings ABB, Siemens and Schneider Electric to rally into the end of the year.

Individual stock performances in 2019

The chart below shows the fund constituents' returns over 2019 in USD.

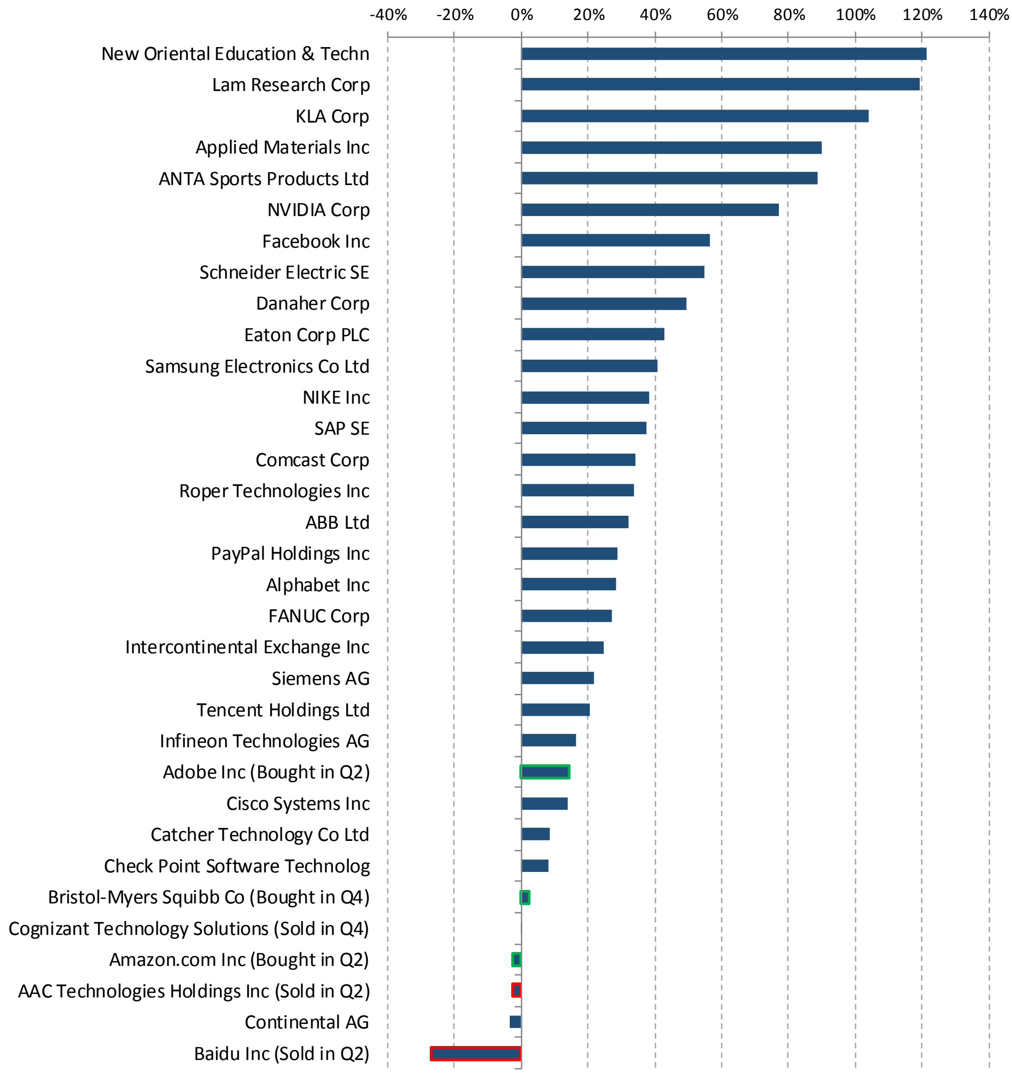


Figure 18, Source: Bloomberg, as of 31st December 2019

The best-performing stock in 2019 was New Oriental Education (up 121% in USD)

New Oriental Education, the provider of private tutoring services in China, began the year positively, reporting top and bottom-line figures that beat analysts' forecasts for the first quarter. The stock had been one of the fund's largest underperformers in 2018, mainly due to increased regulation in private tutoring services within China. We felt this was overdone, given that increased regulation and standardisation of the industry should stand to benefit the larger players in the long term as smaller players are pushed out. Last year New Oriental Education announced an expansion effort to gain a greater share of the largely fragmented private tutoring market. During the year, the company reported expansion efforts were on track, with total schools and learning centres up c.20% YoY, whilst announcing a new initiative named '3S' – Standardisation, Streamlining and Systematization – dedicated to improving the efficiency of the company. The fund's equal weighting strategy, which ensures we periodically trim the outperforming stocks and top up the underperformers, resulted in the gradual increase of our exposure as the stock underperformed in 2018 and subsequently, the trimming of our exposure as the stock rallied through 2019.

