Guinness Global Innovators Fund

Innovation | Quality | Growth | Conviction

INVESTMENT COMMENTARY – November 2017

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	$135m
AUM in strategy	$356m
Fund launch date	31.10.14
Strategy launch date	01.05.03
Managers	Dr. Ian Mortimer, CFA Matthew Page, CFA

Performance — 31.10.17

Cumulative % gross total return (GBP)	1 year	3 years	5 years	10 years
Strategy*	25.0	63.0	180.1	239.4
Index	13.5	54.9	115.6	147.4
Sector	13.9	46.6	89.7	95.8
Position in sector	8 /276	40 /246	2 /216	4 /147

Annualised % gross total return
from strategy inception (GBP)

Strategy*	13.48%
Index	10.71%
Sector	9.39%

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, bid to bid, gross total return, in GBP.

Summary performance

In October, the Guinness Global Innovators Fund produced a total return of 5.5% (in GBP), versus the MSCI World Index return of 3.0%. The Fund, therefore, outperformed the index by 2.6% in the month.

Year-to-date the Fund is now up 22.1%, outperforming the MSCI World Index, up 11.6%.

Over a one-year period to the end of October, the Fund is ahead of the benchmark, up 25.0% (in GBP) versus the MSCI World Index return of 13.5%.

October in Review

October saw the broad equity rally seen throughout this year continue, buoyed by a better-than-expected quarterly results season. Notably robust performance came from large U.S. technology stocks such as Amazon, Microsoft, Facebook, Alphabet and Intel.

The U.S. economy grew by 3% (annualized GDP) in Q3, despite the damage and disruption caused by two hurricanes. U.S. consumer sentiment was also reported by the University of Michigan to have been the strongest for 13 years.

Most markets appear expensive versus their own history, naturally causing concern that markets may become overstretched and that a correction could be around the corner, albeit economic data and earnings growth remain positive. But as a healthy reminder of what market corrections entail, October 19th saw the 30-year anniversary of Black Monday, the 1987 crash when U.S. stocks (S&P 500) fell more than 20 per cent in a single day, the largest ever one-day loss.

U.S. inflation was muted in October with the consumer price index release showing an annualised rate staying at 1.7% for the fifth consecutive month. This was also lower than economists' expectations.

General economic data has been positive on both sides of the Atlantic. Preliminary data showed Eurozone gross domestic product rose 0.6% in Q3 from the previous quarter. This was ahead of analysts' estimates. The consumer price index rose 1.4% in the 12 months to October, missing analyst expectations. The European Central Bank (ECB) announced that from January 2018 its quantitative easing program will be reduced from €60bn-a-month to €30bn-a-month for an initial nine-month period.

On 2nd November the Bank of England decided to raise the key interest rate to 0.5%, the first rate rise in a decade. However, policy makers showed concern for the UK economy due to Brexit and therefore indicated another rate rise wouldn't happen in the short term.

Asia sentiment in the month was positive, with strong third quarter results following the U.S. This has similarly helped reinforce the region's equity rally. Asian companies' profits on the whole beat analysts' estimates. Xi Jinping pledged to lead China into a "new era" of international power and influence at the 19th party congress in Beijing. A new body of political thought carrying Xi's name was added to the Communist party's constitution, on the back of which comes speculation that Xi will seek to remain in power beyond the end of his second and supposedly last five-year term, in 2022.

Market Movements

In October, Information Technology outperformed all other sectors (MSCI World IT +7.2% total return in USD). Generally, cyclical stocks outperformed defensive stocks. The Materials sector also performed well, while Consumer Staples, Health Care and Telecoms were the worst performing sectors in the month. The Global Innovators Fund's current overweight position in Information Technology contributed positively to its performance. In terms of geographic movements, Asia and North America outperformed Europe throughout the month.

Portfolio update

Individual stock performance in the month in part followed these market movements. Key idiosyncratic stock movements are highlighted below. It should be noted that October earnings season had a large effect on individual company performance. Of the companies that we own in the Global Innovators portfolio, 13 have reported and 11 have beaten expectations.

