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5G AND BEYOND

DIAL IN TO PROFIT

PLUS...

GOLD BREAKOUT

IS THIS THE START OF A NEW BULL MARKET?

3 HIGH-YIELD BARGAINS

IS THE MARKET RIGHT TO BE SO PESSIMISTIC?

TECHNOLOGY FUNDS

HOW TO INVEST IN THE NEXT WAVE OF TECH

NEIL WOODFORD

THE VIEW FROM A FUND MANAGER

WELCOME

Dear Reader,

The existential crisis of Neil Woodford's fund management business is a salutary lesson in how quickly the rug can be pulled from under your feet in the investment game. You can read my full assessment of the Woodford debacle and what investors should learn from it here, but suffice to say that hubris and complacency feature in ample quantities.

These are two attitudes that investors must guard against if they are to withstand the travails of the markets; and yet, as human beings, we are nevertheless prone to get carried away by the competing emotions of elation and despair, both of which can have an equally detrimental impact on our investment performance.

As the bull market approaches its eleventh year, perhaps the market in general is guilty of complacency. The much-heralded *normalisation* of interest rates has ground to a halt in the US, and now appears likely to go into reverse. Concurrently, the resurgence in the gold price – one of the magazine's key themes this month – serves as a warning that all might not be well in the global economy.

So, while markets continue to produce a somewhat unnervingly serene procession of record high after record high, please take a moment to consider the downside. Gold is an age-old ally when the proverbial hits the fan, and there are considerable question marks hanging over the integrity of the global monetary system.

For those of you of a more adventurous persuasion, the gold miners are a geared play on the gold price and many of them are trading close to multi-year lows right now. Jim Mellon has a couple of ideas in this month's Mellon on the Markets missive, but we'll be revealing a few more on the website in the coming weeks, chosen by an old hand in the sector.

Sheffield Event

I hope to see many of our Sheffield readers at our event on 29th July at the offices of Jaywing. You can get your tickets HERE. Our hosts, Jaywing, will be joined by another Sheffield-based listed company, Zoo Digital.

As always, I wish you all the best of luck for the month ahead.

Best regards,

James Faulkner
Editor

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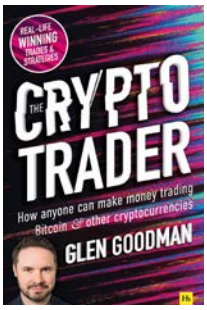

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CONTENTS

ISSUE 52 – JULY 2019

COVER FEATURE

ON THE COVER

ALL OTHER TOPICS

BY JIM MELLON

MELLON ON THE MARKETS

Inside the mind of the Master Investor: influential British investor Jim Mellon reveals his latest thoughts on the markets. This month, Jim discusses the resurgence of gold and opportunities in the 'clean' meat space.

Hallelujah! In the past month, gold seems to have broken out of a seven-year, sideways slump, and may now be on its way to a new all-time high. It's already at an all-time high in Australian dollars and sterling, and is only a sliver away from it in euros. It will surely fluctuate, but I see a convincing bull market ahead for the 'shiny stuff'.

This may seem counter-intuitive to some; after all, inflationary expectations, particularly as reflected in the crazily distorted and monumental inventory of negative-interest bonds ($13 trillion out of a global total of $50 trillion), are very low indeed.

But as we know, the consensus is generally wrong, and in this case, gold is reflecting just how wrong it is. Inflation is lurking below the surface, and like a stealthy submarine, it's going to raise its periscope and release a barrage of torpedoes that will sink the overpriced bond markets where central banks have been manipulating prices for years. Everyone will then see the consequences of a decade or more of reckless monetary manipulation when they work their way through to the real world.

Venezuela and Zimbabwe didn't deliberately seek to debase their currencies, but their leaders thought that a faster speed on the monetary presses would kickstart anaemic growth – which it didn't, but it sure kicked the life out of the currencies of those countries.

Don't get me wrong – I'm not expecting hyperinflation in the US, the eurozone, China, Japan, the UK or any of the other countries which have been tinkering with Gresham's Law at their peril. I just expect that the inflationary 'tiger' will come back to haunt us – and that it isn't far away.

And that's why gold is rising − not much yet − but it is expected to rise a lot over the next three years or so. I really wouldn't be surprised to see gold at $5,000 an oz in that time period, and I urge all readers to be positioned accordingly. The boat is leaving and there is just enough time to jump on the gangplank.

The same applies to silver and, possibly, palladium, but gold is easier and there are lots of different ways to buy it (eg futures, ETFs and mining companies). For instance, **Barrick Gold Corporation (NYSE:GOLD)** is good, as is mining 'minnow' **Condor Gold (LON:CNR)** here in London, where I am a director and shareholder.

So that's a pretty easy trade; sell those bonds (especially given my forecast, that disaster lurks under the surface of the frantic machinations of the European Central Bank, to avoid a full-blown crisis in Italy), and buy your own 'flavour' of gold.

"INFLATION IS LURKING BELOW THE SURFACE, AND LIKE A STEALTHY SUBMARINE, IT'S GOING TO RAISE ITS PERISCOPE AND RELEASE A BARRAGE OF TORPEDOES THAT WILL SINK THE OVERPRICED BOND MARKETS."

In the meantime, we floated our new venture **Agronomics (LON:ANIC)** through the small Port Erin Biotech listing, and it more than doubled on its debut. Anthony Chow, my long-standing colleague, is seeking out appropriate investments in the 'clean' meat-and-plant-based protein space and in the tools that will allow that to happen. This is going to be a big space, for all sorts of reasons, including emissions, land despoliation, reduction in antibiotic use and animal-cruelty avoidance. I'm really interested and was the biggest investor in the recent placement, but my day job is longevity science and in particular the company Juvenescence.

We are in the Isle of Man next week, firstly, to regain access to my house which was flooded about nine months ago and only recently restored to habitable status, and also for the second major board meeting of Juvenescence, and a review of some of the exciting investments we have made. One will be in a new technique to allow patients with liver failure to grow brand new livers in their own lymph nodes, which will then take over from their diseased organs. This is super-exciting stuff, and is similar to some of the other work we are doing. Juvenescence is a private company and won't go public until next year, but I think **RestorBio (NASDAQ:TORC)** and **Unity (NASDAQ:UBX)**, both listed in the US, are worth a look as they operate in some of the same space as Juvenescence.

I have also been looking at dividend stocks in some detail, seeking out those with solid finances and dividend-growth prospects. **Tesco (LON:TSCO)** looks good in this respect, as it claws back market share in the UK and avoids reckless expansion overseas. **Avation (LON:AVAP)**, the aircraft-leasing company listed in the UK, also looks promising. I just added to my position, as although the yield is still modest, it is growing, and this is a very well-run business. As validation, it has no Boeing 737 MAX aircraft, which surely must be doomed. The 737 design has been continuously stretched over the past 50 years to the point where the aircraft's instability has to be counterbalanced by sophisticated software. I know I couldn't fly it – but then I'm not even much good on a small Cessna!

The interminable bore-fest that is Brexit trundles on – the UK economy seems to be doing OK, and anecdotally, I think people are genuinely surprised at how London continues to attract people and money to its financial-services sector. For example, I know of one large bank which has closed its private-banking business in Switzerland and moved it to London. A few people have been moved to the hinterlands of Frankfurt, Paris and Dublin, but more are moving to London.

> **"THIS IS SUPER-EXCITING STUFF."**

Since I am now on a train to Stansted Airport and have just braved what can only be described as a tidal wave of people arriving for work on a sunny Monday, I can attest to the vibrancy of London. Although I can't say any of the trudging commuters were smiling.

However, I think those of us who hold gold or proxies will be smiling soon – so load up.

Happy hunting!

Jim Mellon

About Jim

Jim is an entrepreneur with a flair for identifying emerging global trends enabling him to build a worldwide business empire. He is amongst the top 10% in the "Sunday Times Rich List" (Britain's equivalent to the Forbes list). He is often described as the British Warren Buffett and he predicted the Credit Crunch of 2007-08 in a book entitled *Wake Up! Survive and Prosper in the Coming Economic Turmoil*. Jim followed this with *The Top 10 Investments for the Next 10 Years* (2008) and subsequently *Cracking the Code* (2012), *Fast Forward* (2014) and, most recently, *Juvenescence* (2017). His monthly "Mellon on the Markets" column in Master Investor Magazine has gained him cult status among investors. He holds a master's degree in Politics, Philosophy and Economics from Oxford University. He is on the Board of Trustees of the Buck Institute in California, a trustee of the Biogerontology Institute, and a Fellow of Oriel College, Oxford.

BY VICTOR HILL

COVER FEATURE

THE 5G 'REVOLUTION' AND BEYOND

There are those who claim that 5G will not live up to the hype and that we could well live without it. There are also fears about the health risks of 5G (your brain is going to be micro-waved etc.). So, this is a good moment to give pause and reflect on what the 5G revolution really means. In any case, the next phase of telecommunications technology after 5G – the Space Wide Web – is already in sight. Victor Hill investigates the future of communications.

Despite the claims and fears, the UK is already benefiting from the incipient fifth generation (5G) of mobile telephony in terms of better and faster communications. In late May, **BT**-owned EE **(LON:BT.A)** became the first mobile-phone-network operator in the UK to launch 5G in Belfast, Birmingham, Cardiff, Edinburgh and Manchester.

5G offers a more efficient way of processing and transmitting data, so that connection speeds will soon be up to 50 times faster than via 4G. This means that a two-hour film that might currently take six minutes to download could be yours in just seven seconds. Naturally, you will have to buy a new smartphone to get access to it – which will boost the faltering market in mobile hand-sets.

But China is at the front of the pack in facilitating this technology – well ahead of the Americans. And the security implications of Chinese domination of 5G are massive. That is largely why the Trump administration had used its immense executive authority to cut Chinese technology giant, Huawei, out of the technological loop– although there are those who claim that Mr Trump is just protecting US interests Either way, the US-China trade war has now become a technology war.

The controversy concerning the involvement of Huawei has greatly intensified over the last three months. Mike Pompeo, the US Secretary of State, has called Huawei "an instrument of the Chinese government". Investors therefore need to understand that the much-hyped 5G revolution is fundamentally the latest chapter in the rise of China – which the US is seeking to contain.

"THE DIRECTION OF TRAVEL IS TO A CHINESE TECHNICAL ASCENDANCY – OR SO MANY IN THE WEST FEAR."

The rise of China

Forty years ago, China's total GDP was just 10 percent of that of the US in terms of purchasing-power parity. Some economists reckon that, by that measure, China has already overtaken America to become the world's leading economy. In 2000 China's manufacturing output was about one quarter of that of the US. By 2017, it was greater than that of the US and Japan combined. For decades, China achieved growth rates of around the 8 percent mark while the US grew at 2-3 percent in a good year. After the financial crisis of 2008-09, the western world was plunged into recession – but China kept on growing. True, Chinese growth has slowed over the last two years to around 6.5 percent, but the country is still on track to overtake the US economy in absolute GDP terms in the early 2030s.

The emerging 'cold war' between China and the US (which I wrote about recently for Master Investor) now has digital 'legs'. The clash, which began as an argument over unfair Chinese trade practices, (which are reflected by a massive $420 billion US trade deficit with China) has now morphed into a technology war. To simplify a little: it's **Google (NASDAQ:GOOGL)** versus **Huawei (SHE:2002)**. What makes this of preeminent importance is that Huawei is now the driving force in the roll-out of 5G telephony across the globe, while Google dominates the existing 4G infrastructure on account of its ubiquitous Android mobile-phone operating system.

Huawei, which a few years ago was known only in the US and the UK to technology enthusiasts, is nominally a private listed company independent of the Chinese state. But there are many reasons to suppose that it is actually an instrument of policy of the Chinese Communist Party.

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"HUAWEI IS NOW THE DRIVING FORCE IN THE ROLL-OUT OF 5G TELEPHONY ACROSS THE GLOBE."

5G unpacked

In reality, 5G is a cluster of new interrelated technologies which are being integrated in new ways. But, according to some technical consultants, not all of those technologies will necessarily be faster than 4G systems. In layman's terms (this writer is a layman) there are three main types of 5G operating at low, medium and high frequencies.

The high-frequency range is an electromagnetic signal broadcast at a frequency of above 24 gigahertz. That means that data can be transferred at a speed of at least 1,000 megabits per second (mbps) – that's 50 times as fast as the average 4G speed in the UK currently. On the downside, that high frequency means that the signal does not spread out easily over a wide area because the electromagnetic wave is narrower and less likely to diffract. One consequence of this is that more mobile phone masts will be required.

The medium frequency variant of 5G operates at around 3-6 gigahertz and will offer speeds of around 100 mbps. This is still faster than 4G and the signal would cover a wider area than high-frequency 5G.

In Europe, low-frequency 5G will broadcast at around 700 megahertz – but, apparently, that may vary elsewhere. Data speeds at these low frequencies may not outperform 4G. Each jurisdiction is free to choose from a range of services for their 5G services. That means that your gleaming new smartphone that gives you 5G access at home may not do so abroad.

It is commonly asserted that 5G will boost growth by facilitating the internet of things with faster connection speeds, higher reliability and lower latency. Much of the hundreds of billions of dollars that will be spent in the next five years or so on cables, masts, antennae and software will go to just three key players. These are Huawei (29 percent market share), Nokia (17 percent) and Ericsson (15 percent) according to GSMA Intelligence, which provides data and analysis on the mobile industry.

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"IN THE OLD DAYS, CHINA WAS NOTORIOUS FOR COPYING WESTERN TECHNOLOGY SHAMELESSLY. NOW WE ARE STRUGGLING TO CATCH UP – AND THE SECURITY IMPLICATIONS ARE MASSIVE."

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Huawei was founded and is still led by [Ren Zhengfei](), reportedly a former member of the Chinese intelligence apparatus. The roots of the company lie in the strategy of the Chinese Communist Party to shore up its authority over the country after the disastrous diplomatic backlash following the Tiananmen Square massacre of 4 June 1989 − almost exactly 30 years ago as I began to write this. This strategy has sometimes been referred to as getting strong, then getting even.

Well, they might be about to get even. Huawei has spent billions on research and now has the technological advantage in the next generation of communications technology. It seems that the game has now changed. In the old days, China was notorious for copying western technology shamelessly. Now we are struggling to catch up – and the security implications are massive.

For example, **Hikvision (SHE:002415)** surveillance cameras can be found almost everywhere in China. Founded in 2001, the company reportedly emerged from a Chinese government-research institute. But its camera lenses are now surveying British high streets too, as well as those in Europe, Australia, the US and Africa.

Western countries have even become dependent on China in the field of drone technology. DJI (private) based in Shenzhen is the world's largest drone manufacturer. It is used by millions from hobbyists to news networks. Ten UK police forces use DJI drones.

Given the strategic sensitivity of this technology, it is not entirely surprising that the Americans feel threatened. Mr Ren's daughter, Ms Meng Wenzhou, who is the chief financial officer at Huawei, is currently under house arrest in Canada, awaiting extradition to the US on charges that she breached US sanctions on Iran. Shortly after her arrest last January, two Canadian citizens, Michael Kovrig and Michael Spavor, were detained in China on espionage charges.

Under President Xi, who assumed the top job in November 2012, China has pursued a two-pronged strategy. At home, the supreme authority of the Communist Party has been reasserted. Minority separatism and pro-democracy protests have been crushed and the Chinese state has begun to roll out a system of technological mass surveillance. The special administrative area of Hong Kong has been squeezed. Abroad, President Xi has sought to bring a slew of countries in south and central Asia and Africa into its economic orbit by means of the [Belt and Road Initiative]() infrastructure programme, which is largely funded by loans from Chinese banks. China, declared President Xi 18 months ago, must "move to centre stage".

Last year China spent $300 billion on importing computer chips – especially those which were specifically designed for AI processes. China is already well ahead with mobile-payments platforms, benefiting from a huge internal market of 1.4 billion people and an unrivalled ability to collect and mine data on its citizens. The direction of travel is to a Chinese technical ascendancy – or so many in the west fear.

5G in China

On 6 June, the Chinese Ministry of Industry and Information Technology granted 5G licenses to the country's three largest telecoms service providers: **China Mobile (HKG:0914 & NYSE:CHL), China Telecom (HKG:0728 & NYSE:CHA)** and **China Unicom (HKG:0762 & NYSE:CHU)**, as well as to the state-owned China Broadcasting Network Corporation. China Mobile announced that its 5G services will be available in 40 cities by the end of September this year.

Huawei has stated that it wants to speed up the commercial application of 5G – for instance, with regard to managing self-driving vehicles. The company has invested about $2 billion in 5G research and development over the last 10 years. **ZTE (SHE:000063)**, another telecoms equipment vendor, has said it will take part in the development and deployment of the 5G telecoms network in China.

America hits back

"I want 5G...in the United States as soon as possible". This was an early-morning tweet posted by President Donald Trump earlier this year. 5G 'fever' was also apparent at the mobile-technology event – Mobile World Congress 19, Barcelona – back in the first week of March this year.

The world's first commercial 5G network was switched on in March in South Korea. US providers are not expected to launch 5G services until the end of this year. The US has now banned the use of all Huawei equipment in its incipient 5G network and is putting pressure on close intelligence partners – most notably the UK – to do likewise.

Two major US players, **AT&T (NYSE:T)** and **Verizon (NYSE:VZ)** have proclaimed that 5G will replace fibre broadband in locations where fibre is not available. In their last annual report AT&T stated that 5G will become a fixed broadband-replacement product within the next three-five years.

In March, Verizon became the first major US telecoms company to launch a home package for 5G. Verizon's fixed-wireless broadband has already reached Minneapolis and Chicago, using a spectrum band called millimetre wave which offers high-speed connectivity, but relies on fragile line-of-sight access. Anything in the way – even glass – will block the signal. As a result, many subscribers are offered cumbersome antennae to boost the signal.