Our three semiconductor equipment manufacturers were also among the fund's top performers: Lam Research (up 119% in USD), KLA Tencor (up 104% in USD), and Applied Materials (up 90% in USD).

Strong performance from these holdings was a result of good quarterly results alongside positive guidance for the succeeding periods**.** Indeed, throughout the year, up-beat comments from management teams gave good indications that the decline in earnings that had hit the semiconductor industry in 2018 could be poised to reverse.

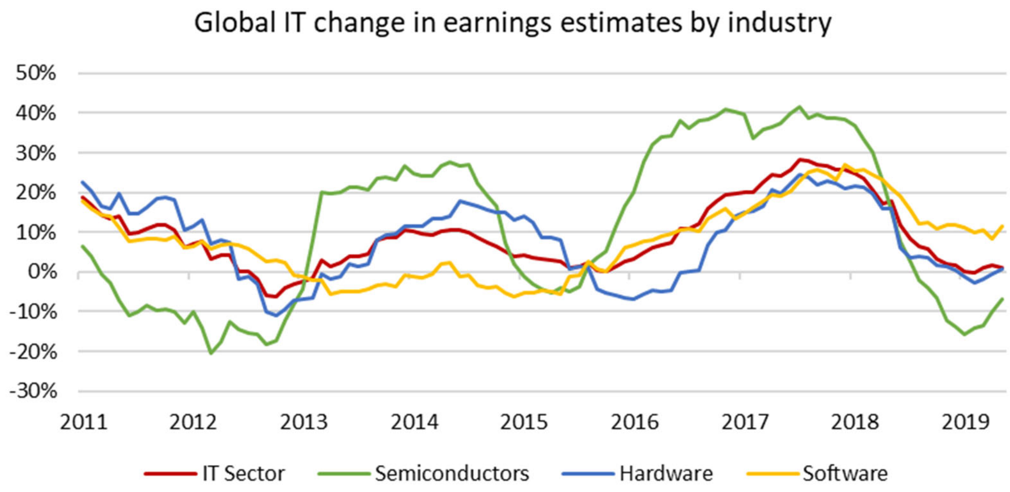


Figure 19, Source: Bloomberg, as of 31st December

Samsung: "*In the second half of this year, we are expecting there to be server DRAM demand recovery together with the introduction of the new CPU. Also, we're seeing that there will be a strong server memory demand because there are companies that are preparing to adopt Edge servers in advance to prepare for the 5G network rollout after year 2020."*

Intel: *"consistent with kind of historical patterns, we do expect the purchasing to start picking up again in the second half of the year."*

"While the first half in the cloud will be a little bit tougher, we do expect that cloud continues to grow as they start to move and to build out again in the second half."

LAM Research: "*we expect the first half of the year is going to be weighted towards foundry and logic. It will be stronger in the first half than the second half. And memory is may be a little bit stronger in the second half than the first half."* For context, LAM's revenue is 80% weighted towards memory.

KLA-Tencor: "*Though visibility in the industry today is challenging and customer plans remain fluid, particularly in memory, our current view is for the second half 2019 shipments to be greater than the first half."*

ASML: *"We reiterate that we see market demand that supports yet another year of growth for ASML in 2019 with significantly stronger demand in the second half of the year."*

In the Global Innovators Fund we currently hold a diverse set of semiconductor holdings, including semiconductor equipment manufacturers such as Lam Research, providing the equipment used in the fabrication of chips; fabless processor chip designers in Nvidia and Infineon; and Samsung, which is one the largest foundries in the world (behind TSMC) and which primarily produces memory chips as opposed to processing chips. As a result, our fund's exposure to the semiconductor industry may be significant relative to other industries, but we see good diversification across the varying types and stages of the semiconductor process. Furthermore, with a view that semiconductor earnings may be at a trough, coupled with the attractive valuations the semiconductor industry currently trades at versus other technology industries, we feel comfortable with our holdings, especially given the long-term demand from innovative applications demanding more complex and powerful chips.