Intel (+19.5% total return in USD), had strong Q3 sales growth aided by memory pricing increases. Intel have also benefitted from a continuing rise in higher-priced PC chip product mix, offsetting some PC unit decline. Also, their data centre business saw 7% sales growth in Q3, powered by demand for cloud computing.

Nvidia (+15.7% total return in USD), the designer of 3D graphics processors, had another strong month. Generally, the semiconductor sector has performed well this year, resulting from increased demand and strong prices. Nvidia has been well positioned to take advantage of these tailwinds with innovative high-quality product offerings that capitalise on some of the biggest trends this year, such as datacentres and AI. Quarterly earnings will be reported on 9th November.

Fanuc (+14.6% total return in USD), the manufacturer of factory automation systems and robots, has industry-leading efficiency and profitability per employee – approximately 10x its peer average. The rise in automation around the world has helped grow sales, especially with exports of robots to China. In recent years, Chinese manufacturing has become increasingly technologically advanced and reliant on automation. Quarterly results released on 25th October achieved a 6.4% positive surprise on EPS versus analyst estimates.

PayPal (+13.3% total return in USD) reported Q3 results on 19th October, beating analysts' estimates on an EPS basis by 5.8%. The market took this news favourably and the share price rose 6.5% on the day. PayPal has been performing very well this year and gaining market share in online payments as other digital wallets struggle to gain traction. New accounts are being added and usage is being improved by adding services and superior user experience with one-touch buying and choice-of-funding method.

Comcast (-6.0% total return in USD), the media and television broadcasting services company, suffered by association as other media stocks reported disappointing Q3 results, including Discovery Communications and AMC Networks, which also highlighted subscriber losses. Quarterly earnings released mid-month beat analysts' expectations, but this did not help support the share price as worries surrounding industry growth circulated.

We made one change to the portfolio in October: we sold Schlumberger and bought Anta Sports.

Schlumberger

Schlumberger, the global oil and gas services company, was our only Energy sector holding. In recent times we have grown increasingly worried at the company's falling cash flow return on investment and this has been accompanied by stagnant capital growth. In our opinion, the company's inability to sustain healthy margins and grow its earnings has put the stock out of favour, while industry-wide factors are hampering the performance of energy stocks. We believe there remain significant headwinds for the company while many of its customers are drastically cutting their capital expenditure plans.

ANTA

We bought ANTA Sports to replace Schlumberger, sticking to our one-in, one-out policy. ANTA Sports is based in China and has a stellar cash flow return on investment of over 10% for the last 15 years. The company generates revenue through the manufacture and trading of sporting goods, including footwear, apparel and accessories. Its brand portfolio includes ANTA, ANTA KIDS, FILA, FILA KIDS and NBA, and the company is looking to add others such as South Korea's Kolon. Looking at the financials, ANTA Sports has very solid margin growth alongside a surge in sales in recent years. The company is well positioned to benefit from the growing wealth in China, and has maintained low debt. We have conviction that the stock has potential to maintain its earnings growth.

The effect of this switch on the portfolio has been to improve the average balance sheet quality and increase the average cash flow return on investment. Anta Sports has a debt-to-equity ratio of just 10%, whereas Schlumberger had much higher levels of debt. Anta Sports has exposure to some exciting innovation themes and is spending cash to exploit them through investment in research and development. Anta Sports is expected to grow earnings this year by 18%, whereas Schlumberger has seen its growth opportunities decline significantly since the start of the oil price slump.

How do we assess innovation?

When investors think of innovation, they often think about innovative companies as being small-cap 'tech' companies. We believe innovation can best be considered within the framework of our innovation matrix. We believe there are two factors to consider when looking at innovation: the level of innovation and the drivers of innovation, as shown in the figure below. As a company grows and matures, it can move from being a disruptive company, through an acceleration stage into the continuous stage, where innovation is no longer disruptive but is the driving force behind a company maintaining its competitive edge. Science and technology are important drivers of many innovative companies, but we also come across innovative companies which take existing technology but create a new product or service that did not previously exist or create a completely new business model. Ultimately, whichever type of innovation a company succeeds in, they are aiming to do something better and differently to their peers. The best way to see if they are succeeding is to look at their return on capital.