The anti-5G conspiracy theorists

There are already numerous conspiracy theories surrounding the roll-out of 5G doing the rounds in cyberspace. A YouTube video which claimed that 5G towers are a form of weaponry designed by government to commit genocide has had more than one million hits. In some cities, activists have scrawled anti-5G messages on public phone kiosks and mobile-transmitter masts. While research is still underway on the possible effects of electromagnetic radiation on human and animal health, there is no conclusive evidence that exposure to phone signals cause harm. According to psychologist Oliver Mason at the University of Surrey, the anti-5G movement is a classic case of technophobia. In my view, there is a direct parallel view with the anti-vaccine movement which has gained traction on social media in recent years with deleterious consequences.

"IN MARCH, VERIZON BECAME THE FIRST MAJOR US TELECOMS COMPANY TO LAUNCH A HOME PACKAGE FOR 5G."

Just as much of Europe declared a climate emergency in May, so Mr Trump declared a national security emergency in America. He barred Huawei from selling its equipment in the US without specific government approval.

Why 5G matters

What is the big deal? High-frequency 5G will enable users to stream video on the go almost instantaneously. But there are sceptics. William Webb, a former director at UK telecoms regulator, Ofcom, is the author of *The 5G Myth* in which he argues that few users actually need 5G. If your smartphone is slow when browsing the web or streaming a movie, that is more likely to be down to limited hardware than to network issues. None of the applications that most people use are limited by the connection speed, he says. Rather, they are limited by the processor on the device or on the far-end server.

"5G WILL FUNDAMENTALLY CHANGE THE WAY THAT BUSINESSES USE DATA."

It is more likely that 5G technology will transform the user experience through fixed wireless broadband rather than via mobile telephony. Research released by Three (a subsidiary of **CK Hutchison Holdings (HKG:SEHK)**) last year claimed that 5G could replace traditional connections for about 85 percent of the UK's 26 million fixed-line customers.

Therefore, contrary to what we have been told, 5G is really a much bigger deal for commercial rather than consumer applications. That is to say that 5G will fundamentally change the way that businesses use data – but the humble smartphone user many not notice much difference.

UK mobile network O2 (owned by **Telefonica (BME:TEF)/(NYSE:TEF)**) has been engaged with a 5G trial run at Worcester Bosch, which manufactures 250,000 residential boilers every year using over 100 robots (and many humans). The firm has installed a private 5G network at its factory[i]. The network allows the firm to connect sensors to its machines and to monitor them in real time. The 5G network can cope with these huge data streams much better than a 4G equivalent.

One sector which is considered ripe for 5G is healthcare. A trial in Liverpool is testing devices in peoples' homes that allow health visits to be carried out remotely. The devices in question do not have 5G chips, but are connected over wi-fi to routers which broadcast a 5G signal operated by AIMES (a cloud-services provider spun out from the University of Liverpool). Deloitte expects only around one million fixed-wireless-access modems to be sold in 2019.

Huawei is not the only threat

Huawei is by no means the only Chinese firm that could pose a threat to Britain's security.

Hikvision (SHE:002415) has a market value of nearly $40 billion. The company has benefited hugely by selling about 176 million of its video surveillance CCTV systems to the Chinese government which maintains a strong interest in what its citizens are up to. But the company is much more than a manufacturer of cameras. It is an AI pioneer and has produced benchmark face-recognition technology. Controversially, in China's western province of Xinxiang, Hikvision cameras are placed outside mosques. The Royal Cornwall Hospitals Trust has more than 250 Hikvision cameras on its sites.

Dahua (SHE:900951) is a Chinese technology company which produces surveillance cameras, drones and thermal cameras. Lincoln City Council installed more than 300 of its devices last month. Ninety-six of its devices were installed in the Fort Dunlop commercial park in Birmingham recently.

SenseTime (private) founded in Hong Kong but with close links to Beijing, creates core software which facilitates facial-recognition systems. The company raised $1.2 billion from investors including Alibaba and Fidelity International.

CloudWalk Technology (private) is another specialist in facial-recognition technology. It claims in its publicity materials that it can identify "sensitive groups of people" – sometimes by racial profiling. In 2018 the company sold the government of Zimbabwe a system to create a national facial-identification database using cameras at transportation hubs.

DJI (private) is the world's largest manufacturer of 'consumer' (ie non-military) drones. Several UK police forces use DJI drones including Greater Manchester Police, West Midlands Police and Devon and Cornwall Police.

Europe: bringing up the rear – but here comes Ericsson

In late May, the chief executive of **Ericsson (NASDAQ:ERIC)** warned that Europe is falling behind the global technology race against China and the US because of its failure to roll out a pan-European 5G network. Borje Ekholm said that Europe was struggling to produce world-class technology companies at the same pace as China and the US because it had been slower to build state-of-the-art telecoms networks. Mr Ekholm claimed that Europe's system of auctioning spectrum was "broken" and was damaging the EU's international competitiveness.

Ericsson is the third-largest 5G equipment provider in the world. It is valued at £25.7 billion and employs 95,000 people in total (including 45,000 in Europe). The Swedish company had revenues of £17 billion last year. Mr Ekholm is on record as saying that banning Huawei from European networks will damage innovation. He thinks that security is one dimension of 5G: the bigger issue is whether the playing field in technology is level at all. He thinks that European companies like Ericsson operate at a competitive disadvantage because of unfair spectrum auctions. He argues that companies should use spectrum sharing more widely in order to allocate spectrum between 4G and 5G.

Ericsson has contracts with 18 major service providers to provide 5G infrastructure, as well as 47 memoranda of understanding[ii]. Last year, it started manufacturing in the US for the first time.

Huawei under siege

In late May, Three became the latest British mobile-network operator to review its planned launch of 5G Huawei smartphones. Huawei was due to launch its Mate 20 5G smartphone in the UK in June. But the launch was postponed by the US executive order banning the use of Huawei equipment as a result of which Huawei phones lost access to Google's Android operating system and other applications. EE and **Vodafone** also delayed the launch of Huawei's 5G handsets. **Intel (NASDAQ:INTC)** and ARM (owned by **Softbank (TYO:9984)**), the microchip giants, have been obliged to stop supplying Huawei.

Then Huawei was barred from the Institute of Electrical and Electronics Engineers, a prominent US-based publisher of technical research. In early June, Huawei reportedly stopped making some smartphone models and the company suspended some orders to Taiwan's **Foxconn Technology (TPE:2354)**. Huawei has reportedly stockpiled months' worth of semiconductor chips. There are even reports that it is developing its own operating system, to cut out Google's Android.

The row about Huawei's role in the UK's 5G network will only get more intense. On 21 June a Chinese diplomat warned that £200 million of British beef exports to China could be at risk. China has banned the import of British meat since the BSE epidemic in the 1990s, but that ban was recently reversed.

"THE ROW ABOUT HUAWEI'S ROLE IN THE UK'S 5G NETWORK WILL ONLY GET MORE INTENSE."

Karlis Dambrans / Shutterstock.com

Infrastructure

The UK's largest infrastructure company, Openreach (owned by BT), has attempted to 'future proof' the country's broadband network by laying nearly 85,000 kilometres of fibre optic cables rather than relying on wireless broadband. Its efforts are subsidised by the UK government which has earmarked £200 million to roll out fibre-cable broadband in hard-to-reach areas. The government's target is to make the entire UK full-fibre by 2033. The problem is that of the 'last mile'. That is to say the gap between the cell sites and the final customer is the biggest hurdle. But industry insiders believe that 5G will thrive in places where fibre is not available. As usual, it will work in tandem with other technologies rather than in competition with them.

Vodafone's 5G network is set to go live in seven UK cities in July and in another 12 UK cities by the end of this year. The company's partner, CityFibre, has continued to invest in fibre infrastructure, pledging another £2.5 billion of investment late last year. **Telstra (ASX:TLS)**, Australia's biggest network operator, started offering all customers access to 5G in June. According to *Business Insider Australia*, Telstra's 5G equipment does not offer anywhere near the 1.2 gbps speeds that have been promised or achieved in the controlled environment of Telstra's Sydney office[iii]. Coverage has also been hard to find and inconsistent.

The great firewall of China

The above is the title of a new book by James Griffiths, a Hong Kong-based science writer. The sub-title is: *How to build and control an alternative version of the internet.*

In March 2015 a cyberattack, presumably orchestrated by Chinese intelligence, knocked out websites hosting anti-censorship software. For years, the Chinese state has been able to insulate China's internet from that of the rest of the world.

China is far advanced in developing an alternative internet which blocks most Google-hosted websites and social networks. Mr Griffiths argues that **Baidu (NASDAQ:BIDU)**, China's encapsulation of Google-cum-Facebook which is the fourth most-visited search engine in the world has become, effectively, an agency-of-state policy. When an internet user visits a site with a Baidu ad displayed, the visitor's IP address and other data are stored on the company's servers in China. He cites as an example of the dangers the case of a night-shift Marriott hotel manager in Omaha who lost his job because he 'liked' a tweet that promoted Tibetan independence.

As well as **Baidu**, China has internet giants such as **Alibaba (NYSE:BABA), Tencent (HKG:0700)** and **Renren (NYSE:RENN)**. Hundreds of millions of its citizens are online – inside the 'Great Firewall'. But China's citizens can still peek over the Great Firewall into the outside world using virtual private networks (VPNs), which give anonymous access to the World Wide Web. VPNs create a kind of encrypted tunnel from computers inside the blockade to networks on the outside. But people who develop or distribute software to tunnel through the firewall are being arrested in increasing numbers.

President Xi has talked about "cyber-sovereignty" – "the right of individual countries to independently choose their own path of cyber development". Beijing's proposed new rules concerning cybersecurity build on national intelligence and counter-espionage laws. These require that any Chinese organisation or citizen must yield information to the state on demand wherever that information may have been obtained.

The next communications revolution: the Space-Wide Web

A number of billionaires including Elon Musk, Jeff Bezos and Sir Richard Branson are planning to reinvent the internet – 5G or not. The basic idea is to go beyond mere old terrestrial 5G and to build a Space Wide Web far above the Earth. There is no shortage of competing technologies to achieve this: balloons in the stratosphere; high-altitude drones; and constellations of satellites to name a few.

> **"A NUMBER OF BILLIONAIRES INCLUDING ELON MUSK, JEFF BEZOS AND SIR RICHARD BRANSON ARE PLANNING TO REINVENT THE INTERNET."**

Most internet connections these days are facilitated by old-fashioned cables. Even your top-of-the-range smartphone only connects to the internet using radio waves over the last few hundred metres from a telephony tower. But satellite internet uses relay stations that remain steady in geostationary orbit – usually 35,000 kilometres above the Equator. That 70,000-kilometre round trip, however, adds a half a second or so to the time taken to access a signal or website.

That is why the technology giants are looking to the stratosphere – the region about 10-50 kilometres above the Earth. This layer of the atmosphere is high enough for a transmitter there to serve an entire city, but low enough that a smartphone could communicate with it without the intermediation of a receiver dish. Moreover, putting a satellite in the stratosphere is much easier (and cheaper) than putting one into deep space.

Facebook (NASDAQ:FB) and **Alphabet/Google (NASDAQ:GOOG)** have already developed solar-powered drones that can hover about 20 kilometres above the Earth for weeks. The problem is that they then tend to fall to Earth precipitously. Other companies such as **Boeing (NYSE:BA)** and **Airbus (EPA:AIR)** are working on similar drones. Google has even launched a company called Loon which plans to send high-altitude balloons into the skies above Kenya soon.

The alternative is to put satellites into low Earth orbit (LEO). The problem here is that these move across the horizon in about 10 minutes. So, for a continuous service, you need a string of satellites in LEO girdling the globe, all coordinated in a kind of relay race. This is not a new idea: Bill Gates envisioned a constellation of 840 LEO satellites back in the 1990s, but the world was not quite ready. His vehicle, Teledisc, folded in 2002. Already, **Iridium Communications (NADAQ:IRDM), Globalstar (NYSEAMERICAN:GSAT)** and **Orbcomm (NASDAQ:ORBC)** each have a few dozen LEO satellites.

OneWeb, a start-up backed by **Airbus (EPA:AIR)**, computer-chip maker

to write a book about Nokia, which started out more than a century ago manufacturing boots for the Russian army – it has re-invented itself so many times that it is a paradigm of the creative destruction that is capitalism.)

Both companies have started drawing up emergency plans to move much of their most sensitive operations out of China and to split up their supply chains to counter national-security concerns. European firms are concerned that it will become increasingly difficult to sell equipment with Chinese-made components in the EU and the US. Nokia is considering setting up an EU-only operation for its 5G supply chain.

What is happening right now in the world of Trump and Xi is something that I began to describe in December 2016 when I wrote a piece for this magazine entitled *The End of Globalisation*. Forget outsourcing; think resourcing. This is the age of competing technological capitalism – and of the New Cold War between the US and China, which no investor can escape.

Qualcomm (NASDAQ:QCOM) and Sir Richard Branson are also in the game. It put its first six satellites, costing about $1 million apiece, into an orbit about 1,200 kilometres above the Earth in February. The company claims that 600 satellites connecting users to 40 or so ground stations should be functional by 2021.

Elon Musk's SpaceX (private), Luxembourg-based LeoSat and the Canadian company Telesat all plan to create a space-based internet system in the early 2020s. All three companies aim to use energy-efficient lasers to enable their satellites to communicate with each other. SpaceX envisages a constellation of nearly 12,000 *Starlink* satellites orbiting at 340 kilometres. Their business plan anticipates 40 million subscribers and $30 billion in revenue by 2025. But the plate-sized receiver that SpaceX is developing will cost somewhere between $100 and $300. That will be a tall order for many subscribers in the developing world for whom the system is supposedly designed.

SpaceX is not alone. **Amazon (NASDAQ:AMZN)** has developed a project called Kuiper, with plans to launch 3,200 internet satellites at an altitude of 600 kilometres. Some analysts think that the satellite-powered internet could jump over the Great Firewall of China – so even this is relevant to the China-US New Cold War. Mr Musk has pertinently pointed out that China is developing the capacity to shoot satellites down. (And that will be the subject of a future article…)

Action

In the UK the telecoms service providers racing to provide 5G infrastructure are EE and **Vodafone**, and they are both dynamic businesses.

In terms of 5G equipment manufacturers, **Nokia (NYSE:NOK)** and **Ericsson (NASDAQ:ERIC)** are Europe's technology titans. (I have always wanted

Increasingly we need to 'get real' about the cleavage in the internet and security shields in which we operate. **Oracle (NYSE:ORCL)** recently slashed the number of staff working at its R&D outfit in China. Ericsson's Beijing office was raided last month as a result of complaints of intellectual-property infringement.

Anyone who buys controversial Chinese technology equities like Huawei is brave. Anyone who divests western 5G technology giants like Ericsson is short-sighted.

About Victor

Victor is a financial economist, consultant, trainer and writer, with extensive experience in commercial and investment banking and fund management. His career includes stints at JP Morgan, Argyll Investment Management and World Bank IFC.

i **New Scientist, 09 March 2019: *Phoning in the future*, by Chris Baraniuk, page 23.**
ii **How Ericsson is taking on Huawei in race for 5G crown, by Natasha Bernal, Daily Telegraph, 27 May 2019.**
iii **See: https://www.businessinsider.com.au/telstra-has-changed-all-of-its-phone-plans-and-they-come-with-free-access-to-5g-for-now-2019-6**

BY MARK WATSON-MITCHELL

PORTFOLIO INTELLIGENCE

INVESTMENT FRAUDS, 'SCAMS' AND ABUSE

AND HOW NOT TO FALL FOUL OF THEM

Bargepoles at the ready! Mark Watson-Mitchell recounts some of the biggest investment frauds and scams in history.

According to Financial Conduct Authority statistics, Britons were scammed out of nearly £200m last year, with the average loss per person around £29,000. However, that figure could well have been much higher because some who fall victim tend to stay quiet about their misfortune.

Scamsters have many ways to cheat unwary investors. Nothing is new, but some of the methods have changed slightly.

Having gone back through many records and reports of investment frauds, scams and abuse, here are some of the best – or worst – examples of what to look out for.

Pump and dump

This scheme involves fraudsters buying a very large line of stock in a cheap, illiquid 'penny share' and then pushing the market price upwards by a multitude of means – including 'newsletter ramping', newspaper market-column mentions, internet-based rumours and even 'layering' (where a multitude of small buy orders are placed across the market through different brokers).

> **"BRITONS WERE SCAMMED OUT OF NEARLY £200M LAST YEAR."**

When the price has risen high enough for fresh demand to be satisfied, the fraudsters then push the stock out to the eager buyers.

Boiler rooms

I have nearly fallen victim to this scam myself. For example, many years ago I held a 15% stake in Reliant Motors. I had bought my holding at around 21p a share and it had risen to 45p within three months, at which time I was approached by a broker to part with my stock at 60p a share.

"IN 2005, BERNARD EBBERS HELPED TO LOSE INVESTORS SOME $100BN WHEN WORLDCOM, THE SECOND-LARGEST US TELECOMS COMPANY, SOUGHT CHAPTER 11 BANKRUPTCY."

"LATER I WAS TO FIND OUT THAT MARSAN WAS STEEPED IN MAFIA CAPITAL AND THAT THOMAS QUINN WAS SUBSEQUENTLY JAILED AS A MAFIA FRONT MAN IN SEVERAL STOCK FRAUDS."

That was certainly very tempting, but I first needed to know who the buyer was. I soon identified that it was a securities operation on the Continent.