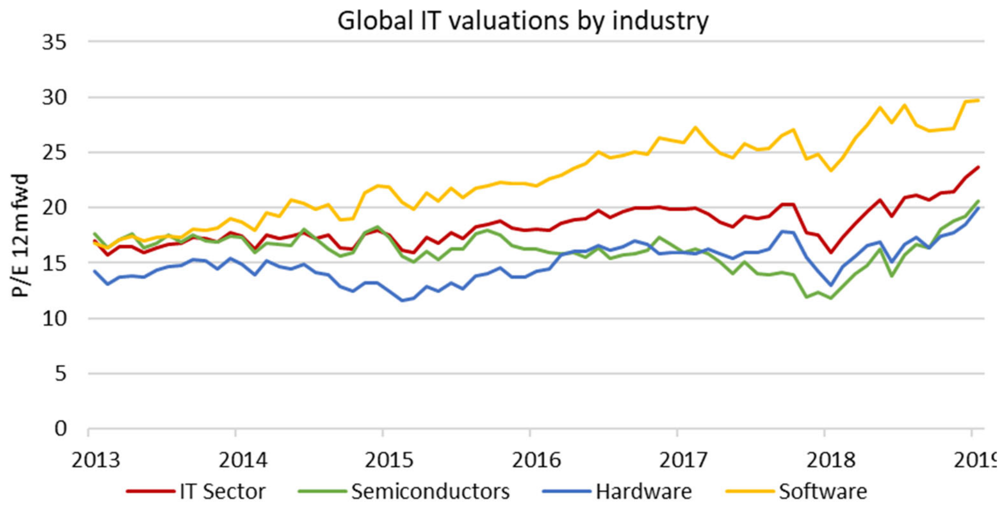


Figure 20, Source: Bloomberg, as of 31st December

The weakest performer over 2019 was Baidu (down 27% in USD before position sold)

Baidu, commonly referred to as China's version of Google, operates the largest search engine in China. Its other segments include iQiyi, the largest entertainment streaming platform in China, and Apollo, one of the leading autonomous vehicle operating systems. During Q1, Baidu reported its first loss since going public in 2005 resulting from higher traffic acquisition costs to drive traffic back to its search engine and away from super-apps such as WeChat (owned by Tencent), along with rising content costs for iQiyi as it seeks to create new and exciting content for viewers. Revenue growth had also slowed, and as we discuss later in the update, we sold our position in Baidu at the end of the Q2.

Changes to the portfolio

We sold three positions and initiated three new positions over the course of 2019.

Number of changes to the portfolio

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

We made no changes over Q1.

Changes to the portfolio over Q2:

Over the quarter we made two changes, selling our positions in AAC Technologies and Baidu and initiating new positions in Amazon and Adobe.

AAC Technologies, the manufacturer of miniaturized components for smartphones including acoustics, haptics and antenna, has faced increasing pressures from the slowing global demand for smartphones and from increasing competition. We bought AAC Technologies in 2016 based on its market-leading position in smartphone components and the ever-increasing need for quality components in more premium smartphones. AAC Technologies constantly yielded 30% operating margins which reflected this leadership (well above competitors). As it has diversified into new areas such as haptics, however, and faced new competition in its specialist area of acoustics, AAC's operating margins and returns on capital have come under increasing pressure. As a consequence, with AAC losing some of its competitive edge whilst also facing slowing global demand, we felt the company could find future growth more difficult and that lower returns would justify a lower multiple. As such, it no longer met our criteria for the portfolio.

Baidu, the operator of China's largest search engine and various other leading products and services, has faced the increasing propensity for users to enter their queries into alternative platforms such as the super-app WeChat, owned by Tencent. Although Baidu has had the benefit of a secular tailwind in the movement to online advertising, the increasing competition and rising costs to acquire traffic in search (which makes up the majority of its revenue) has had a detrimental effect on Baidu's margins, with operating margins falling from c.50% in 2012 to c.18% in 2018. Consequently, we felt that although Baidu has leading positions in entertainment streaming, autonomous vehicles and other innovative areas, the increasing competition within Baidu's main segment, search, had reduced our conviction in Baidu's ability to stem further margin erosion whilst continuing to reinvest to drive growth.

Amazon is the operator of its e-commerce platform and has leading positions in cloud computing, digital streaming and artificial intelligence. Amazon is known for its industry disruption; although it trades on higher multiples than industry peers, its ability to increase its profitability over recent years as it scales up operations in segments including Amazon Web Services (AWS), its cloud computing platform, has enabled it to expand its margins and grow its cash flows while continuing to reinvest in new disruptive technologies such as drone delivery.

Adobe is the undisputed leader in creative and document software, including Photoshop and Acrobat Reader, and has been making headway into marketing and analytics. It has benefited from the transition to cloud-based products and an increasing mix of non-professional subscribers. The shift to higher-margin, higher recurring revenue from cloud-based software has resulted in year-on-year increases in operating margins and returns on capital. Trading at c.30x 2020 earnings whilst exhibiting c.32% operating margins (greater than competitors) and forecasting year-on-year earnings growth of 20%, Adobe is, in our view, a highly reputable business with strong long-term growth potential while not trading at a substantial premium.

We made no changes over Q3.

Changes to the portfolio over Q4:

Over the quarter we made one change, selling our position in Cognizant and initiating a new position in Bristol Myers Squibb.

Cognizant is an outsourced IT consultant which enables companies to remain competitive and efficient in their ability to harness the most effective technologies. We bought Cognizant in 2015 as a company exhibiting high-quality characteristics (an asset-light business with high return on capital and margins) many of which remain today. However, the loss of clients in key areas such as healthcare and financial services, coupled with sluggish sales growth, gave us pause. We felt the restructuring plan put in place would be difficult to execute and that there were better opportunities with clearer long-term structural growth drivers.