Level of innovation

Key drivers of innovation

	Disruptive	Accelerating	Continuous
Science/Technology	Scientific breakthrough leading to new technology with significant potential impact	Rapid improvements in young technology	Small continuous advances in an established technology that will provide incremental benefits to end user
Product/Service	A new product/service that has the potential to quickly take market share and change the dynamics of an industry	Rapid advances in adoption of product/service	Small advances in product/service or end user experience that maintains or grows market share or competitive positioning
Business Model	A new revenue/cost model or the confluence of technologies that has significant impact on incumbents	Rapid adoption of business model leads to rapid growth in market share	Continuous evolution of business model to maintain competitive strength

Chart 1: Assessing the drivers and levels of innovation with the innovation matrix

Nvidia and Boeing are two good examples of different types of innovative companies. Nvidia is a more traditional technology disruptor, with the invention of the graphical processing unit (GPU) in 1999 which has had a great impact across the IT sector. With respect to Boeing, on the other hand, it may not be immediately obvious that a large Industrial can be highly innovative. Yet over more than 100 years, Boeing has made small continuous advances that have secured its competitive edge and allowed it to capture market share and become the largest aerospace company in the world.

The continuous innovation of Boeing

Quite often large companies struggle to stay nimble and innovate with the necessary speed to remain a market leader. This often leads to disruptors displacing incumbents or dramatically reducing their market share and profitability. However, some companies have a culture of innovation and Boeing has a proven history of adapting and improving its business through innovation. To help sustain their business in a post-World War One environment, when military orders reduced dramatically, they expanded into fields beyond aircraft manufacturing, using the same skillsets to manufacture boats and furniture. More recently, its successes in streamlining the manufacturing of its 737 airplanes have led to an assembly time of just 9 days. Production methods have evolved dramatically since the first 737 was produced in 1966. A major improvement being that the aircraft is no longer assembled while stationary, but on a moving assembly line more commonly found in car production. Boeing is on target to produce 52 aircraft a month by 2018, up from 31 in 2005.

Boeing's systematic approach to innovation is by no means effortless to maintain. Continual investment is highlighted by their annual research and development (R&D) spend of around $3 billion. According to the Boeing "there's more innovation underway today at Boeing than at any time in our 101-year history." They publish their "Innovation Quarterly" as a collective reminder of the innovation taking place at Boeing around the world. Boeing recently established an innovation cell, HorizonX, that "applies its momentum to new business ventures to unlock the next generation of game-changing ideas, products, and markets." Innovation is not only encouraged from within; the company also works with the Washington University's Olin Business School, through the Boeing Centre for Supply Chain Innovation, to further advance their thinking on operational processes and supply chain capabilities and to meet their assembly time targets.

A large part of Boeing's success can be attributed to innovation, but as with any complex corporation it is not the only factor that enables its success. Boeing is a well-run, quality company with a strong balance sheet. It has shown a consistently high cash flow return on investment and an inflation-adjusted return on capital metric. It has been generating returns above their cost of capital for many years, showing strong cash generative abilities and ability to create value.

Even though Boeing is not a disruptive company, innovation is key to how this company drives its growth and profitability. Boeing is exposed to some exciting innovation themes. They are striving for further improvements in production times. Their latest planes use carbon fibre for the fuselage rather than aluminium which means the fuselage is lighter, stronger and able to endure a higher air pressure in the cabin, which in turn means people arrive less jet-lagged. They are constantly working to improve the quietness and energy efficiency of their latest planes by employing modern design techniques and smart materials.