Furthermore, it was, in fact, a 'boiler room'. A team of ace equity salesmen had been flown into Amsterdam from the US and placed in a newly leased (short-term) office, that was fully equipped with scores of phone lines and European telephone directories.

The team then just hunkered down and sold stock to unsuspecting investors.

And my line of Reliant Motors was, no doubt, going to be the next featured stock to be shunted out, probably at a price of 125p or higher. Understandably, I refused the broker's offer and later placed my holding at 48p a share. A big profit missed, perhaps, but my conscience was clear.

Licenced dealers

I had another 'close shave' – this time with licensed dealers. In the early 1980s, a number of securities dealers achieved registration to deal with the investing public – leading to a very fast growth of the UK Over The Counter (OTC) Market.

At that time, I was publishing investment magazines on both the Unlisted Securities Market and the OTC markets, so I got to know a number of the companies involved.

Such dealer names included Chartwell Securities, Prior Harwin, Ravendale Securities and Harvard Securities amongst many others.

Their duty seemed to be the placing of large lines of shares in newly floated OTC companies, at several times their real value − with the unlucky investors rarely able to achieve profits in their OTC dealings.

Some of the licensed dealers had extremely questionable connections both in the US and on the Continent.

I can clearly remember being flown over to New York with a number of fund managers to meet some stock-market players from a couple of Wall Street firms. One firm in particular was Marsan Securities, which worked closely with Ravendale.

We enjoyed lavish hospitality over there, staying at the Helmsley Palace Hotel. We were also treated to a superb dinner at a wonderful steak restaurant called Smith & Wollensky, at a table of notables such as Richard Nixon's Watergate lawyer and a very smart-suited individual by the name of Thomas Quinn.

Marsan Securities was looking to 'export' some US 'pink-sheet' (OTC) companies on to London's OTC market through Ravendale. Later I was to find out that Marsan was steeped in Mafia capital and that Thomas Quinn was subsequently jailed as a Mafia front man in several stock frauds.

Front-running

This scam concerns unscrupulous brokers receiving large market-moving orders from their institutional and fund-manager clients and using this information for their own gain. Using other broking firms and acting as private clients, they place orders in the same stocks beforehand. Then, when

they have handled their own large clients' price', increasing business, they place sell orders with those other brokers and take full advantage of the risk-free gains.

Churning

Many investors give their brokers the ability to deal on their behalf without the need to refer back to them. This is a form of discretionary dealing.

However, this authority can lead to 'churning' by the broker, who lives off the commissions that are generated, and not upon the profit that should be made for the client.

Very quickly, the fast dealing losses and the expenses of such dealing dissolves your initial discretionary capital sum.

Short-selling abuse

This is becoming a very fashionable scamming method.

A large company is selected by the person/s behind this scheme. They thoroughly research that company, its people, its workforce, its operations and its products, and identify a number of 'bearish' facts and figures to grossly embellish, then create an investment newsletter and make it available via the internet.

The publisher is an unknown name, and its address is hidden, through several 'offshore' companies. The researcher never speaks to the company management, to avoid identities becoming known.

Large option positions are taken out calling the stock lower over a short period of time. Then the full force of a 'rumour machine' is swung into action, helping to drive the corporate victim's stock down. Newspaper market-column mentions and anonymous chat-room conversations exacerbate the situation, together with a number of mishandled short-selling orders – and down the price goes.

The lower the price falls, the more rumours are spread and the more column inches are generated, reporting the price falls. Effectively this is a 'short and distort' operation and they can be brutal for share prices.

Despite any denials of such rumours by the 'victim' company, the price carries on dropping. When the price is still in freefall then the scheme's operators exercise their options and buy back their shorts.

Many commentators do not consider that this type of operation is an abuse; however, it is still market manipulation.

Corporate misconduct

There are many incidences of corporate misconduct and here we examine some of the best-known examples, starting with Bre-X Minerals − a name associated with falsified sample findings from a gold prospect in Indonesia. In 1996, geologist, Michael de Guzman, cost investors around $3bn when no actual gold was found. The shares, which had gone from 30 cents in initial offerings to over $286, crashed upon realisation that it was all a scam.

Enron also provides us with an example of corporate misconduct. At one time it was the seventh-largest company in the US. To exaggerate the health of his company, founder Kenneth Lay falsified its financial results. It went from strength to strength before the true facts were revealed and in 2001 it filed for bankruptcy. While on holiday, before receiving his sentence for security fraud, Kenneth Lay dropped dead – the investor loss was $74bn.

In 2005, Bernard Ebbers helped to lose investors some $100bn when WorldCom, the second-largest US telecoms company, sought Chapter 11 bankruptcy. He had overstated his company's cash flows, and covered up its acquisition-fuelled debt, thereby bloating its assets by about $11bn. His stock fell from $64 at its peak, to less than $1 upon discovery of his false accounting.

The UK AIM-quoted company, Langbar International, was another scam. In 2011 it was discovered that the company's £370m of bank deposits, declared in the accounts, did not exist.

Another AIM company scam emerged from software developer, Globo. It was revealed that it had masses of fake clients and suppliers, all based in jurisdictions like Panama and Cyprus.

Insider Trading

Certain instances of insider trading can be considered legal. Directors, key employees and officers of a company can deal in their company's equity, as long as they adhere to fairly strict dealing requirements and report all of their dealings to the market.

But the profitable 'insider trading' is totally illegal. Buying or selling of stock in any company in the knowledge that certain events or items of news are imminent, which could push the share price higher or lower – that really is a no-no.

However, it happens every day. Non-public information can move markets quite dramatically and greed can so often replace caution in the pursuit of sizeable profits.

For example, Michael Milken, the US 'Junk Bond King', was helping to build business at investment bankers Drexel Burnham Lambert (DBL). Together with his colleague Dennis Levine, they helped the funding of the DBL client Ivan Boesky, known as the 'Arbitrage King'. Boesky became one of the biggest ever market players and seemed to always get it right – making a lot of money from deals by Getty Oil, Nabisco, Texaco, Gulf Oil and Chevron – all clients of DBL. In 1986 Boesky settled insider dealing charges with a substantial payment to the Securities and Exchange Commission (SEC) and taking just a three-and-a-half-year jail term.

Here in the UK, perhaps the most famous incidence of insider dealing was in relation to the shares of Guinness, ahead of its bid for the Distillers drinks company. Stockbroker Anthony Parnes, and property developers Jack Lyons and Gerald Ronson, along with Guinness boss, Ernest Saunders, took part in a share-price ramping to help the Guinness bid win. All four were convicted with theft and false accounting. However, Saunders' sentence was halved because he claimed to have Alzheimer's, from which he miraculously recovered some years later.

Former Cazenove partner, Malcolm Calvert, was also a UK insider trader. In 2010 he was found guilty of trading shares of three companies ahead of takeover news and was jailed for 21 months.

If you are interested in more examples of scams, some others to check out include former Dresdner Kleinwort banker Christopher Littlewood and his wife and close friend, who were involved in insider trading for 10 years; Matthew and Neel Uberoi (the former worked in corporate broking on takeover and price-sensitive deals, with the latter dealing on his son's insider information; and former AKO Capital trader Anjam Ahmad, who dealt on inside knowledge 19 times.

Ponzi schemes

This is a special kind of fraud. It is based upon a fake investment where a schemer persuades other people to give money to participate. By peddling the scheme to make money fast, the operator entices others to join them and put their own money in, to achieve big returns.

In the early 1920s, Carlo 'Charles' Ponzi became known in the US as a swindler, as a result of his money-making scheme. He promised clients a 50% profit within 45 days or 100% profit within 90 days, by buying discounted postal reply coupons in other countries and redeeming them at face value in the US − effectively a form of arbitrage. But in reality, Ponzi was paying earlier investors their returns by using the fresh investments of later investors.

Ponzi was raking new money in every day on the back of his promises. That was before he was found out and some 18,000 investors lost the equivalent of $20m. His scheme even brought down six banks in the process.

And finally, it is very important to mention Bernard Madoff and his Madoff Investment Securities company, which is still the biggest scam ever.

In 1960, Bernard Madoff formed a 'penny stock' brokerage, which

"OF SOME $36BN INVESTED WITH MADOFF ONLY $18BN WAS RETURNED TO INVESTORS; THE BALANCE WENT MISSING."

became one of the top market-making businesses on Wall Street. It was in the top six by 2008 and was certainly the largest NASDAQ market maker.

Madoff was the former chairman of NASDAQ and a reputable stockbroker. He was respected wherever he went, but in reality he was a 'market gangster' and scamster.

While it is thought that he may well have started his fraud in the early 1970s, federal investigators reckoned that it really got underway in the 1980s, then gained prominence in the 1990s.

Madoff ran a 'hedge fund' that appeared to achieve an 11% annual return for its investors, but this was through the issue of false trade notes.

Everyone wanted in on this fund, run by one of Wall Street's respected seniors. However, in typical Ponzi style it was the fresh wave of investment funds that were being used to pay the investor returns.

Of some $36bn invested with Madoff only $18bn was returned to investors; the balance went missing. Madoff admitted that he never made any legitimate investments with his clients' money. It was, however, 'invested' in Madoff's own business banking account with Chase Manhattan Bank, which he then used to pay for withdrawals when his clients asked for return of funds.

Market onlookers considered that it was both legally and mathematically impossible for Madoff to achieve the gains that he declared. Believe it or not, the SEC actually investigated Madoff six times, because the returns were so good, and even market beating. Each time they failed to find anything amiss.

Madoff was later reported as having stated that: *"I was astonished. They never even looked at my stock records. If investigators had checked with The Depository Trust Company, a central securities depository, it would've been easy for them to see. If you're looking at a Ponzi scheme, it's the first thing you do."*

Understandably the SEC, which had been receiving complaints about Madoff for over a decade, was heavily criticised for its lack of financial expertise and inability to identify Madoff's corrupt scheme.

By reporting him to the authorities, Madoff's own sons eventually brought his scam to an end. Some 24,000 victims lost money.

What to look for and how to protect yourself

It has been said so many times before and yet the well-known warning, that if it seems too good to be true, it probably is, still applies. So, stay alert.

Wherever you can, make sure that a third party has approved any corporate statements that are made, especially when it comes to drilling samples for gold, for instance.

If you receive a 'cold call' to participate in a wonderful opportunity – just put the phone down. After all, if it is such a good opportunity, why are they not keeping it all for themselves?

Remember that a key element of stock fraud and any type of investment scam is that your interests are secondary to those of the broker or dealer.

Their financial gain comes well before yours.

About Mark

Director of SQC Research and Author of mw-m.com.

Mark, who has over fifty-five years' experience in the UK stock market, established SQC Research in 1993. He previously worked as a dealer for four stockbroking firms and an investment fund management business. Prior to SQC Research, which provides investment information and comment on smaller quoted companies, he published financial and investment magazines and newsletters.

BY RICHARD GILL, CFA

FROM ACORNS TO OAK TREES

CLEANING UP IN ENVIRONMENTAL STOCKS

Richard Gill, CFA, looks at three London-listed small caps which he believes could provide both a cleaner future and a bigger bank balance in the coming years.

Just a few weeks ago, outgoing prime minister, Theresa May, laid out plans for the UK government to set a net zero greenhouse-gas emissions target in law. Amending the Climate Change Act 2008, the new proposal is for the country to eradicate its net contribution to climate change by 2050, building on the current target to reduce emissions by at least 80% by 2050, relative to 1990 levels. While some, mainly environmental-interest groups, have said that the target is not ambitious enough, this makes the UK the first major world economy to set such a goal.

The low-carbon sector is already big business in the UK, with an estimated 400,000 people employed in the sector and its supply chains. Low-carbon technology and clean energy are estimated to contribute a chunky £44.5 billion to the economy every year. And recent months and years have seen significant progress towards its further decarbonisation.

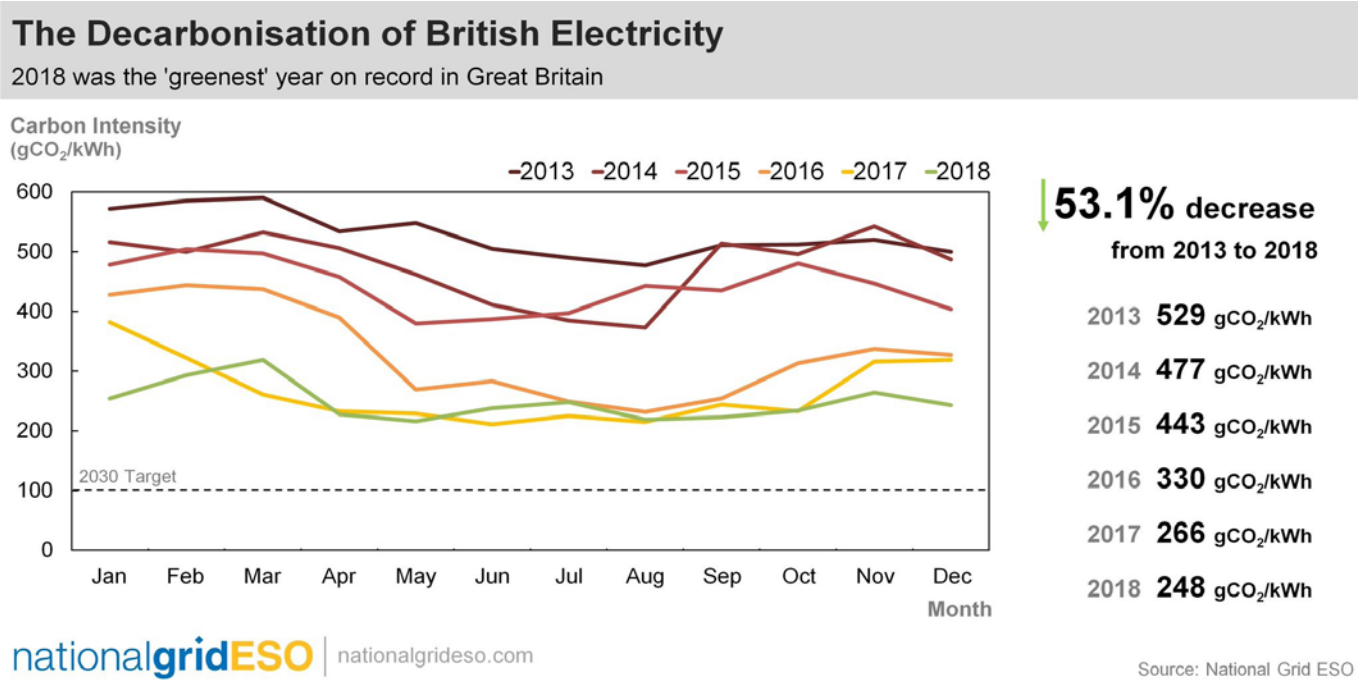
In 2018 for example, the country secured more than half its electricity from low-carbon sources, with its carbon intensity having fallen by 53.1% in just five years (see chart on page 8). In May this year, a new record was set for the number of days without burning any coal since the Edison Electric Light Company opened the world's first public coal-power station in London in 1882. The record was set at just over two weeks, and with coal-fired power generation expected to be phased out by 2025, many more records look set to be broken.

"IN MAY THIS YEAR, A NEW RECORD WAS SET FOR THE NUMBER OF DAYS WITHOUT BURNING ANY COAL."

As with any industry which is experiencing a positive change in regulation, this provides opportunities not only for jobs, but also for investors. There is no defined 'green stocks' sector in London, but some of the related subsectors in the market include alternative electricity; alternative fuels; renewable-energy equipment; and waste and disposal services, along with a handful of renewables-focused investment funds.

Historically, so-called green stocks have not been the best performing for investors, with many companies struggling with technology issues, difficulties in commercialisation and the ongoing need for cash. While these problems remain for many London-listed green stocks, it does seem that we are finally reaching a turning point where some serious money could be made. Below are three London- listed small caps which I believe could provide both

"IT DOES SEEM THAT WE ARE FINALLY REACHING A TURNING POINT WHERE SOME SERIOUS MONEY COULD BE MADE."



a cleaner future and a bigger bank balance in the coming years.

GOOD ENERGY

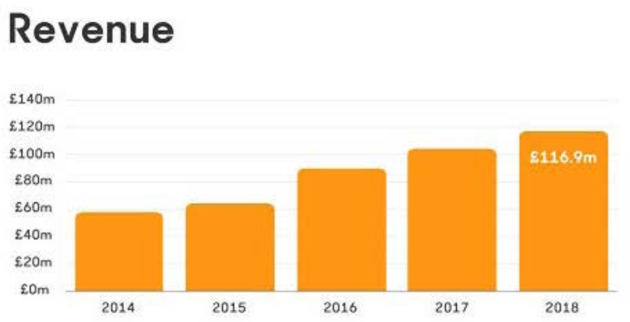
Good Energy (LON:GOOD) was co-founded in 1999 by chief executive, Juliet Davenport (who has since been awarded an OBE for services to renewables), with a mission to tackle climate change by generating and investing in renewable energy. The business is one of the foremost renewable-energy-generation-and-supply companies in the country, sourcing energy from its own generation assets along with independent, UK-based renewable generators.

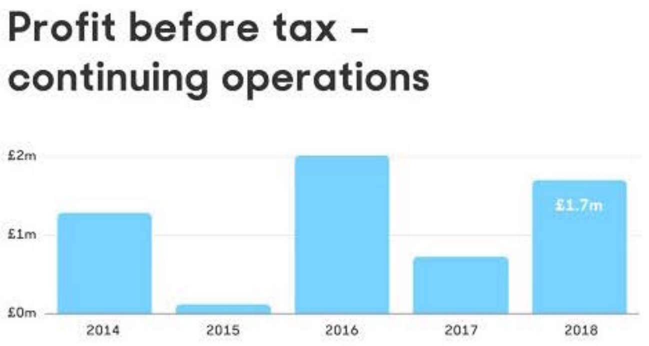
At the end of 2018, the company owned and operated eight renewable-energy facilities across the UK that deliver wholly renewable electricity to the UK electricity grid. There were six solar sites and two wind farms, with a total of 47.5MW of installed capacity in the continuing generation portfolio. However, the portfolio has been subject to various disposals over the years and no further generation assets are being developed. The firm's flagship asset is the Delabole wind farm in Cornwall, which was the first such commercial farm in the UK and operates four turbines with an installed capacity of 8.2MW.