The fund is currently underweight Health Care as innovative companies in the sector have generally traded on elevated multiples, but with the recent consolidation spree and with the US election cycle coming up, multiples have decreased, especially in the pharmaceutical industry. There have been 'mega-mergers' in the space as certain drugs go off-patent. **Bristol Myers Squibb (BMY)** has underperformed as Merck's competitor drug Keytruda has been doing well against BMY's Opdivo in oncology. However, the recent merger with Celgene (completed in November 2019) has been viewed positively by the market and has created the world's largest oncology business. Historically, BMY relied heavily on Opdivo (29% of revenues) and Eliquis (31% of revenues), while Celgene relied heavily on Revlimid (63% of revenues), hence the new entity is better diversified. Trading on 14x forward PE (significantly below its 10yr average) and with earnings expected to grow 34% in 2020 and 23% in 2021, BMY presented a good balance of risk and reward in the innovative area of oncology, which can protect well against the trend of lowering drug costs.

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.

Portfolio sector breakdown (all dates at quarter-end)

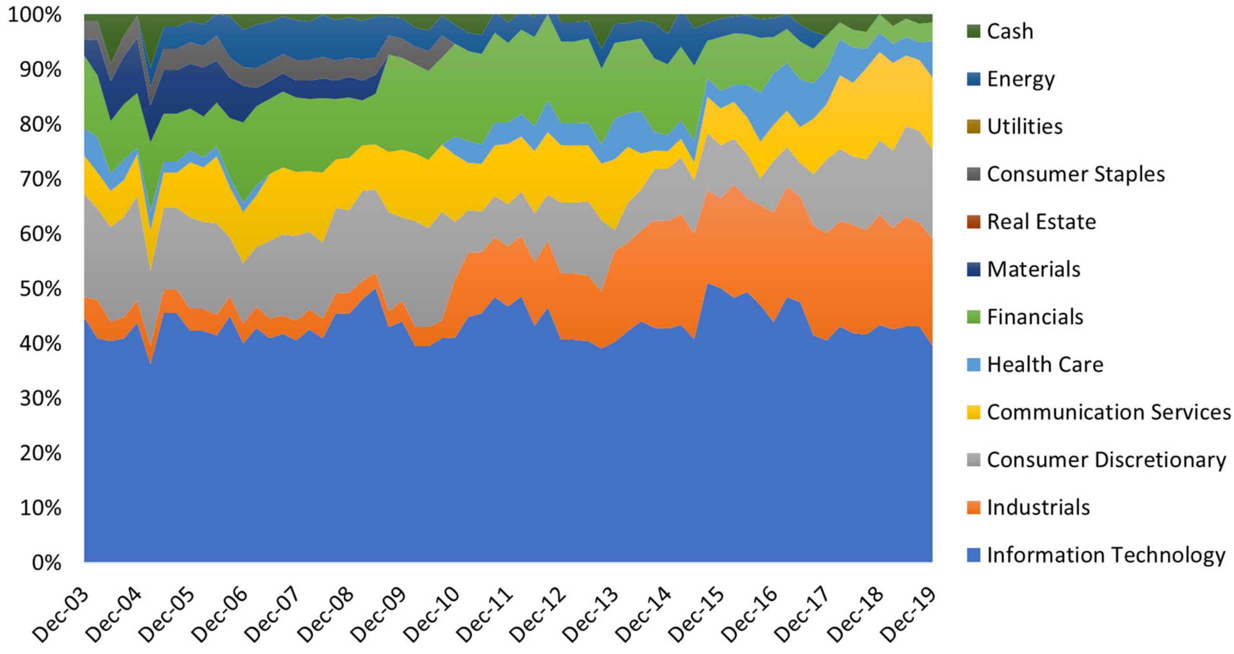


Figure 21, Source: Bloomberg, as of 31st December 2019

Portfolio geographic breakdown (all dates at quarter-end)