Nvidia: The disruptive technologists

Nvidia began life in 1993 as an American computer graphics card designer. It became well regarded for its quality of product and designed the best gaming computer graphics cards. Now, Nvidia has secured itself as a technology company spanning the breadth of numerous innovative themes, such as self-driving cars, augmented reality, data centres and artificial intelligence. The innovative element of what Nvidia has achieved is to develop quality technology infrastructure that a lot of the world's future products and services may require. It is this multisector appeal that has led, in part, to the rapid rise of Nvidia. As stated by Nvidia, "Innovation is a core component of NVIDIA's DNA", and they promote this not only through research and development but also in how they manage their business and supply chain.

Unlike Boeing, Nvidia's product upgrade life can be as short as 4 years, resulting from years of numerous innovations happening in a highly competitive industry. It is not difficult to understand the need to innovate to avoid a product being superseded quickly. A good comparison is the mobile phone industry; for Nokia and Blackberry, missing the rise of the smartphone was their downfall. The product cycle is similar within chip designers, and the competition is unforgiving.

The first step that led to Nvidia's successful history was the in-house invention of the graphical processing unit (GPU) in 1999. This created a growth path for the company into some of the most innovative corners of a wide range of sectors, far beyond IT. Recently the adoption of the GPU into the automotive industry and data centres has led to further revenue streams as a direct result of product innovation. The products Nvidia designs often outperform existing products by a significant amount, resulting in market leading margins and profitable growth.

Even though Nvidia invented the GPU in the late 1990s, they have continued to innovate with, for example, their CUDA computing platform. This platform allows programmers to take advantage of their parallel processing power hardware. This makes Nvidia's GPUs more useful beyond processing video game graphics - as well as being hard to replicate, protecting Nvidia's competitive edge.

Importantly, Nvidia has not forgotten to innovate within its core market, the computer gaming business, which has continued to grow (by 44% YoY, FY to Jan-17) while new business streams gain pace. Within the computer gaming market, they have continued to win support for their new Pascal architecture chips.

Nvidia does not only allow innovation to flourish within its workforce, but the company has a proven track record of acquiring interesting technologies that benefit the company's own products. This combination of cultivating internal talent and a good allocation of cash to acquisitions has helped Nvidia maintain a competitive edge over its competitors, arguably because of the "company culture of innovation".

As innovation occurs, Nvidia has designed a business network that is adaptable. Nvidia can manage, in real time, its disaggregated supply chain. By managing the work-in-process and finished goods, they aim to effectively meet user preferences by limiting wasted resource and product, thereby driving sales and profitability. Nvidia is transparent with partners, publishing demand data so its partners can optimize their own processes.

The wider community has started to recognize Nvidia's continuous innovation. This year the company won first place on the MIT Tech Review's 50 Smartest Companies 2017 and it has also been on the list for the last 3 years. As another indicator of their continual investment in innovation, they have regularly spent more than 20% of their revenues on R&D. Over the last 12 months they invested around $1.5bn in R&D.

Within the technology sector, competition is extremely high. Nvidia has undeniably had excellent growth, spanning many years but what makes Nvidia a sustainable market leader?

The extremely short life cycles in the semiconductor industry require nimble and responsive supply chains. The manufacturing process requires ever-increasing investment to produce ever-shrinking nanoscopic chips and there is pressure to maximize asset utilization. This leads to specialization of firms such as Nvidia. Nvidia has managed to forge a wide-spanning business network to manufacture its designs and bring its products to market. This allows Nvidia to continue to innovate, produce the best GPUs, keep costs at an acceptable level, and retain its high margins.

The market has rewarded Nvidia for its persistent innovation at all levels, delivering double digit growth every quarter in 2016 with further growth seen in 2017. What began from a single invention, of the GPU, has led to a culture of continual innovation and a disruptive company with strong growth and good profitability.

Outlook

The fund has always sought to provide exposure to many of the exciting innovation growth themes and this year the market has begun to react to the potential of many of these themes. Recent earnings results from many of the large technology companies suggest that the growth opportunities continue to expand and we are pleased with the way that our holdings have been executing on their growth plans and with their share price performance.