"REVENUES HAVE CONSISTENTLY GROWN AT GOOD ENERGY."

The core of the business is the supply of electricity and gas to domestic and business customers, with 259,863 customers being on the books at the end of 2018 − split 53% domestic/47% business. Electricity is sourced 100% from renewable sources, either from the company's own assets, from other UK-based renewable-power producers or the open market. Gas is sourced from wholesale markets − obviously not from a renewable source, but is referred to as carbon neutral. This is because the gas contains 6% biomethane − gas produced in the UK from food waste. Emissions from the rest of the gas its customers use is balanced through supporting verified carbon-reduction schemes in Malawi, Vietnam and Nepal.

Alongside this, Good Energy makes money from providing administration services to so-called micro-generators under the Feed in Tariff (FIT) scheme. As at the end of December 2018, the firm worked with 152,244 customers, with revenue earned from regulator Ofgem for administering the scheme. The FIT scheme closed on 1 April this year for new entrants, but Good Energy will continue to serve its existing customers, who remain eligible for the





scheme for up to 20 years (25 years in some cases).

Good trading

Over the past five years revenues have consistently grown at Good Energy, more than doubling from £57.6 million in 2014 to £116.9 million in 2018. As the chart below shows, however, profits have been more erratic, with the figures often boosted by booking in profits from asset sales. In 2018, pre-tax profits rose by 214% to £2.3 million, but the real highlight of the numbers was a £14 million net cash inflow from operations. This resulted from much-improved working capital, following the resolution of billing issues, along with the adding back of non-cash depreciation. This helped net debt fall by 23% to £40.9 million, with the company having taken on significant borrowings to develop its generation assets.

So far, in 2019, there have been three major operational highlights. First, in March, the company acquired a 12.9% stake in Zap-Map, an app developer for Britain's 200,000 electric vehicle (EV) drivers. This was in line with its vision to accelerate the adoption of EVs, with there being the opportunity to acquire a majority equity position in Zap-Map. Then in May, two significant financial events occurred; £3.6 million of bonds were redeemed and the company's 5MW solar park at Brynwhilach Farm near Swansea was sold, for £5.6 million in cash.

In late June, the company announced a modestly upbeat statement covering trading since the start of the year. Continued growth was seen in both business supply and FIT administration, but the domestic supply business was held back by a warmer than seasonally normal first quarter, along with continued price competition. The overall cash position was said to be strong following cash-collection improvements and better-than-expected working-capital management, with gross debt reduced following the Brynwhilach sale and bond redemption. Overall, performance remains in line with expectations, with profits expected to be weighted towards the traditionally colder first half of the year, despite the warmer first quarter.

Good buy

Shares in Good Energy hit an all-time low of 87.5p last November, during a period of market malaise, but have since rallied to the current 138p. Nevertheless, that remains well off highs of around290p seen in early 2014. The shares now trade on a historic earnings multiple of 13.5 times, which looks reasonable given strong cash generation. In addition, net assets of £19.4 million provide backing to 85% of the market cap.

Good Energy also aims to deliver a progressive dividend policy, with the 2018 payment rising to 3.5p per share. This yields a reasonable 2.5% at the current share price. For shareholders who want to increase their stake in the company, and to avoid dealing commissions, there is also the option of a scrip dividend.

Of course, there are big risks associated with operating in the energy sector – not least regulation, exposure to demand based on weather conditions and price competition. Borrowings are also high at the company, but they are falling markedly and interest payments were comfortably covered by operating cash flow in 2018. Overall, with its unique selling point of supplying power from renewable sources, I believe Good Energy is a good play on the alternative-energy sector.

CERES POWER HOLDINGS

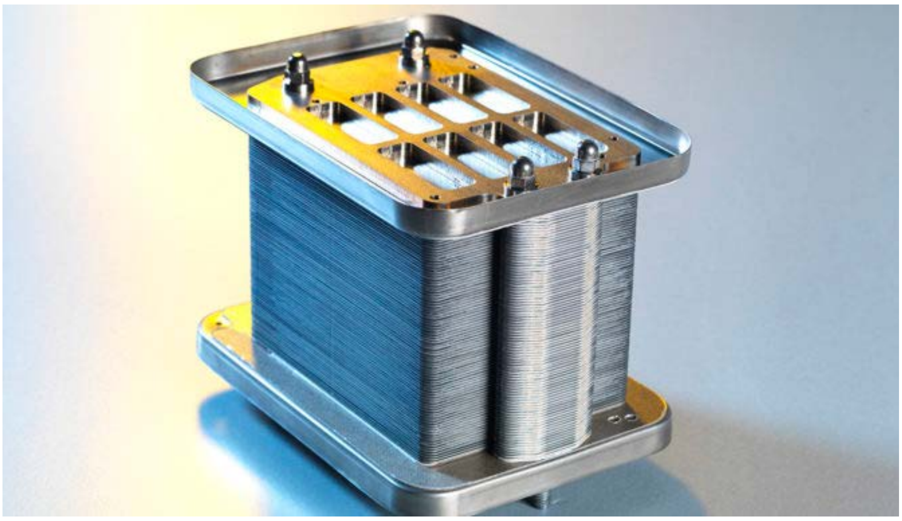
This next company is a little riskier than Good Energy, as it is currently making a loss. But with revenues more than doubling on an annual basis for the past three years, losses falling and with plenty of cash, it appears to lie in a sweet spot.

Ceres Power (LON:CWR) has been around on the markets for some time, having listed on AIM in 2004 to fund the development and commercialisation of fuel-cell technology. Its flagship product is the SteelCell, a low-cost, next-generation fuel-cell technology, which allows the efficient conversion of fuel to power in a variety of applications. Put simply, SteelCell is a perforated sheet of steel with special screen-printed ceramic layers that electrochemically convert a variety of different fuels directly into power at the point of use.

The SteelCell can generate power from conventional fuels like natural gas and from sustainable fuels like biogas, ethanol or hydrogen, significantly lowering carbon emissions and pollutants, and also offering lower running costs. It is highly efficient, with the current fifth-generation SteelCell achieving a key milestone of 60% net efficiency, which is twice that of conventional gas engines and greater than centralised megawatt-scale gas turbines. The core technology platform is protected by 50 patent families.

Ceres' business model is based on a high-margin licence-based approach, and it partners with world-leading manufacturers, including Nissan, Honda and Bosch, to embed its SteelCell technology in their mass-market power products. Revenues are earned through the provision of initial engineering services, upfront licence fees and future royalties based on power production. The partnerships enable the company to scale across multiple geographies and applications such as combined heat and power for commercial and residential sectors, data-centre power and electric-vehicle range extension.

"CERES IS NOW SEEING THE COMMERCIALISATION OF ITS TECHNOLOGY ADVANCE SIGNIFICANTLY."



SteelCell stack

Fuelling growth

Ceres is now seeing the commercialisation of its technology advance significantly. This was highlighted in results for the six months to December 2018, which reported revenues up by 168% at £8.3 million and operating losses more than halving from £6.3 million to £3 million. Notably, gross margins soared from 46% to 82% after growth in the highly profitable licence fees. The company ended the period with £30.5 million of contracted future revenues, and is on course to more than double revenues for the fourth successive year, to more than £15 million.

Perhaps the main highlight of the period was the influx of cash raised from various sources. A total of £77.6 million was raised via share issues in the half, meaning that the company believes it is now, *"... fully funded to execute its business plan"* and has sufficient cash to reach cash-flow breakeven. The funding included a £9 million investment fromBosch, with the two companies also entering into a strategic collaboration to combine expertise in fuel cells, manufacturing and product

"WITHIN A DECADE ANNUAL REVENUES COULD EXCEED £150 MILLION."

development. This will provide significant staged revenues to Ceres through licensing and longer-term royalties on 5kW SteelCell stacks, as well as initial engineering services.

Another investor and partner is Weichai Power, a Chinese engine manufacturer. A recently signed collaboration between the companies includes a licence agreement including technology-transfer payments of up to £30 million and ongoing future royalties, along with a £9 million deal for the continued development of a first-range extender product for electric buses in China. Weichai increased its total equity investment in Ceres Power to £48 million during the half, taking its stake to 20%.

More recent news is that partner Miura Co., a Japanese industrial-boiler manufacturer, is launching its first fuel-cell product using the Ceres technology. The fuel-cell system is a 4.2kW combined heat and power unit, targeting the commercial building sector in Japan, one of the most advanced markets in the world for fuel cells, and a key target market for Ceres. Field trials are underway, with commercial launch to a select number of customers expected to take place from October 2019.

Power your portfolio

There is a lot going on at Ceres Power at present, but the main themes from the investment case are clear – growing revenues, solid industry partnerships and world-leading technology − all against the backdrop of rising demand for energy, and clean energy in particular. Analysts at brokerage Liberum recently initiated coverage of Ceres and set a bullish target price of 300p per share − 75% higher than the current price of 171p. Backing its views, it believes that within a decade annual revenues could exceed £150 million and earnings and free cash flow could exceed £100 million.

AQUILA EUROPEAN RENEWABLES INCOME FUND

Finally, for investors looking for easy entry into a diversified portfolio of income-generating renewable assets, an interesting fund recently listed on the London markets. The **Aquila European Renewables Income Fund (LON:AERS)** joined the London Stock Exchange in early June, following the raising of €154.3 million at the traditional round price of €1.00 per share. While this amount was short of the initial €300 million target, it still represented one of the largest fund-raises by a listed investment fund so far in 2019.

The fund has been established with a remit to invest in renewable-energy technologies across continental Europe and the Republic of Ireland in order to build up a diversified revenue stream from energy sales. Europe seems an excellent area to invest in at the moment, with the recently revised Renewable Energy Directive increasing the EU's target for renewable-energy share to 32% in 2030, with a long-term goal of having 75% of the EU energy mix from renewable energy in 2050.

AERS was set up by Aquila Group, a German investment-management company which has around €8.2 billion of assets under management and a focus on renewable energy and other green sectors. Subsidiary Aquila Capital is the fund's investment advisor and interestingly has agreed to use the fees due to it in the first two years to buy shares in the fund, either in the market or by the creation of new shares, depending on whether the price is at a premium or discount.

To date, the investment advisor has identified a number of potential renewable-energy infrastructure-investment targets, with the majority either held in Aquila-managed funds or pending targets for acquisition by the Aquila investment team. These include a range of solar, wind and hydro assets in various stages of operation and commissioning across a number of European countries. This focus on different generation types helps to balance cash flows, with wind power producing more electricity in the winter and solar more in summer.

Renew your portfolio

It is early days in the life of the AERS. As yet there have been no announcements regarding any investments, but we expect to hear news soon following the initial deployments of cash.

The main attraction here is income, with AERS targeting a dividend of 1.5 cents per share for 2019 as the portfolio is built up. That rises to a minimum of 4 cents in 2020 and 5 cents from then on as the portfolio reaches maturity. On top of that, the company is targeting an internal rate of return of 6% to 7.5% after fees and expenses on the issue price of €1.00 over the long term, through the reinvestment of excess cash flows, asset-management initiatives and the prudent use of leverage.

Shares in the fund are currently changing hands for €1.03 (93p), slightly above the issue price, so at a small premium to the cash raised at IPO. If the stated targets are met then that offers a decent income yield of 4.85% from 2021. Assuming the growth ambitions are also met, taking the mid-point, then investors are looking at a highly attractive total annual return of around 11.5%. As it is denominated in euros, the fund also provides investors with a hedge against sterling, should there be any negative post-Brexit-related currency movements.

About Richard

Richard Gill is an investment analyst with over a decade's experience of analysing small/mid cap equities. He is the Head of Research at Align Research. Richard qualified with the Chartered Financial Analyst (CFA) designation in 2012 and was awarded PLUS Markets Financial Writer of the Year at the 2008 PLUS Awards. He has been a judge at the Small Cap Awards from 2013 to 2018.

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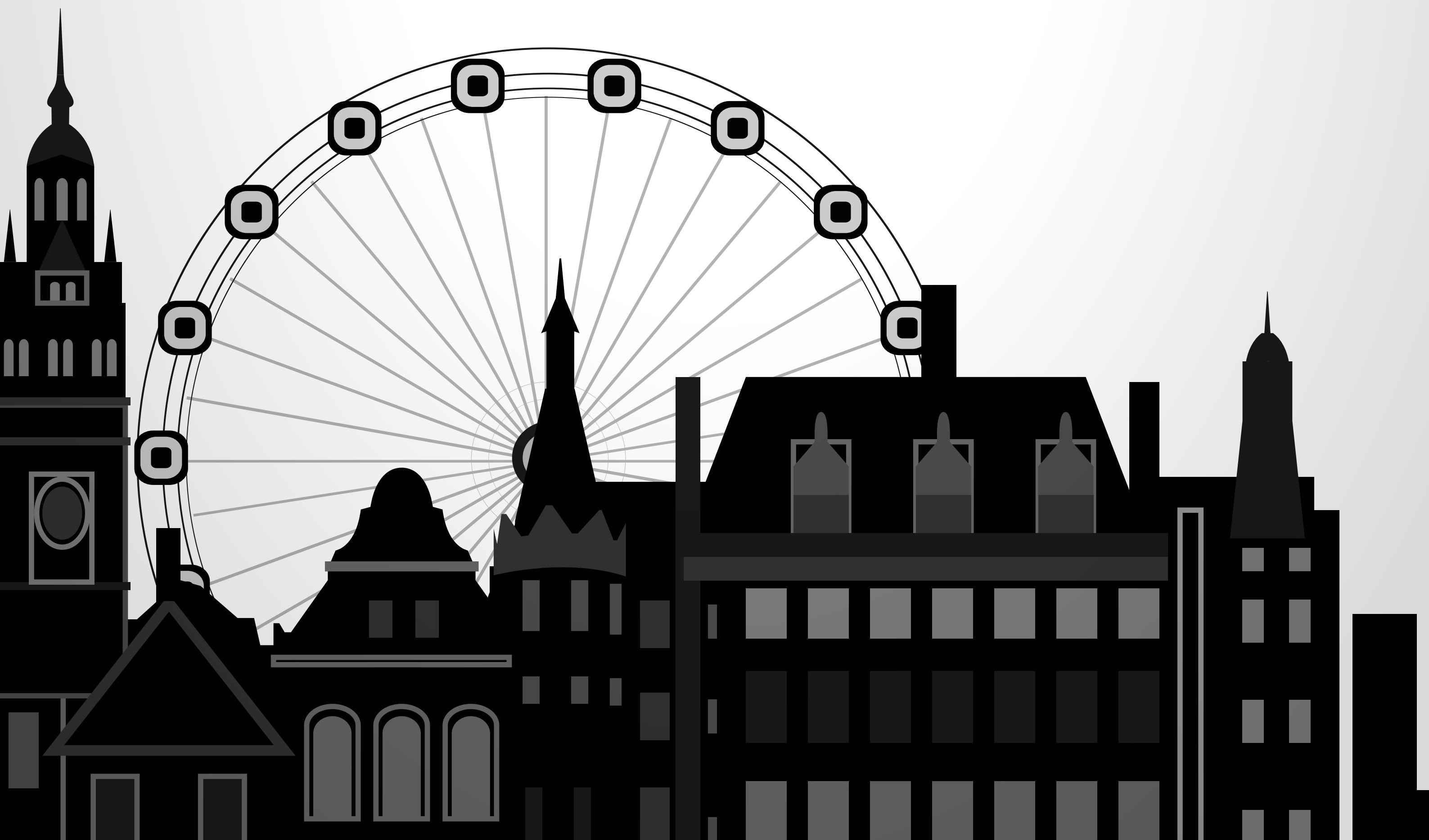


BY DAVID SMITH

HAVING BOND EXPOSURE IN A WORLD OF UNCERTAINTY

For an investor looking for income, the ability to invest in both equities and bonds can be beneficial, particularly in the current investment climate, says David Smith, Fund Manager of Henderson High Income Trust.

When economic growth is looking fragile and uncertainty creeps into equity markets, having the flexibility to diversify your exposure to different asset classes can be beneficial – particularly for income-seeking investors.

At **Henderson High Income Trust (LON:HHI)**, we have the ability to invest in bonds (government and/or corporate debt) in order to diversify the income generated from the underlying holdings and reduce the overall volatility of the Trust. In recent years, government and investment-grade corporate bonds (the higher quality bonds as defined by the rating agencies), have offered little in way of income for investors given the level of interest rates and bond yields. That has been reflected in the Trust's positioning with around 90% typically invested in equities. However, with yields becoming more attractive recently, we decided to move part of the portfolio out of equities and into bonds, specifically US investment-grade corporate bonds, including some well-known companies like Amazon and McDonald's.

End of cycle?

Over the past 12 months, there have been signs that the global economy is slowing at the same time as corporate profitability and equity markets are close to peak levels. Closer to home, the UK is surrounded by Brexit and political uncertainty, so we believe it is prudent to both move defensively and consider other markets for investment opportunities. Having the ability to own bonds and invest overseas are key benefits of the Trust in this regard.

Why US bonds?