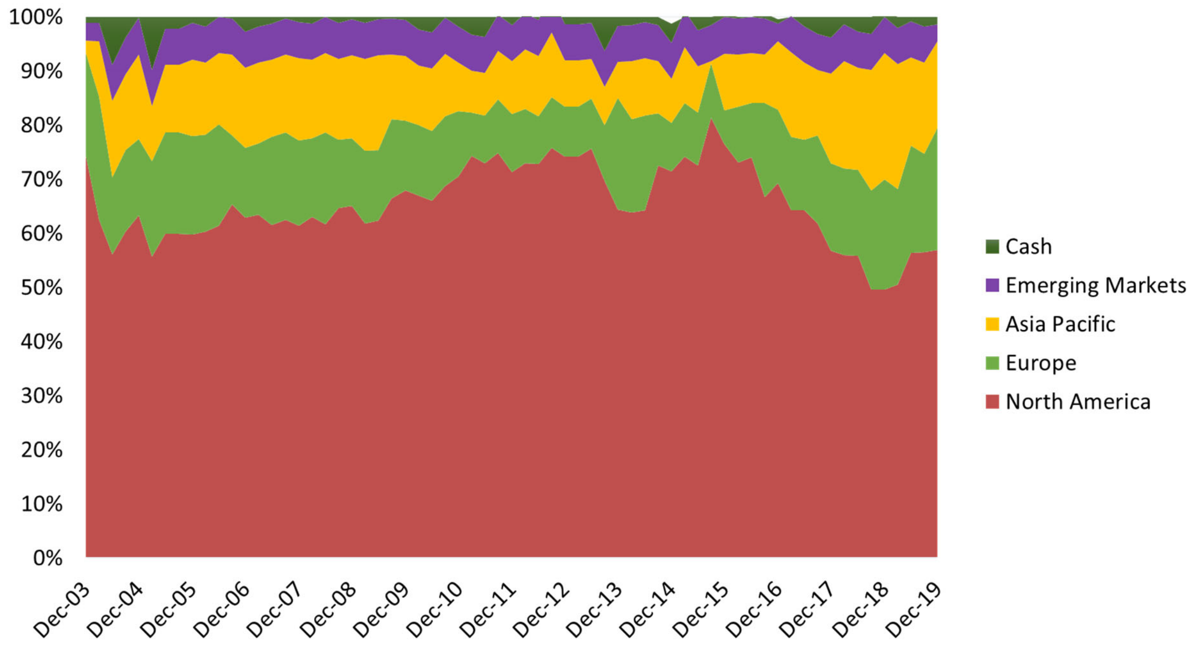


Figure 22, Source: Bloomberg, as of 31st December

Over 2019, the net effect of purchasing Bristol Myers Squibb, Adobe and Amazon and selling Baidu, AAC Technologies and Cognizant was an increase in exposure to Health Care and Consumer Discretionary and a decrease in exposure to IT and Communication Services.

Change in portfolio sector allocation (31.12.2019 vs 31.12.2018)

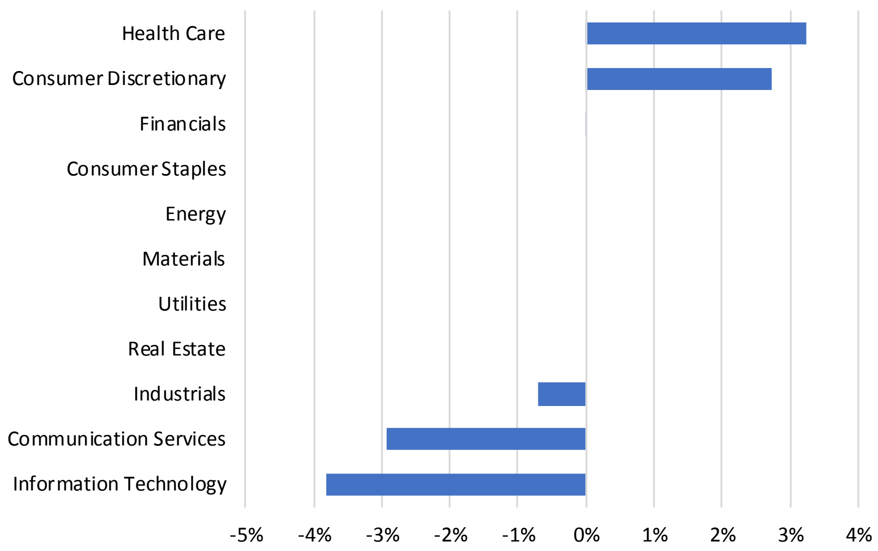


Figure 23, Source: Guinness Asset Management, Bloomberg, as of 31st December

The portfolio continues to have a bias to the US, and we increased this during 2019 by 7%. We reduced our exposure to Asia and EM as we see higher-quality (albeit potentially more expensive) opportunities in the US, which is currently exhibiting more robust macroeconomic metrics.

Change in portfolio geographic allocation (31.12.2019 vs 31.12.2018)