As a result of the outperformance seen this year, the fund is now trading at a 9.6% premium to the broad market on a PE ratio basis (fund 19.6x 2017 expected earnings vs MSCI World Index 17.9x) after trading at a discount for much of 2016. 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, given the growth trajectory of our holdings.

Thank you for your continued support.

Portfolio Managers

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Analysts

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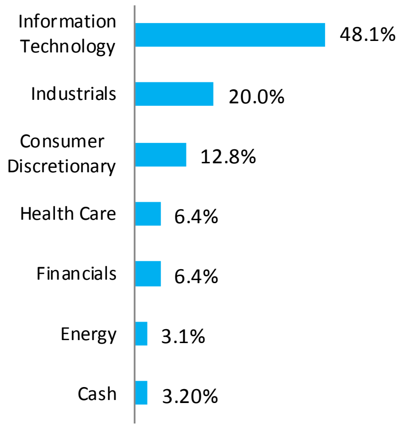
PORTFOLIO

31/10/2017

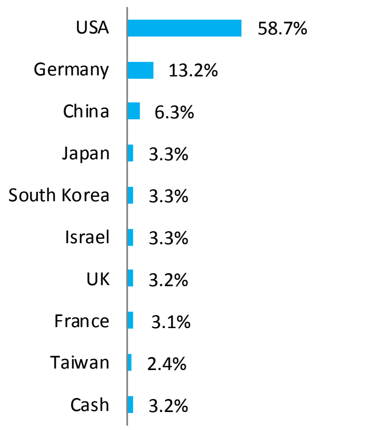
Fund top 10 holdings

Boeing	3.8%
Paypal	3.7%
Applied Materials	3.5%
Continental	3.5%
Nvidia Corp	3.4%
Infineon Technologies	3.4%
Roper Industries Inc	3.4%
Intercontinental Exchange	3.4%
New Oriental Education	3.4%
Fanuc Corp	3.3%
% of Fund in top 10	34.7%
Total number of stocks in Fund	30

Sector analysis

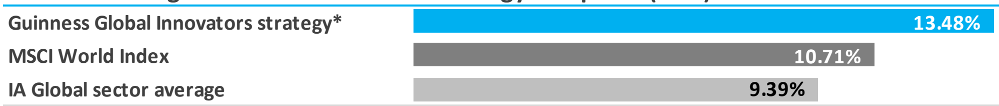


Geographic allocation



31/10/2017

Annualised % gross total return from strategy inception (GBP)



Discrete years % gross total return (GBP)	Oct '13	Oct '14	Oct '15	Oct '16	Oct '17
Guinness Global Innovators strategy*	43.0	20.2	3.2	26.3	25.0
MSCI World Index	26.8	9.7	6.0	28.7	13.5
IA Global sector average	24.2	4.2	4.5	23.2	13.9

Cumulative % gross total return (GBP)	1 month	Year-to-date	1 year	3 years	5 years	10 years
Guinness Global Innovators strategy*	5.5	22.1	25.0	63.0	180.1	239.4
MSCI World Index	3.0	10.5	13.5	54.9	115.6	147.4
IA Global sector average	3.3	12.3	13.9	46.6	89.7	95.8

RISK ANALYSIS 31/10/2017

Annualised, weekly, 5 years, in GBP	Index	Sector	Strategy*
Alpha	0	0.63	4.56
Beta	1	0.81	1.11
Information ratio	0	-0.40	1.11
Maximum drawdown	-14.03	-17.08	-17.14
R squared	1	0.80	0.87
Sharpe ratio	1.02	0.90	1.33
Tracking error	0	5.50	5.39
Volatility	12.36	11.16	14.63

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Source: Financial Express, bid to bid, gross 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 Administrators (Ireland) Ltd, 2 Grand Canal Square, Grand Canal Harbour, Dublin 2, Ireland; or,
- the Promoter and Investment Manager: Guinness Asset Management Ltd, 14 Queen Anne's Gate, London SW1H 9AA.

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

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 may be recorded and monitored.

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