With the Federal Reserve increasing interest rates, we saw an opportunity late last year to buy investment-grade US corporate bonds, yielding on

> **"WE SAW AN OPPORTUNITY LATE LAST YEAR TO BUY INVESTMENT-GRADE US CORPORATE BONDS, YIELDING ON AVERAGE AN ATTRACTIVE 4.5%, WHICH HASN'T BEEN POSSIBLE FOR SOME TIME."**


PATRIOT BOND
SERIES EE
INTEREST CEASES 30 YEARS FROM ISSUE DATE
2011
12
SERIES I
SERIES EE
INTEREST CEASES 30 YEARS
SERIES EE
INTEREST CEASES 30 YEARS FROM ISSUE DATE
UNITED STATES SAVINGS BOND
THE UNITED STATES OF AMERICA

average an attractive 4.5%, which hasn't been possible for some time. The rationale was twofold: firstly, it meant we could reduce our exposure away from equity markets by allocating more to bonds without impacting the income of the Trust; and secondly, it presented an opportunity to diversify away from the UK by buying the debt of US companies. Increasing the bond exposure also helps reduce the overall volatility of the Trust's net asset value (NAV), given bond prices, especially investment-grade credit, generally fall less than equities in more challenging economic environments. Having increased the Trust's exposure to US investment-grade bonds, the overall bond portfolio is now 19% of net assets.

Borrowing

The bond portfolio has always been a key feature of the Trust; it dampens the overall volatility of the NAV and offers a predictable revenue stream. The other important aspect of the Trust is its ability to use gearing*, especially to fund the bond portfolio given its relative stability, to help enhance the overall income of the Trust.

With the Trust's borrowing costs currently lower than the yield on the bond portfolio, we have utilised gearing fully to fund the bond portfolio, which boosts the revenue generation and helps support the Trust's 5.5% dividend yield. It also means that within the equity portfolio we don't have to chase the highest yielding areas of the market where dividend cuts and value traps are more prevalent. With this structure the equity portfolio can continue to own some high quality companies with attractive dividend growth prospects.

Given the increasing probability of an economic slowdown and uncertainties in the UK, we have utilised the Trust's ability to own bonds and invest overseas to position the Trust more defensively.

**Gearing is a measure of the debt level of a company. Within investment trusts it refers to how much money the trust borrows for investment purposes and is normally expressed as a percentage of net assets.*

About David

David Smith is the Fund Manager of Henderson High Income Trust at Janus Henderson Investors, a position he has held since 2014. David also manages a number of UK equity institutional funds. He joined Henderson in 2002, initially working in operations and progressing to the UK Equities Team, and is now part of the Global Equity Income Team. David graduated with a BSc degree (Hons) in chemistry from Bristol University. He holds the Investment Management Certificate and the Chartered Financial Analyst designation, with 17 years of financial industry experience. He is an avid sports fan, a lifelong Gunner and a triathlete.

BY FILIPE R. COSTA

INVESTING IN THE NEW TECHNOLOGY TRENDS

SHARING IN DISRUPTIVE TECHNOLOGIES

"Life can only be understood backwards; but it must be lived forwards."

— Søren Kierkegaard, Danish philosopher

Filipe R. Costa looks at how to get exposure to the technology trends of the future without incurring unnecessary risks.

Investors are always enthusiastic about new technologies, as they believe they can disrupt markets, attract millions (if not billions) of consumers and deliver big profits.

The past is filled with success stories that motivate investors to look for the next opportunity. But, what is often forgotten is that for each success there are many failures. Not all new technologies are disruptive and the hype may very well lack substance. A good example of this is the dot-com 'bubble'– a period of excessive speculation in internet stocks that led to an 80% drop in the value of the Nasdaq index when the bubble finally burst in 2000.

Nevertheless, investors will always be looking for disruption, and for companies that are able to deliver innovative and successful new products. Trying to tap into their fortunes will always be key to many investment strategies. This month, the Macro Investor looks at simple ways of 'playing the future' without incurring unnecessary risk; that is, in a way that is accessible to individual investors.

Two classic ETFs

From the perspective of an individual investor, it is difficult to gain exposure to a sector or theme without being exposed to too much risk. The problem is not a new one: for a portfolio to be properly diversified, it must contain at least 20 to 30 stocks,

"INVESTORS ARE ALWAYS ENTHUSIASTIC ABOUT NEW TECHNOLOGIES, AS THEY BELIEVE THEY CAN DISRUPT MARKETS, ATTRACT MILLIONS (IF NOT BILLIONS) OF CONSUMERS AND DELIVER BIG PROFITS."

"XLK HAS SURVIVED THE UPS AND DOWNS OF THE MARKET FOR MORE THAN 20 YEARS, AND ITS ASSETS UNDER MANAGEMENT HAVE INCREASED TO $20 BILLION, WHICH MAKES IT THE LARGEST FUND COVERING THE SECTOR TODAY."

and it is often expensive and time-consuming to choose them. Also, new technologies are risky by nature (the drop in the Nasdaq index between 2000 and 2002 is proof of this), so investing in these may require expanding the number of stockholdings further, to keep risk at a bearable level. To avoid the risks and minimise transaction costs, buying an ETF is therefore by far the best option for individual investors.

When it comes to investing in technology ETFs, investors have two main types to choose from. The first takes the traditional approach, of focusing on technology as a sector, and the other looks at technology as a theme, covering multiple sectors.

Let's start by looking at the more traditional approach.

Technology Select Sector SPDR Fund (NYSEARCA:XLK)

XLK is the largest ETF covering the technology theme. It was created more than 20 years ago, which means it has a long track record for investors to review. The fund has followed its mandate successfully, is well balanced – covering investments across all technology subsectors, and has achieved high returns with a low level of volatility. Top holdings include Microsoft, Apple, Visa, Cisco and Mastercard, with the first two companies accounting for more than 35% of the portfolio.

XLK has survived the ups and downs of the market for more than 20 years, and its assets under management have increased to $20 billion, which makes it the largest fund covering the sector today. With returns growing at an annualised pace of 15.9% during the last 10 years and an expense ratio of just 0.13%, XLK is certainly a good fit.

While this ETF is certainly well managed, it has its limitations, mainly as a result of its large asset base, estimated at $20 billion. As an individual investor, you can easily buy shares of smaller capitalisation stocks without significantly affecting market price. However, that is not the case with this ETF. With $20 billion to deploy across around 100 different stocks, the portfolio manager would be looking to buy on average $200 million worth of a single stock, and in the small-cap world, that would represent something between 20% and 100% of a company's market capitalisation.

So, while XLK is a fit for most investors looking for a tilt towards the technology sector for a reasonable risk level, it does not offer true exposure to the ground-breaking advances that most often come from smaller companies.

While companies like Amazon and Apple maintain the lead in their respective markets in terms of revenue, the most disruptive technologies do not come from these companies.

Vanguard Information technology ETF (NYSEARCA:VGT)

VGT is another broad ETF that offers exposure to the technology sector. Created 15 years ago, VGT has grown to $20 billion – a similar size to XLK, and has an expense ratio of only 0.10%. While the fund's exposure is targeted towards information technology, the top holdings are essentially the same as those held in XLK.

These two funds cannot diverge too much from each other because there is no other place where the fund managers can invest such large sums of money. In fact, the correlation between the two funds is 0.96. The correlation between them and the broad market, here represented by the **SPDR S&P 500 ETF (NYSEARCA:SPY)**, is around 0.90. These figures help to confirm the thesis that large ETFs do not diverge too much from the broad market.

CORRELATIONS BETWEEN SPY, XLK AND VGT

Asset correlations for 30/01/2004 – 20//06/2019 based on daily returns

Ticker	Asset	SPY	XLK	VGT
SPY	SPDR S&P 500 ETF	-	0.91	0.89
XLK	Technology Select Sector SPDR ETF	0.91	-	0.96
VGT	Vanguard Information Technology ETF	0.89	0.96	-

Source: Portfolio Visualizer

The annualised returns and volatility are pretty similar for both XLK and VGT. In the end, and for the sake of being exposed to the technology sector, it makes little difference which one you choose. Due to the similarity between them, investors should think twice before deciding to invest in both. With the correlations so close to 1, investing £10,000 in each is similar to investing £20,000 in just one of them, in terms of risk.

In summary, for investors looking for a tilt towards technology stocks, both XLK and VGT options are fine. However, neither provides true exposure to the growth trends and technologies of the future.

A few more options

One of the biggest issues around equity indexes is the weight given to large capitalisations. Most broad-based indexes are capitalisation-weighted (like the S&P 500), which means companies like Apple, Microsoft and Amazon have a lot more price impact on the index than say Hasbro or Expedia.

Smaller companies tend to outperform larger ones over the long run. When investing in a capitalisation-weighted index or in the vast majority of ETFs, like XLK and VGT, an investor misses such size effect.

One way of getting exposure to the 'size factor' is to invest in an equally weighted portfolio. By definition, an equally weighted portfolio spreads available funds across all holdings equally. In this case, a change in price of a small cap would have the same impact on the portfolio as the exact same change in price of a large cap. The size factor is then amplified (for more on the size factor, please see Master Investor Magazine April 2019 Issue 51 p. 38-45).

While it is easy to build an equally weighted portfolio, it is almost impossible to keep it equally weighted over time, because it requires rebalancing at least every three months. This could lead to potentially unaffordable transaction costs for an individual investor. However, as they invest on a much larger scale, fund managers can mitigate such costs.

Subthemes of new technologies

The new technologies and trends can be categorised under 10 different subthemes:

Healthcare innovation

Innovation in the healthcare sector has been mainly concentrated on the development of new diagnostic procedures, therapies, drugs and medical devices.

ETFs covering this subtheme: ***iShares U.S. Medical Devices ETF (NYSEARCA:IHI), ARK Genomic Revolution Multi-Sector ETF (NYSEARCA:ARKG)***

Internet of things

This relates to the internetworking of physical devices, buildings and other items embedded with electronics, software, sensors and network connectivity, which enables these objects to communicate with one another, and to collect and exchange data.

ETFs covering this subtheme: ***Global X Internet of Things Thematic ETF (NASDAQ:SNSR)***

Clean Energy

Given increasing concerns about the environment, the developed world is looking for energy generated by power stations that use clean or renewable resources such as the sun, wind, waves and water, all of which release a minimal amount of greenhouse gases.

ETFs covering this subtheme: ***iShares Global Clean Energy ETF (NASDAQ:ICLN), Invesco WilderHill Clean Energy ETF (NYSEARCA:PBW)***

Cloud computing

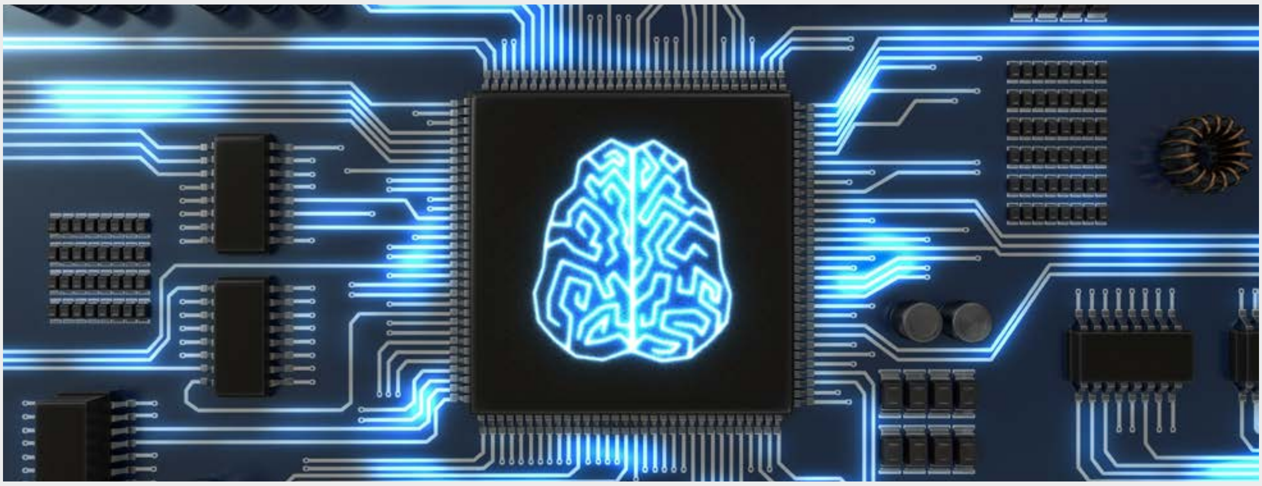
Cloud computing is the delivery of computing services in the form of servers, storage, databases, networking, software and analytics over the internet. Modern life depends heavily on these services.

ETFs covering this subtheme: ***First Trust ISE Cloud Computing Index Fund (NASDAQ:SKYY), Global X Cloud Computing ETF (NASDAQ:CLOU)***

Data and analytics

Data and analytics enables business users to process data faster, removing the traditional need for sampling and then applying models. It allows for a much faster and cheaper data collection and investigative treatment.

ETFs covering this subtheme: ***Global X Future Analytics Tech ETF (NASDAQ:AIQ)***



Fintech

Fintech describes an emerging financial-services sector. It includes innovations in financial literacy and education, retail banking, investment and blockchain technology.

ETFs covering this subtheme: ***Global X FinTech Thematic ETF (NASDAQ:FINX), ARK Fintech Innovation ETF (NYSEARCA:ARKF)***

Robotics and artificial intelligence

Through robotics and artificial intelligence, companies are replacing humans with machines to do routine tasks. Artificial intelligence involves an attempt to recreate the human thought process; a man-made machine with our intellectual abilities.

ETFs covering this subtheme: ***ROBO Global Robotics and Automation Index ETF (NYSEARCA:ROBO), Global X Robotics & Artificial Intelligence Thematic ETF (NASDAQ:BOTZ), First Trust Nasdaq Artificial Intelligence and Robotics ETF (NASDAQ:ROBT)***

Cybersecurity

Cybersecurity involves protecting information and systems from major cyber threats, such as cyber terrorism, cyber warfare and cyber espionage. In their most disruptive form, cyber threats take aim at secret, political, military or infrastructural assets of a nation or its people.

ETFs covering this subtheme: ***ETFMG Prime Cyber Security ETF (NYSEARCA:HACK), First Trust NASDAQ CEA Cybersecurity ETF (NASDAQ:CIBR)***

3D Printing

3D printing has great disruptive potential in a wide variety of industries as diverse as apparel, medicine and product repair.

ETFs covering this subtheme: ***3D Printing ETF (BATS:PRNT)***

Mobile Payments

Mobile payments are revolutionising the way we make payments and transfer money. The traditional means are being replaced by new technologies that allow for faster transactions. Debit and credit cards are becoming intelligent and phone apps allow for instant payments and transfers of money.

ETFs covering this subtheme: ***ETFMG Prime Mobile Payments ETF (NYSEARCA:IPAY)***

Invesco S&P 500 Equal Weight Technology ETF (NYSEARCA:RYT)

One potential option for investors looking for broad-based exposure to the technology sector while benefiting from the size factor is the Invesco S&P 500 Equal Weight Technology ETF. This ETF tracks the S&P Equal Weight Information Technology Index, spreading funds equally across the portfolio and then rebalancing the holdings from time to time. Its annualised performance has been around 17.9% for the last 10 years, surpassing that of the ETFs reviewed above. RYT offers a good tilt towards the information-technology sector at a decent price (the expense ratio is 0.40%).

Other broad-based technology ETFs

Other options for investors seeking broad exposure to technology stocks are the **iShares US Technology ETF (NYSEARCA:IYW)**, the **iShares Global Tech ETF (NYSEARCA:IXN)** and the **Fidelity MSCI Information Technology Index ETF (NYSEARCA:FTEC)**, among many others. All three of these funds are highly correlated with the funds reviewed above and therefore offer more or less the same in terms of risk-return profile.

IXN is a fund with exposure to Europe, Asia and the US. Its correlation with both XLK and VGT is high, at 0.98 but the expense ratio is higher, at 0.47%. IYW is another ETF that adds little additional value to the options reviewed above. Lastly, FTEC deserves a mention due to its very low expense ratio, of just 0.08%. Still, the expense ratio is not that much different from that offered by XLK and VGT. With a shorter track record and inferior liquidity, I would still prefer the others.

Targeting themes and trends

GS/Motif ETFs

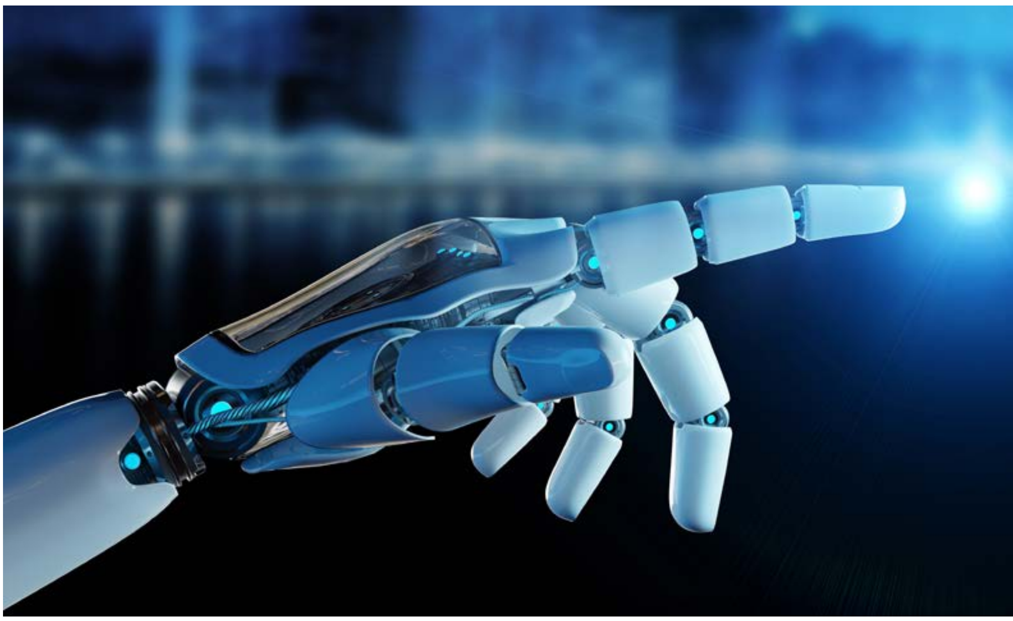
In a previous issue (Master Investor Magazine April 2019 Issue 49 p. 44-49), I looked at the new partnership between investment giant Goldman Sachs and a small company called Motif, which led to the creation of five new ETFs, focused on emerging trends. Motif is a data-driven company that aims to explore data to create portfolio themes. The company offers several pre-built portfolios which investors can proxy with just a few dollars. It is a kind of ETF alternative, but cheaper and simpler.