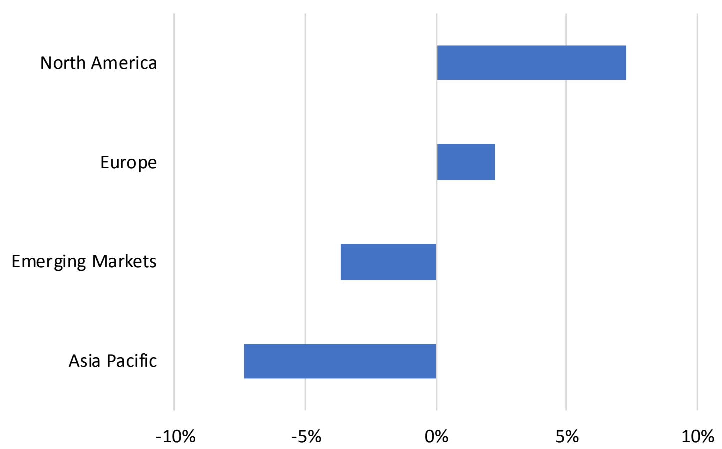


Figure 24, Source: Guinness Asset Management, Bloomberg, as of 31st

Figure 25 shows the over and underweight positioning of the fund by sector. Our overweight position relative to the benchmark in Information Technology, and specifically semiconductors, was positive for the portfolio over the year amid a tilt towards 'risk-on' sectors. Our overweight position to Asia Pacific ex-Japan contributed positively to the portfolio due to positive stock selection from holdings including New Oriental Education and Anta Sports.

Sector breakdown of the fund versus MSCI World Index

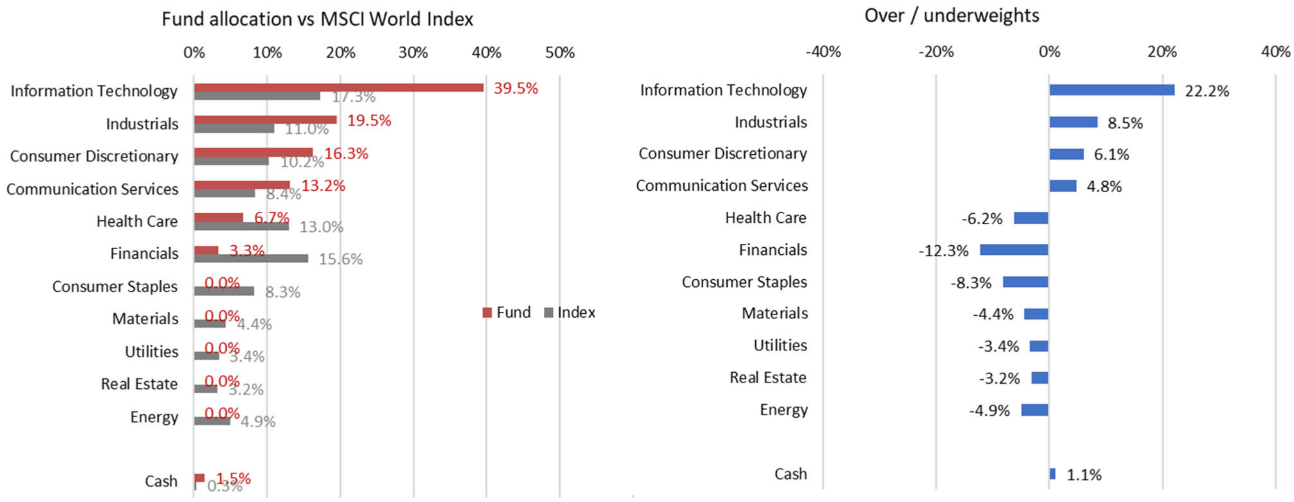


Figure 25, Source: Bloomberg, as of 31st December

Geographic breakdown versus MSCI World Index

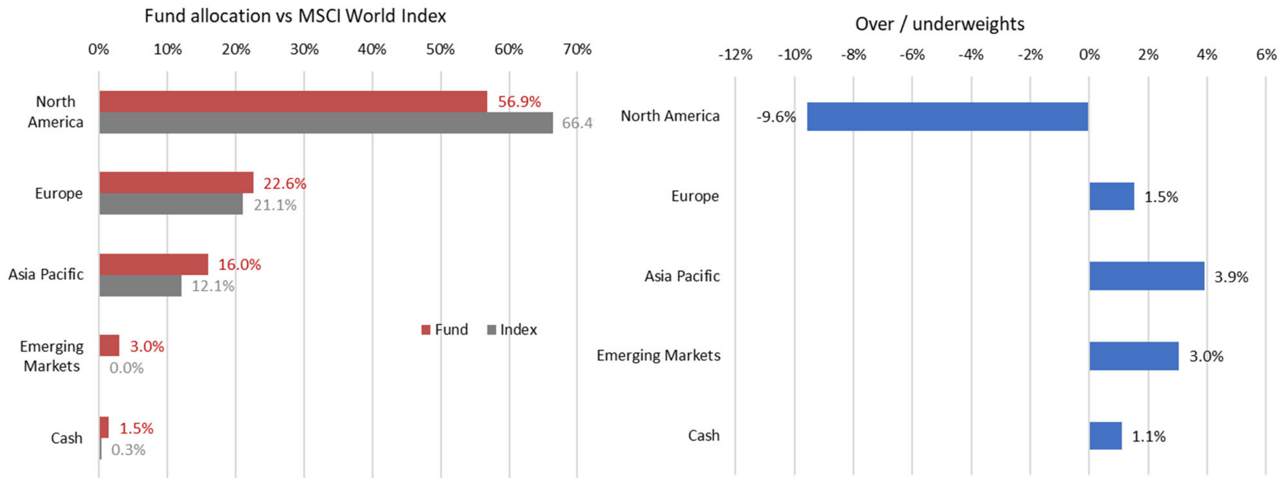


Figure 26, Source: Bloomberg, as of 31st December

Outlook

For the Guinness Global Innovators Fund we seek quality innovative companies trading at reasonable valuations. By doing so, we aim to invest in companies with faster profit growth, larger margins and less susceptibility to cyclical pressures. Whilst we are pleased with performance over 2019, we continue to believe that the fund remains well positioned.