Motif and Goldman Sachs have created five ETFs that play new trends in a different way from traditional sector funds. The new technologies are expected to be disruptive in the sense that they represent new ways of producing and distributing. They may appear in any sector − not specifically in the technology sector. With this in mind, instead of covering an entire sector, these ETFs try to capture specific themes, as follows:

- **GS Manufacturing Revolution (NYSEARCA:GMAN)**
  GS Manufacturing Revolution invests in companies that are positioned to benefit from the technology-driven transformation of the manufacturing industry, which includes exposure to new processes, products and energy sources.

- **GS Motif Human Revolution (NYSEARCA:GDNA)**
  GS Motif Human Revolution targets companies that are expected to benefit from advances in medical treatment and technology, like robotic surgery, precision medicine and gene-therapy care. This ETF targets, almost exclusively, healthcare companies that are expected to dominate the future.

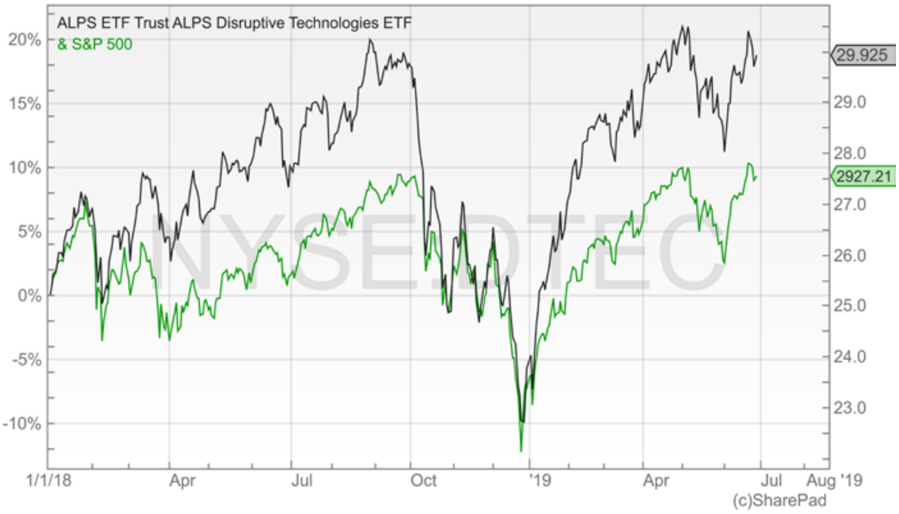
- **GS Motif Finance (NYSEARCA:GFIN)**
  GS Motif Finance invests in companies that are expected to benefit from a change in the way financial services are conducted. These companies are exposed to the digitisation of traditional banking services and to the development of new technologies, like blockchain.



"INDIVIDUAL INVESTORS CAN NOW GET A PIECE OF THE MARKET WITHOUT INCURRING TOO MUCH RISK, WITH ETFS PROVIDING DIVERSIFICATION BENEFITS AT A FRACTION OF THE COST."

- **GS Motif Data-Driven World (NYSEARCA:GDAT)**
  Targeting companies that are benefiting from the proliferation of data, GS Motif Data-Driven World provides exposure to information technology and capitalises on data storage, security and analysis.

- **GS Motif New Age Consumer (NYSEARCA:GBUY)**
  GS Motif New Age Consumer invests in structural shifts in the way we consume goods and services.



ALPS Disruptive Technologies ETF (DTEC)

ALPS Disruptive Technologies (ALPS) is another theme-based ETF that attempts to take advantage of global companies entering traditional markets with new forms of production and distribution, which are likely to disrupt the market, thereby providing high potential returns for investors.

ALPS attempts to capture 10 different themes within nascent technology trends, such as healthcare innovation; internet of things; clean energy and smart grid; cloud computing, data and analytics; fintech; robotics and artificial intelligence; cybersecurity; 3D printing; and mobile payments. At the same time, the size factor is present in this ETF, as it distributes its money equally among 100 companies.

It is exposed to the US (67%), Europe (23%) and Asia (10%). In terms of capitalisations, large caps represent 56% of the total holding, mid-caps 26%, small caps 11% and micro caps 8%. This structure is possible because it only has $68 million assets under management.

In my opinion, ALPS is one of the best ETFs for gaining exposure to the trends of the future, because it is theme-based, spreads its funds across different promising subsectors and also invests in smaller capitalisations. Still, liquidity is certainly not as good as that of XLK or VGT.

A few final words

Investing in technologies that will lead the world is easier through the use of ETFs. Individual investors can now get a piece of the market without incurring too much risk, with ETFs providing diversification benefits at a fraction of the cost. Still, investors must be careful when investing in more than one ETF, because many of them are very similar and therefore provide little value in terms of diversification.

For the risk-averse investor, XLK and VGT provide a good balance between risks and access to new technologies. For the less risk-averse investor who seeks a more targeted approach, the new Goldman Sachs/Motif ETFs are options worth considering, as is the DTEC ETF.

About Filipe

Filipe has been a contributor to Master Investor since the earliest years. His specialisation is monetary policy, macro issues and behavioural finance where he allies the practical experience of several years of trading with academic credentials. Filipe in fact teaches courses on Financial Markets and Monetary Economics at the University of Oporto Faculty of Economics, helping traders maximise profits and better manage risk.

BY DAVID JONES

CHART NAVIGATOR

CHARTS MADE SIMPLE

Using breakouts can be an effective way of tilting the laws of probability in your favour when it comes to trading and investing, explains David Jones.

Given that at the time of writing, the S&P 500 Index is reaching all-time highs, this is an opportune moment to return to the subject of break-out-signal analysis. This is a very simple chart strategy to apply, which uses that most basic of charting and technical-analysis techniques: trading with the trend.

What is a breakout?

This is an obvious question and has a simple answer. As we are talking about chart signals, the easiest way to explain it is through a chart, with a clear example.

The share-price movements of this UK-listed drinks business illustrate exactly what we mean when talking about breakouts – and just how powerful they can be. The two arrows highlight the peaks for the **Diageo (LON:DGE)** share price, just ahead of the 2,900p mark, in July and December 2018. I think we all realise that markets do not move up or down in a straight line: there is an ebb and flow between buyers and sellers, and during this last six months of 2018, the consensus view was that Diageo was too expensive at 2,900p. As a result, the share price could not 'break through', and in came the sellers pushing the price back down. To use charting parlance, the previous highs were

Diageo June 2018 to June 2019


70.111
44.870
20.556

acting as a barrier known as a 'resistance level'.

But at the end of January 2019 and into February, this situation changed and the share started moving through the barrier – this is the breakout signal. Clearly sentiment towards Diageo had changed. Perhaps it was due to better-than-expected results, a different strategy or a new director. Whatever the reason (and the 'pure' chartist will not spend too much time analysing this), suddenly, the tables turned and investors were happy to carry on buying Diageo at, and beyond, the old resistance barrier. This can be the first sign that a new trend is underway – and this did actually prove to be the case here, with the price rising by more than 13% over the next five months.

Of course, I could be accused of picking a 'well-chosen example', and that would be fair criticism. Breakouts definitely do not work all the time, which brings us on to the next point.

London Stock Exchange Group August 2018 to June 2019

When is a breakout not a breakout?

Unfortunately, we only ever know this with hindsight. Here's another example to illustrate the point.

Like Diageo, the share price of **Legal & General (LON:LGEN)** had struggled with a resistance barrier on a couple of occasions. In this case it was 285p per share – a level reached on May 2018 and March 2019. But during April this changed, and the price moved through this old barrier, trading above the resistance level for the best part of a week. This had all the hallmarks of a breakout and quite possibly of the start of a new trend.

But it turned out to not be the case. Over the next six weeks the share price dipped back below the breakout level – and actually fell by 12%. We can therefore see that breakout analysis does not work all the time and, in my experience, there is no hard and fast rule to identify a genuine breakout signal. So, what can we do? Let's explore some ideas.

> **"THERE IS NO HARD AND FAST RULE TO IDENTIFY A GENUINE BREAKOUT SIGNAL."**

Legal & General March 2018 to June 2019

Giving the breakout time – patience may pay off

Even in cases of a real breakout, it rarely means that as soon as the resistance level is broken the share price is going to just soar away parabolically. There can still be a fair amount of ebb and flow between buyers and sellers at these new levels, trying to establish value, so waiting to see how the price performs can provide a more considered entry point.

This is similar to the previous two breakout charts. The share price hits a level a couple of times, but cannot push past it. In the **LSE (LON:LSE)** example shown above, the resistance is around the 4,800p area. During April 2019 this level finally gets broken and the share price spends three days pushing through it. But over the next

"THE SIMPLE APPROACH OF LOOKING FOR POTENTIAL BREAKOUTS – PARTICULARLY IN STRONG TRENDING MARKETS SUCH AS THOSE WE HAVE EXPERIENCED RECENTLY – CAN BE AN EFFECTIVE WAY OF IDENTIFYING SHARES THAT HAVE REAL MOMENTUM BEHIND THEM AND WHERE THERE HAS QUITE POSSIBLY BEEN A FUNDAMENTAL SHIFT IN SENTIMENT."

three days the price drops back. Then sentiment swings back to positive, the share price recovers and it pushes through the highs set after the breakout signal first appeared.

This may well be the right set of circumstances for the more cautious investor, and it can be broken down into three steps.

First of all, the price breaks through the previous resistance area, suggesting sentiment is shifting and a new trend could be underway. This is the alert to the investor to pay more attention.

After a flurry of strength, the price starts to drop back. This is where we are watching for clues as to whether the breakout is a false one – or whether this is just a normal correction before the price moves higher still.

Step three is a recovery in the price – and a move through that short-term high set shortly after the price initially broke out. It is important to understand that there are no guarantees of further gains – but hopefully, by applying a little bit of patience, we are helping to stack the probabilities in our favour that this breakout was not just a 'flash in the pan'.

I think many people are guilty of overcomplicating charting and technical analysis. Your screen does not have to be a mess of lines, moving averages and Fibonacci projections. After all, a market can only do one of three things: go up, go down or move sideways. The simple approach of looking for potential breakouts – particularly in strong trending markets such as those we have experienced recently – can be an effective way of identifying shares that have real momentum behind them and where there has quite possibly been a fundamental shift in sentiment. They incorporate all of this plus the all-important principle of trading with the trend. As previously mentioned, breakout analysis is not a guaranteed winner, but it can be another effective way of tilting the laws of probability ever so slightly in your favour, which hopefully leads to some profitable trading and investing opportunities.

Charts of the Month

Let's stick with the theme of breakouts for the Charts of the Month.

Investec

To start off, here is a potential breakout which could be worth keeping an eye on in the weeks ahead. The chart of financial-services business **Investec (LON:INVP)** shows the share price bumping up against resistance.

If there was just a little more strength at the point where the share price is currently trading – for instance driving it up to 520p – then the potential breakout will be on. Of course, that does not necessarily mean that an investor would want to take action straight away. Using the three-step approach outlined above, give it some time for the ebb and flow to evolve, before judging the validity of the break. However, this example of resistance is at a fairly high level and has been in place since November last year, so it will be interesting to see if this level is finally broken through during the summer.

Grafton Group

This example of support-services business **Grafton (LON:GFTU)** demonstrates a very long-term breakout. The 'candlesticks' in the chart show monthly movements and that the resistance barrier was first established way back in February 2007. It was tested again in May 2015 and, once more, the share price could make no progress beyond 875p. During late 2017 and early 2018 the share price pushed close to it, but yet again, out came the sellers.

However, in the last three months, there have been some developments, and as it is such a long-term chart, investors can take an even more relaxed approach with this one. The share price touched the 938p area in May, and the third step here – assuming this is going to be a valid breakout – would be for share-price strength to resume and for that high to be broken. It will be interesting to see where this share price finishes up by the end of 2019.

"I THINK MANY PEOPLE ARE GUILTY OF OVERCOMPLICATING CHARTING AND TECHNICAL ANALYSIS. YOUR SCREEN DOES NOT HAVE TO BE A MESS OF LINES, MOVING AVERAGES AND FIBONACCI PROJECTIONS."

About David

David Jones qualified as a technical analyst in 1995 and started his City career as a currency analyst. He then went on to work for trading companies CMC Markets and IG Group as Chief Market Strategist. Since leaving the industry in 2013 he has been a presenter on BBC Radio 5 Live's Wake up to Money programme and the Chartist for Shares magazine. He is an active trader and private investor.

BY NICK SUDBURY

FUNDS & TRUSTS IN FOCUS

THE BEST TECHNOLOGY FUNDS

Nick Sudbury uncovers some of the best funds and trusts for investors to gain exposure to the technology sector.

It is hard to think of a more dominant sector of the market than technology. Innovative companies that develop or make the best use of key advancements are able to grow astonishingly quickly, often becoming global leaders in the space of a decade, something that was previously unheard of.

Technology is now an integral part of everyone's daily life and affects almost everything we do. At its best, it can completely change established business models and processes, transforming whole industries and creating brand-new market leaders.

The problem at the moment is that many feel that the sector is somewhat on the expensive side, with the technology-laden NASDAQ back near its all-time highs. Unfortunately, it is a difficult area to value, as these high-growth companies often have little in the way of visible earnings or profits until their true potential is actually realised.

Adrian Lowcock, head of personal investing at Willis Owen, says that most of the high valuations are attributed to a few large companies that are seen as the 'only game in town' in their area of operation, such as Amazon and Facebook:

"The risk with these is that new investors are effectively being asked to pay a hefty premium for tomorrow's profits, which usually means that returns in the future will not be as attractive as those we have already seen."

Recent initial public offerings from the likes of Lyft and Uber have been disappointing, yet some of the giant technology companies still appear to be fairly good value, using traditional metrics. For example, Apple's P/E ratio is around 16, which is below the S&P 500 at about 20 times earnings, whilst Microsoft is slightly above, at 28 times. This is not cheap, but is not all that unreasonable for a technology company.

Darius McDermott, managing director of Chelsea Financial Services, says that in the short term they would be wary of investing a

"RECENT INITIAL PUBLIC OFFERINGS FROM THE LIKES OF LYFT AND UBER HAVE BEEN DISAPPOINTING, YET SOME OF THE GIANT TECHNOLOGY COMPANIES STILL APPEAR TO BE FAIRLY GOOD VALUE, USING TRADITIONAL METRICS."

lot of money in the sector, but over the long term they think it is still very exciting:

"Long-term trends such as artificial intelligence and virtual reality could see technology transform very quickly again, but there are some near-term worries like the US-China trade war where a ban like Google suspending its links with Huawei, and its effect on 5G could do some real damage."

Open-ended technology funds

Ben Willis, head of portfolio management at Chase de Vere Independent Financial Advisers, says that many people are still nervous about the prospect of investing in technology after the dramatic boom and bust at the beginning of the millennium:

"This lives long in the memory of investors, many of whom suffered significant losses after investing near to the top of the market and then watching as prices went into freefall. However, today's technology funds are more likely to be filled with established companies such as Apple, Microsoft, Alphabet and Samsung, than many of the dot-com companies and other fledgling firms from back then."

If you want to benefit from this sort of exposure, there is a handful of specialist technology funds to choose from, although it is worth bearing in mind that other equity funds in your portfolio will already be investing in the sector:

"Most investors will be gaining exposure to these companies through global and US-equity funds in particular. This is because the technology sector is heavily focused towards the US and is a big component of the US-equity market, making up about 20% of the S&P 500, while the US-equity market also makes up about 50% of global benchmark indices," explains Willis.

"FUNDAMENTAL ANALYSIS IS PROBABLY EVEN MORE IMPORTANT HERE THAN IN ANY OTHER MARKET."

The Investment Association's Technology and Telecommunications sector contains only 15 funds, the majority of which are actively managed and invest in technology companies from around the world. Most of these businesses are listed in the US, so even the more diversified funds such as **Fidelity Global Technology** and **Polar Capital Technology** have 61% and 70% respectively invested in the country.

Lowcock says that the technology sector is full of promising ideas, but many of these businesses end up as commercial 'dead-ends' or don't fully realise their potential:

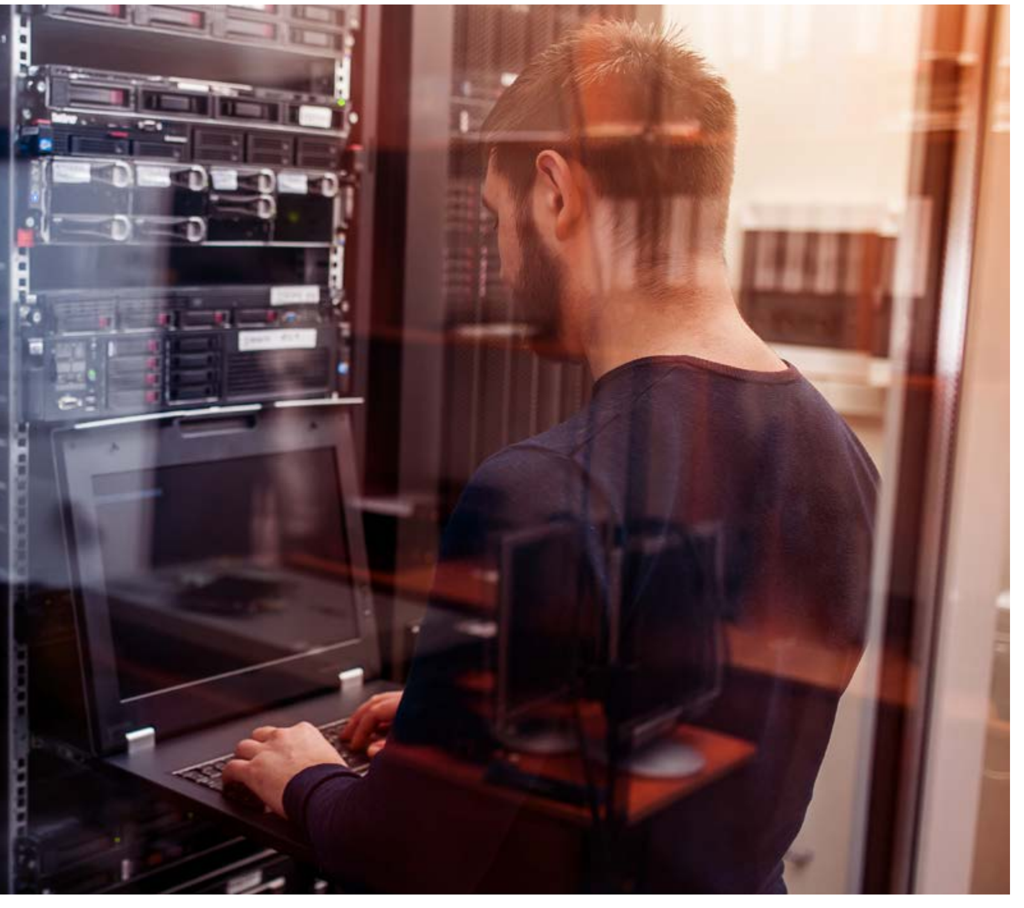
"Fundamental analysis is probably even more important here than in any other market. Technology stocks are potentially high growth, but require a lot of investment to achieve that growth, so the fund managers who operate in the sector need to understand the business, the management team and the risks before they support a company by investing in it."

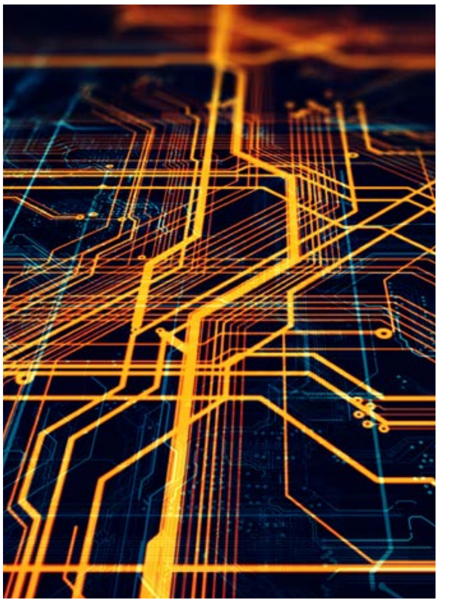
Top picks

McDermott and Willis both like the £684m **AXA Framlington Global Technology** fund that benefits from having an experienced manager in Jeremy Gleeson, who has been running the fund for more than a decade.

Gleeson looks for new technology with proven commercial viability and avoids the blue-sky companies with good ideas, but zero income and burgeoning development costs.

"We think his level-headed commitment to finding new opportunities with strong commercial potential, and ignoring yesterday's winners, coupled with his and his team's vast experience, may make the fund an appealing option for investors seeking technology exposure," explains McDermott.





"OVER THE LAST 10 YEARS, THE POLAR CAPITAL TECHNOLOGY INVESTMENT TRUST HAS RETURNED AN IMPRESSIVE 602%, WHICH IS WELL AHEAD OF BOTH THE DOW JONES GLOBAL TECHNOLOGY BENCHMARK AND THE PEER GROUP."

The manager has put together a concentrated 63-stock portfolio with the 10 largest positions accounting for 39% of the assets. These are mainly the mega caps like Alphabet, Apple, Cisco, Visa and Facebook that dominate the sector. The fund has ongoing charges of 0.82% and over the last 10 years has returned 534%.

Lowcock prefers the £2,650m **Polar Capital Global Technology** fund, which is the best performer in the sector over 10 years with a return of 587%. He says that the managers, Nick Evans and Ben Rogoff, believe that they can add value by investing in companies that offer new, disruptive technologies:

"This is a process that combines thematic analysis, to identify the growth areas of the industry, with rigorous company analysis. The managers have proved themselves able to implement it with discipline, combining adept stock picking with thoughtful consideration of the broader market."

Evans and Rogoff have put together a 71-stock portfolio and although the largest holdings include the likes of Microsoft, Alphabet and Alibaba, there is a definite bias towards smaller-cap companies with strong growth prospects. This inevitably means that the volatility is higher than that of some of their peers, although long-term investors have been well-rewarded for the extra risk.

One of the main downsides is that it is very expensive, with ongoing charges of 1.65%. There is also a performance fee that is applied to the outperformance of the benchmark, the Dow Jones Global Technology Net Total Return Index.

A passive alternative

In theory, this is an area where a decent fund manager should be able to add considerable value via their stock-selection skills, but if you prefer a cheaper, passive alternative there are a couple of index trackers as well as various ETFs.

Willis likes the £356m **Legal & General Global Technology Index Trust** that tracks the performance of the information-technology sector of the FTSE World Index. This consists of 177 stocks, but is dominated by the US technology giants Apple, Microsoft, Alphabet and Facebook, that account for 41.6% of the portfolio. Over the last 10 years the fund has returned 424% after deduction of the ongoing charges of 0.7% per annum.

It could hardly be more different to the £38m **Close FTSE TechmMark** that invests in UK technology companies in the FTSE techMARK All-Share Index. Over the last five years the fund has returned just 73% – partly due to the weakness in the domestic stock market – but over 10 years the figure rises to a more impressive 290%.

McDermott says that for a technology fund, avoiding the losers is just as important as picking the winners, because some companies have good ideas but can't make a profit, so an index fund isn't always the best place to be:

"Also, some of the technology stocks are so big – the top five holdings in the Legal & General fund are 40% of the portfolio – that you have to be sure the big companies will do well."

Investment trusts

There are only four specialist investment trusts that concentrate on the technology sector, with the largest being the £1.9bn **Polar Capital Technology (LON:PCT)** investment trust. Lead manager Ben Rogoff, who has been running it since May 2006, has put together a more diversified 115-stock portfolio than his open-ended fund, with the largest positions including the likes of Microsoft, Alphabet, Apple, Facebook and Tencent.

Rogoff believes that the continuing emergence of the next technology cycle is having a disruptive effect on many of the sector's existing large-cap incumbents. This explains why he has an underweight position in large-cap stocks relative to the benchmark and has a zero weighting in many of the companies viewed as legacy providers. At 0.99%, the ongoing charges are much cheaper than his open-ended fund, yet the performance has been very similar in recent years.

Over the last 10 years, the Polar Capital Technology investment trust has returned an impressive 602%, which is well ahead of both the Dow Jones Global Technology benchmark and the peer group. However, the analysts at Winterflood believe that the manager's benchmark awareness might limit the returns relative to a less constrained approach – such as that taken by the fund of the month, **Allianz Technology Trust (LON:ATT)** – given the fast-paced dynamic nature of the sector and the fact that it is undergoing significant change.

If you are looking for a different type of exposure there is the £1,052m **Herald Investment Trust (LON:HRI)** that invests in smaller quoted companies in the areas of communications, multimedia and technology. The fund has a global mandate, although over half of the portfolio (53%) is currently in stocks listed in the UK.

Small-cap technology stocks are under-researched relative to the mega caps and can be inefficiently priced, al-

"SMALL-CAP TECHNOLOGY STOCKS ARE UNDER-RESEARCHED RELATIVE TO THE MEGA CAPS AND CAN BE INEFFICIENTLY PRICED, ALTHOUGH THE ONUS IS ON THE FUND MANAGER TO BE ABLE TO PICK THEM OUT."

Fund of the month

The **Allianz Technology Trust (LON:ATT)** has been around for almost 25 years and with assets of £544m is a decent size without being unwieldy. It benefits from having an experienced and well-resourced management team that is based near Silicon Valley in California, which puts it close to the headquarters of many of the large global technology companies.

Manager Walter Price has been investing in these sorts of stocks for over 40 years and has put together a relatively concentrated 75-stock portfolio. He tends to favour mid-cap higher-growth businesses, which means that the largest positions include less-familiar companies such as Paycom Software, Zscaler, Okta, Cree and Twilio.

Price looks for companies that are addressing major growth trends with innovation that replaces existing technology, or radically changes products and services and the way in which they are supplied.

He says that they are seeing an ongoing wave of innovation that they believe has the potential to produce attractive returns for companies with best-in-class solutions. Despite the high valuations for some of the higher-growth companies, they continue to see massive addressable markets that will support much larger revenue streams.

Winterflood believes that Allianz Technology is well-placed to outperform its benchmark over the longer term and it is one of their recommendations for the year. The shares have returned 655% over the last 10 years and are currently trading on a premium of 2%.

Fund facts

Name:	Allianz Technology Trust (LON:ATT)
Type:	Investment Trust
Sector:	Technology
Total assets:	£544m
Launch date:	December 1995
Current yield:	0%
Gearing:	0%
Ongoing charges:	0.92%
Website:	www.allianztechnologytrust.com

though the onus is on the fund manager to be able to pick them out. There is also the added attraction that they might be snapped up by their larger peers, especially as many of the US technology giants are holding substantial amounts of cash on their balance sheets.

Herald has ongoing charges of 1.15% and has delivered a 10-year share-price return of 432%, yet the shares are currently trading on a hefty discount of 14%.

A more specialised option is **Augmentum Fintech (LON:AUGM)**, a relatively new £103m fund that invests in a concentrated portfolio of fast-growing, unquoted fintech businesses in the UK and Europe. Around £25m of the cash raised at the IPO in March 2018 is yet to be committed and more shares are to be issued, to take advantage of an exciting pipeline of new opportunities.

The fund's largest investments include holdings in Zopa, a well-established peer-to-peer lending platform that is well on the way to launching a next-generation bank; Interactive Investor, which will soon be the country's second-largest direct-to-consumer stockbroker; and Monese, which mainly provides banking services to those who work abroad and need a local bank account.

Each new deal is typically in the range of £2m to £6m and the holdings are then actively managed with a view to positively influencing any future financing rounds and the eventual exits, with the aim being to return up to 50% of the gains on disposal. The shares are currently trading on a 3% premium.

About Nick

Nick Sudbury is an experienced financial journalist who has written extensively for a range of investment publications aimed at both private and institutional investors. Before moving into journalism he worked both as a fund manager and as a consultant to the industry. He is a fully qualified accountant and has an MBA with finance specialism.

BY JOHN KINGHAM

DIVIDEND HUNTER

THREE HIGH-YIELD 'BARGAINS'

John Kingham looks at three companies in his portfolio that have yields of over 7%. Is 'Mr Market' right to be so pessimistic about these three 'high-yielders'?

Sometimes companies can do nothing wrong. Every year their revenues, profits and dividends go up, and every trading update beats the market's expectations. The share price rises in an almost straight line for years on end and investors are ecstatic.

But this fairy-tale scenario almost never lasts. Either the company makes a mistake; some external factor such as the economic cycle or an aggressive competitor undermines the company's performance; or the share price starts to fall when a small number of investors decide to take profits. At this point, a significant number of investors start to get nervous, so they sell some shares. That pushes down the share price, which makes them more nervous, so they sell more shares. In a relatively short period of time the share price collapses as investor sentiment turns 180 degrees from adoration to repulsion.

As the years tick by I've seen this over and over again. Sometimes Mr Market is right and the company heads into long-term decline, but sometimes he's wrong and within a year or three, it's clear that Mr Market's negative reaction was completely overdone.

Three companies in my portfolio are currently in the middle of just such a 'storm'. Their dividend yields are all over 7% and there are obvious and entirely plausible reasons why each company might be about to cut its dividend. However, no dividend cuts have yet been announced (apart from a tiny cut in one case) and so it's impossible to tell, yet, whether Mr Market is right to be so pessimistic.

Although we cannot know how each of these situations will end, each company is a source of many lessons about what can go wrong with an investment, as well as the sort of ups and downs you should expect when you invest directly in individual companies (which is why it's such a good idea to have a diversified portfolio of at least 20 to 30 companies operating in different sectors, countries, etc.)

Ted Baker – going out of fashion?

Ted Baker PLC (LON:TED)
Share price: 800p
Price decline: 75%
Dividend yield: 7.1%

Ted Baker is a global fashion brand selling clothing and other Ted Baker branded items through retail stores (whether its own, those of franchisees or other retailers), its website and via third parties through various product or geographic licence deals.

The shares have fallen by more than 75% since their 2015 peak and by almost 60% this year alone. The stock is obviously very much out of favour. I can't read the mind of other investors, but I think there are broadly two reasons why Ted Baker's shares have fallen so aggressively, especially in recent months.

The first reason is that Ray Kelvin, the company's founder and ex-chief executive, left the company after a scandal involving hugs. As the creator of the Ted Baker character and the "closest man to Ted", there are legitimate concerns about how the company will perform without him.

This is an important lesson: people make mistakes, move on, retire or die, so no genius founder or chief executive is guaranteed to stay in place forever. Because of that, it's probably not ideal if the performance of an investment depends on the talents of a single person.

The second reason is that investors are afraid of a cyclical slowdown. The company's latest trading update mentioned "consumer uncertainty" and "extremely difficult trading conditions", which are not exactly the kind of phrases investors like to hear. This comes after a 25% decrease in profits in the year to January 2019 and a tiny and somewhat bizarre 2.5% dividend cut. However, these disappointing results have only occurred over a year or so, which means it is far from clear whether Ted Baker has permanently lost its ability to produce double-digit growth.

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"IT'S FAR FROM CLEAR WHETHER TED BAKER HAS PERMANENTLY LOST ITS ABILITY TO PRODUCE DOUBLE-DIGIT GROWTH."

This presents another important lesson: economies and businesses are almost always cyclical. There are booms and busts. Things get better for a while and then they get worse for a while. This is the 'nature of the beast'. Because of that, it's probably a bad idea to expect your investments to produce consistent growth forever, with no setbacks at any point whatsoever.

So where does that leave Ted Baker, with its now very appealing (or potentially off-putting) 7.1% dividend yield?

The answer is the same as it always is: we'll have to wait and see. So far, the share price has 'fallen off a cliff', but as Warren Buffett has said, "Prices don't tell me anything about a business". The only way to tell if the investment case still stands up is to look at the business, and so far I see nothing that materially undermines the company's long and impressive track record of growth.

This doesn't mean that Ted Baker is guaranteed to grow consistently forever, but it does mean that so far this appears to be a temporary cyclical setback, rather than the beginning of the end of Ted Baker. How can we tell one from the other? By reading the company's trading updates and interim and annual results, and by ignoring, as much as possible, what Mr Market thinks.

British American Tobacco – going up in smoke?

British American Tobacco PLC (LON:BATS)
Share price: 2,800p
Price decline: 50%
Dividend yield: 7.3%

Here's another company with a long and solid track record of progressive growth. But all is not well. BAT's share price has fallen by about 50% from its 2017 peak of 5,600p to 2,780p at the time of writing. The dividend hasn't been cut, so the shares now have an extremely high dividend yield of 7.3%.

Given such a high yield, it's no surprise that there's a lot of negative sentiment around this company.

The first is cigarettes themselves, along with the company's other tobacco products. For some people there is a moral issue around smoking, so many ethically driven funds and investors will avoid tobacco stocks regardless of how attractive the investment might otherwise be. However, this negative sentiment doesn't change much from year to year, so while it is part of the reason for BAT's high yield, it isn't a factor in the recent price decline.

The second driver of negative sentiment, which is related to the first, is that it is becoming more and more obvious that cigarettes probably don't have a long-term future, at least in Western markets. Regulation is getting ever tighter (eg cigarette packets in the UK are now a mandatory, unpleasant brown colour); social tolerance of cigarette smoke is getting ever lower; and cigarette volumes continue to decline globally by around 3% or so each year. If you extrapolate from that, then cigarette volumes will be down by about 25% in a decade and by about 50% over 20 years.

Here's another useful lesson for long-term investors: try to avoid companies whose core market is in permanent decline.

There is a caveat to that lesson though. If the decline is very slow, ie slow enough that a) there's enough time for Mr Market to become enthusiastic

"THE ONLY LONG-TERM SOLUTION FOR BAT IS TO BUILD A BUSINESS WHICH DOESN'T RELY ON THE OBVIOUSLY UNHEALTHY PRACTICE OF INHALING SMOKE FROM BURNING TOBACCO LEAVES. AND THAT'S PRECISELY WHAT IT'S TRYING TO DO WITH ITS 'POTENTIALLY REDUCED RISK' OR 'NEXT GENERATION' PRODUCTS."

again for one reason or another, or b) there's enough time for the company to build an alternative business which can outgrow the decline of the legacy business, then perhaps the investment can still make sense.

That caveat may well apply to BAT and potentially to other cigarette manufacturers as well.