Portfolio metrics versus MSCI World Index

		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 (annualised)	14%	9%
	Estimated earnings growth (2020 vs 2019)	17%	10%
	FCF yield	4.7%	4.1%
	PE (2020e)	19.4	17.2
Conviction	Number of stocks	30	1652
	Active share	92%	-

Figure 27, Source: Guinness Asset Management, Credit Suisse HOLT, Bloomberg, as of 31st

Taking the four key tenets of our approach – innovation, quality, growth, and conviction – we can see this philosophy is reflected in the metrics of the fund. The portfolio has superior quality characteristics to the broad market, higher spend on intellectual property, less capital intensiveness, higher cash flow returns on investment, and higher growth prospects. The fund trades at a 13% premium to the benchmark on a PE basis but is cheaper on FCF yield, with consensus estimates currently expecting company earnings to grow at 17% year-on-year.

As we look ahead to 2020, it is clear that central banks are still shouldering the burden for stimulating the economy via monetary policy, as has been the case since the Global Financial Crisis. After an earlier attempt at normalising, some major central banks became more accommodative as 2019 progressed. This bodes well for 2020, as the rate cuts enacted by the US Federal Reserve in 2019 have already resulted in an acceleration in money and credit growth. Monetary easing proved to be more fruitful for equity markets than encouragement from the overall economy in 2019, and there seems to be no reason for that to change going into 2020.

Countering the positive effects of monetary stimulus is geopolitical disruption and the economic policy uncertainty that comes with it. Though markets have tended to shrug these off over the longer term, current sources of policy uncertainty include:

- US-China trade war and Brexit, which have been the most prominent origins of uncertainty in 2019
- The 2020 US presidential election, which will become prominent in the second half of 2020
- The conflict between China and Hong Kong

- Tensions in the Middle East

Whilst economic and political uncertainty is likely to continue through 2020, with a longer-term view we maintain that our systematic approach to investing in quality innovative companies should deliver strong returns based on the competitive advantages these companies exhibit and their continual commitment to re-invest in intellectual property to maintain and grow their moats.

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 2020.

Portfolio Managers

Matthew Page, CFA

Dr Ian Mortimer, CFA

January 2020

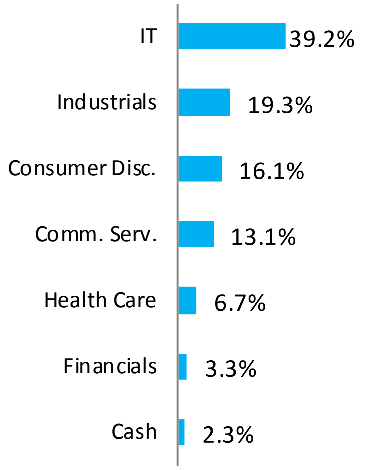
PORTFOLIO

31/12/2019

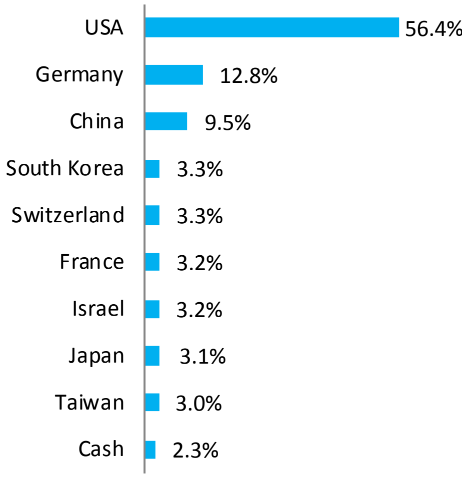
Fund top 10 holdings

Cisco Systems	3.4%
Amazon.com	3.4%
BRISTOL-MYERS SQUIBB C	3.4%
Nvidia Corp	3.4%
Applied Materials	3.4%
Eaton	3.4%
Facebook	3.4%
Comcast Corp	3.3%
KLA-Tencor	3.3%
Nike	3.3%
% of Fund in top 10	33.6%
Total number of stocks	30

Sector analysis



Geographic allocation



31/12/2019

Annualised % total return from strategy inception (GBP)

Guinness Global Innovators strategy*	12.62%
MSCI World Index	10.00%
IA Global sector average	9.13%

Discrete years % total return (GBP)

	Dec '15	Dec '16	Dec '17	Dec '18	Dec '19
Guinness Global Innovators strategy*	2.0	27.6	22.0	-11.9	31.3
MSCI World Index	4.9	28.2	11.8	-3.0	22.7
IA Global sector average	2.8	23.3	14.0	-5.7	21.9

Cumulative % total return (GBP)

	1 month	Year-to-date	1 year	3 years	5 years	10 years
Guinness Global Innovators strategy*	0.6	31.31	31.31	41.17	83.77	305.78
MSCI World Index	0.6	22.74	22.74	33.06	78.95	201.24
IA Global sector average	1.0	21.92	21.92	31.07	66.12	148.79

RISK ANALYSIS

31/12/2019

Annualised, weekly, 5 years, in GBP	Index	Sector	Strategy*
Alpha	0	1.18	-0.22
Beta	1	0.79	1.13
Information ratio	0	-0.22	0.16
Maximum drawdown	-14.03	-17.08	-19.65
R squared	1	0.78	0.85
Sharpe ratio	0.69	0.64	0.63
Tracking error	0	6.13	6.53
Volatility	13.04	11.60	16.06

Past performance should not be taken as an indicator of future performance. The value of this investment and any income arising from it can fall as well as rise as a result of market and currency fluctuations.

***Composite simulation of performance. Guinness Global Innovators Fund (UCITS) launched on 31.10.14. Performance data prior to this date is based on the actual returns of a US mutual fund managed by the same investment team using the same investment process as applied to the UCITS version. The past performance of the US mutual fund is not indicative of the future performance of Guinness Global Innovators Fund. Fund returns are for share classes with a current Ongoing Charges Figure (OCF) stated above; returns for share classes with a different OCF will vary accordingly**

Source: Financial Express, bid to bid, total return, in GBP

Important information

Issued by Guinness Asset Management Limited, authorised and regulated by the Financial Conduct Authority.

This report is primarily designed to inform you about Guinness Global Innovators Fund. It may provide information about the Fund's portfolio, including recent activity and performance. It contains facts relating to the equity markets and our own interpretation. Any investment decision should take account of the subjectivity of the comments contained in the report.

This document is provided for information only and all the information contained in it is believed to be reliable but may be inaccurate or incomplete; any opinions stated are honestly held at the time of writing, but are not guaranteed. The contents of the document should not therefore be relied upon. It should not be taken as a recommendation to make an investment in the Fund or to buy or sell individual securities, nor does it constitute an offer for sale.

Risk

The Guinness Global Innovators Fund is an equity fund. Investors should be willing and able to assume the risks of equity investing. The value of an investment and the income from it can fall as well as rise as a result of market and currency movement, and you may not get back the amount originally invested. Details on the risk factors are included in the Fund's documentation, available on our website. #

Documentation

The documentation needed to make an investment, including the Prospectus, the Key Investor Information Document (KIID) and the Application Form, is available from the website www.guinnessfunds.com , or free of charge from:-

- the Manager: Link Fund Manager Solutions (Ireland) Ltd, 2 Grand Canal Square, Grand Canal Harbour, Dublin 2, Ireland; or,
- the Promoter and Investment Manager: Guinness Asset Management Ltd, 18 Smith Square, London SW1P 3HZ.

Residency

In countries where the Fund is not registered for sale or in any other circumstances where its distribution is not authorised or is unlawful, the Fund should not be distributed to resident Retail Clients.

NOTE: THIS INVESTMENT IS NOT FOR SALE TO U.S. PERSONS.

Structure & regulation

The Fund is a sub-fund of Guinness Asset Management Funds PLC (the "Company"), an open-ended umbrella-type investment company, incorporated in Ireland and authorised and supervised by the Central Bank of Ireland, which operates under EU legislation. If you are in any doubt about the suitability of investing in this Fund, please consult your investment or other professional adviser.

Switzerland

This is an advertising document. The prospectus and KIID for Switzerland, the articles of association, and the annual and semi-annual reports can be obtained free of charge from the representative in Switzerland, Carnegie Fund Services S.A., 11, rue du Général-Dufour, 1204 Geneva, Switzerland, Tel. +41 22 705 11 77, www.carnegie-fund-services.ch. The paying agent is Banque Cantonale de Genève, 17 Quai de l'Ile, 1204 Geneva, Switzerland.

Singapore

The Fund is not authorised or recognised by the Monetary Authority of Singapore ("MAS") and shares are not allowed to be offered to the retail public. The Fund is registered with the MAS as a Restricted Foreign Scheme. Shares of the Fund may only be offered to institutional and accredited investors (as defined in the Securities and Futures Act (Cap.289)) ('SFA') and this material is limited to the investors in those categories

Telephone calls will be recorded and monitored.