For example, given the slow decline in cigarette sales there's ample time to push up prices, which can slow or even negate sales-volume declines, at least for a while. But prices can only go so high, so another option is to take market share, which BAT has been doing. Yet another option is to buy other tobacco companies, which BAT has also done, notably with its multi-billion-pound acquisition of Reynolds American. Another option is to move customers from buying lower-margin brands to higher-margin brands, which BAT has also been doing.

All of these options allow BAT to maintain and even grow revenues and profits in the face of declining sales. None of them can offset declines in cigarette volumes forever, but they may be able to do it for long enough that Mr Market becomes optimistic once again and decides that BAT's share price should be double or triple what it is today.

The only long-term solution for BAT is to build a business which doesn't rely on the obviously unhealthy practice of inhaling smoke from burning tobacco leaves. And that's precisely what it's trying to do with its 'potentially reduced risk' or 'next generation' products.

These vary from tobacco heating (rather than burning) products to e-cigarettes and various forms of vapour or 'vaping' products. This business is still young and unproven, but revenues are growing rapidly and now make up about 10% of BAT's total revenues. That may not sound like much, but it represents more than £2 billion, which is more than many FTSE 250 companies can generate.

Of course, whether or not any of this is enough to offset the long-term decline in cigarette sales is unknown, but at least BAT is making credible progress.

The third and most acute reason for BAT's recent share-price decline is a proposed regulatory change in the US, which is the largest market for BAT following its takeover of Reynolds American. The potential regulation change centres on menthol-flavoured

"REGULATION IS A DOUBLE-EDGED SWORD; IT CAN CHANGE DRAMATICALLY AND, MOST OF THE TIME, REGULATORY CHANGES ARE NOT GOOD NEWS FOR INVESTORS."

cigarettes and is based on the idea that they're harder to quit and more dangerous to the smoker's health. A ban would be bad for BAT as US menthol cigarettes make up a material percentage of the company's revenues (potentially as much as 25%).

However, a ban would take several years to put in place and, as you'd expect, BAT will likely argue against the ban during the judicial review. If the ban goes ahead then there would still be a delay of a year or two while all the details are worked out, during which time BAT would likely try to transition as many of its menthol smokers as possible onto alternative BAT cigarettes or next-generation products. So, despite Mr Market's negative reaction, the ultimate impact of this ban, if it ever happens, is very uncertain.

Either way, this is another useful lesson: companies that provide regulated products or services can make good investments because regulation acts as a barrier to entry. But regulation is a double-edged sword; it can change dramatically and, most of the time, regulatory changes are not good news for investors.

So, what is the most likely future for BAT? Again, the answer is that nobody knows. The share price has fallen by about 50%, so Mr Market is of course pessimistic. But the company's actual results, revenues, earnings and dividends continue to increase, and the company has a plausible strategy to offset the decline of its core product.

IG Group – tight spreads, tighter regulations?

IG Group PLC (LON:IGG)
Share price: 580p
Price decline: 40%
Dividend yield: 7.6%

IG Group is the world's leading contract for difference (CFD), eg spread-bet platform. It is a major player in global foreign-exchange trading and has recently launched a stockbroker platform in the UK and elsewhere. IG has been extremely successful over a very long period of time and has grown its dividend progressively over the last decade by about 10% per year. However, that hasn't been enough to stop its share price from dropping sharply on two occasions over the last couple of years.

The first decline came in late 2016 when the company's shares fell by almost 40% in a single day. When you're a shareholder, that sort of thing gets your attention. The reason behind this price collapse was a proposal by the Financial Conduct Authority (FCA) to implement stricter rules for the CFD market. This proposal was based on the FCA's opinion that more retail investors were trading CFDs without adequately understanding them. The proposals would include, among other things, mandatory risk warnings and caps on the level of leverage used by retail and inexperienced traders. Around the same time, tighter CFD regulation was announced in both France and Germany, which are also active markets for IG.

Overall, and despite the massive share-price collapse, IG's management were largely in favour of tighter regulation. Their opinion was that it would hurt the competition more than IG, so the net effect would be good for the company. Mr Market eventually agreed, and the share price regained all its previous losses over the following few months.

Unfortunately for investors, they were dealt another sledgehammer blow in late 2018 when the share price declined by more than 25% in a week. This time the decline came when the impact of tighter regulation became visible in the company's results. Revenues were down by 10% or more in Europe, largely because of a new rule banning the sale of certain leveraged products to retail traders.

As before, IG's management were relatively upbeat and confident that tighter regulation was good for the company. This confidence was based on IG's somewhat unusual business model, which is to focus primarily on experienced, high-net-worth traders who trade big, often and for a long time.

These customers are much more difficult and expensive to acquire, but once acquired they have a much higher

"DESPITE THE MASSIVE SHARE-PRICE COLLAPSE, IG'S MANAGEMENT WERE LARGELY IN FAVOUR OF TIGHTER REGULATION."

lifetime customer value than other traders. Just as importantly, these traders can choose to become 'elective professional' traders if they pass certain standards in terms of capital and experience. Regulation for elective professions is much less protective than for inexperienced retail traders, which means that IG can market more highly leveraged (and more profitable) products to them.

Another important difference is that IG doesn't take the other side of its customers' trades, so it has no intention to profit from customer losses. This aligns IG's interests with its customers, because successful traders tend to make larger trades more often and for longer, which means more fee and commission revenue for IG.

This contrasts with the 'high churn' business model of some other CFD providers. The high-churn model uses clever advertising to attract lots of inexperienced low-net-worth investors. It then generates revenue from fees and commissions in the same way as IG, but tops those revenues up by taking the other side of customer trades. Since around 80% of new CFD traders

"THIS DOESN'T GUARANTEE THAT IG CAN WALK THROUGH THIS CHANGING REGULATORY LANDSCAPE UNHARMED, BUT I THINK IT'S ABOUT AS WELL-POSITIONED AS A CFD PROVIDER COULD BE."

lose money, taking the other side of the bet almost guarantees that these CFD providers benefit when their customers lose money (hence their interest in acquiring inexperienced traders).

IG expects CFD providers who use the high-churn business model to be materially affected by tighter regulation because they focus on inexperienced retail traders – ie the two groups who are most affected by the new regulations. IG, on the other hand, has proportionally far more elective professional traders and far fewer inexperienced retail traders.

Of course, this doesn't guarantee that IG can walk through this changing regulatory landscape unharmed, but I think it's about as well-positioned as a CFD provider could be.

The first lesson from IG's woes is the same as for BAT: regulation can be a barrier to entry, but it can also be a source of much pain and uncertainty.

The second lesson is more subtle: tough times are inevitable, but tough times are not equally tough for all companies. In fact, some companies can thrive under tough conditions, and the tougher the conditions, the more they thrive, as weak competitors are the first to die.

Accepting short-term pain for long-term gain

I own shares in all three of these companies, so obviously I'm not over the moon that their share prices have fallen so far. However, rather than trying to avoid psychological pain by rushing to sell, I remind myself that what really matters is a company's financial results over a multi-year period, not its share-price performance over a few days, weeks, months or even a year or two.

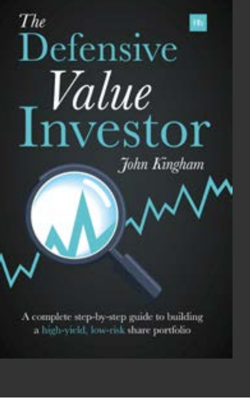
Focusing on long-term financial performance rather than short-term price performance isn't always easy, so I'll reiterate a few wise words from Warren Buffett: "[Share] prices don't tell me anything about a business. Business figures themselves tell me something about a business".

About John

John Kingham is the managing editor of UK Value Investor, the investment newsletter for defensive value investors which he began publishing in 2011. With a professional background in insurance software analysis, John's approach to high yield, low risk investing is based on the Benjamin Graham tradition of being systematic and fact-based, rather than speculative.

John is also the author of *The Defensive Value Investor: A Complete Step-By-Step Guide to Building a High Yield, Low Risk Share Portfolio*.

His website can be found at: www.ukvalueinvestor.com.



BY DAVID JONES

FORENSIC FOREX

MAJOR BREAKOUT IN GOLD

IS THIS THE START OF A NEW BULL MARKET?

As gold springs back to life, David Jones investigates whether this is a time to take profits or to prepare for a much bigger move over the longer term.

We last took a look at the price of gold in March. It had enjoyed a good run since the summer of 2018, but had struggled a little in the short term. Despite this, I felt that it could still be an attractive option for investors for the rest of the year. And any holders will have been well rewarded, as the price of gold has rocketed between mid-May and the third week of June, by around $140 an ounce – or 11%.

As usual, the obvious question now is whether it is time to sell – or whether there are even more gains to come. So, let's figure out what the rest of 2019 could hold for gold.

Why the sharp rise in the price of gold?

The price of gold has been rising since mid-August 2018, and some simple chart analysis shows that the trendline since then has done a great job of stopping any weakness. The arrows in the chart below highlight where the trendline has been tested and stopped the price from falling further.

You can see that the gold price has turned in a somewhat pedestrian performance for a good three

"THE RISE IN THE PRICE OF GOLD SEEMS TO DEMONSTRATE THAT INVESTORS ARE STILL WILLING TO HEDGE THEIR BETS, GIVEN THAT STOCK MARKETS HAVE NOW BEEN RISING FOR MORE THAN A DECADE."

Gold price August 2018 – June 2019

months from the February highs at $1,346 through to the May lows set at $1,266. This was a sizeable decline that frustrated long-term holders (me included). But then things changed.

There are a couple of major drivers here that swung sentiment back to the bullish side for gold. Firstly, since the third week of May, the US dollar has been under some pressure. If we treat gold as just another currency pair, then a falling dollar means the price of gold will rise.

But the bigger factor is that old favourite for gold bull markets – global uncertainty. In June, Iran shot down a US military drone. Understandably, this increased tensions between the two countries, with the US apparently poised to take action. At the time of writing, this has not happened – but in times of unease, gold becomes an attractive safe haven for investors, and this incident has definitely played its part.

The ongoing trade war between China and the US is an important factor for consideration too. Leaders of both countries are due to meet to see if some progress can be made – but the trade war remains a threat to the world economy, which again enhances the attractiveness of gold as an investment.

The only ingredient missing to create a 'perfect storm' is falling stock markets. The broader US index, the S&P 500, hit all-time highs during June – seemingly unperturbed by the global political and economic ripples. But the rise in the price of gold seems to demonstrate that investors are still willing to hedge their bets, given that stock markets have now been rising for more than a decade.

Is the gold rally set to continue?

Let's just put the gold-price rise into longer-term context.

In the above chart, you can see that the price has cleared some major obstacles to hit its best levels in more than five years. It has sailed through the July 2016/7 highs at $1,375. However, these were a barrier once again in January 2018 and put an end to the rally from the year before.

On top of this, the 2014 highs at $1,392 (plus the 'psychological' barrier of

Gold price 2013 – June 2019

$1,400) caused hardly a stutter in gold's surge. There are still some big technical barriers left on the chart, running from $1,450 through to $1,500. So, despite being a holder of gold, I am tempted to suggest that perhaps the rise has gone far enough for now and is looking a little overstretched. But that does not mean that there will not be opportunities in the weeks ahead.

"THIS SHOULD TAKE SOME OF THE WIND OUT OF THE SAILS OF THE GOLD PRICE – AND THIS IS WHERE THE PATIENT INVESTOR MAY HAVE AN OPPORTUNITY."

Looking at shorter-term uncertainty, if there is military action between the US and Iran – and if the trade war escalates – this can only be bullish for traditional safe havens such as gold. More investors will be looking for a secure destination for cash – and more buyers should mean that the price of gold rises. But for the speculator, perhaps the most sensible view is to expect a de-escalation. Iran backing off from the threat of a US military strike and the US and China trying to find some more common ground on trade tariffs seems the more likely outcome. This should take some of the wind out of the sails of the price of gold – and this is where the patient investor may have an opportunity.

Gold price February to June 2019

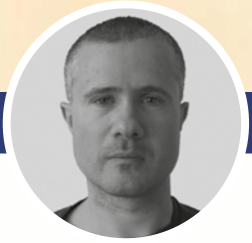
The gold price does look overstretched over the past month or so – but there will be plenty of people who will feel they have missed the boat. Moves like this in major markets tend to not perform a U-turn overnight and I would be tempted to think the sensible position here is to wait for some weakness. However, if the price were to sell off towards the $1,300/1,350 area and strength starts coming in, it could be an opportunity to jump on board for another move above $1,400.

Of course, the risk here is that the price of gold carries on rising and hits $2,000 without any decent pullback – but this is not Bitcoin (famous last words!). There tends to be a bit more of a normalised ebb and flow in these more mature financial markets and it would not surprise me if the gold price gives up at least some of these gains in the weeks ahead, which could well be a better opportunity for the more disciplined investor.

Either way, the last month has seen the price of gold finally stop sliding, which should result in a very interesting second half of the year for this precious metal.

About David

David Jones qualified as a technical analyst in 1995 and started his City career as a currency analyst. He then went on to work for trading companies CMC Markets and IG Group as Chief Market Strategist. Since leaving the industry in 2013 he has been a presenter on BBC Radio 5 Live's Wake up to Money programme and the Chartist for Shares magazine. He is an active trader and private investor.



BY ANDREW LATTO

QUALITY INVESTOR

WHAT IS QUALITY INVESTING?

The quality investing approach has allowed top fund managers like Terry Smith and Nick Train to outperform rivals. It may offer one of the best ways to perform well over the long term, writes Andrew Latto, CFA.

Quality has become a 'hot button' topic for investors. Terry Smith describes himself as a quality investor rather than a value investor or growth investor. The Fundsmith Equity Fund that he manages has performed exceptionally well.

The key question is: how does quality investing differ from value investing and growth investing? Value stocks trade on low valuation multiples – price-earnings (P/E) ratio, price-to-book ratio and price-to-sales ratio – and growth stocks trade on high valuation multiples.

The trouble is that the value and growth labels are potentially misleading. Lowly-rated value stocks can be expensive and highly rated growth stocks can be inexpensive.

The value and growth labels are, however, unlikely to go out of fashion. They are used by academics for research and by investors to categorise stocks.

Warren Buffett stated in the 1992 Berkshire Hathaway annual report that:

"Most analysts feel they must choose between two approaches customarily thought to be in opposition: 'value' and 'growth'...We view that as fuzzy thinking...Growth is *always* a component of value."

Quality drives intrinsic value

What matters is the intrinsic value of a company. This alone determines if a share is expensive or good value.

Intrinsic value is the present value of the free cash flow available to investors. This makes sense. Investments should be valued in line with the cash they can return to investors.

High-quality companies are good at generating free cash flow. The quality style of investing focuses on what matters: the ability of a company to return cash to investors.

To quote Buffett again:

"Stocks are simple. All you do is buy shares in a great business for less than the business is intrinsically worth, with managers of the highest integrity and ability."

Fundsmith Equity Fund case study

The Fundsmith Equity Fund follows the quality investing approach. It has outperformed its benchmark (MSCI World sterling net) since inception (1 November 2010) with an 18.9% annualised return to 31 May 2019.

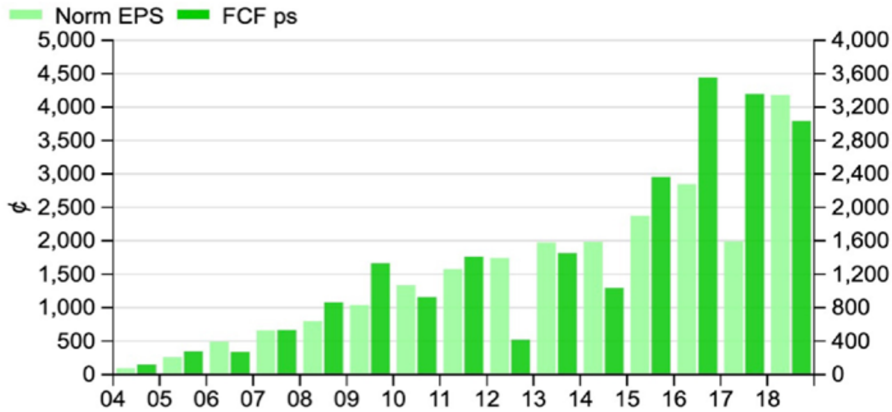
At the end of 2018, the fund's equity portfolio had a weighted average return of capital employed of 29% and free cash flow conversion of 95%. The portfolio is resilient, with an operating margin at 28% and interest cover at 17x.

"GROWTH STOCKS THAT CAN DELIVER ROBUST FREE CASH FLOW GROWTH ARE WORTH PAYING UP FOR."

Fundsmith Equity Fund since launch (I Acc)

Source: SharePad

Google's EPS and free cash flow per share



Source: SharePad

Google's (now Alphabet) growth made it cheap at the IPO

Source: SharePad

The Fundsmith Equity Fund owns quality companies. The free cash flow they generate has driven the fund's outperformance.

Growth stock case study

Google (now **Alphabet (NASDAQ: GOOGL)**) shows that a high valuation multiple in isolation does not necessarily mean a stock is expensive. When Google (now Alphabet) listed in 2004 it was considered to be a pricey investment.

Google's free cash flow per share has been on a roll since then, which has resulted in the shares performing well. Growth stocks that can deliver robust free cash flow growth are worth paying up for.

Value stock case study

Value stocks tend to be cheap for a reason. They often have little scope to grow free cash flow. They may also be at risk of disruption, perhaps from the internet or new competitors.

Most value stocks have meaningful 'blow-up risk'" This reflects a weak underlying business and/or a weak balance sheet. A 'value trap' is a value stock that proves to be anything but a bargain.

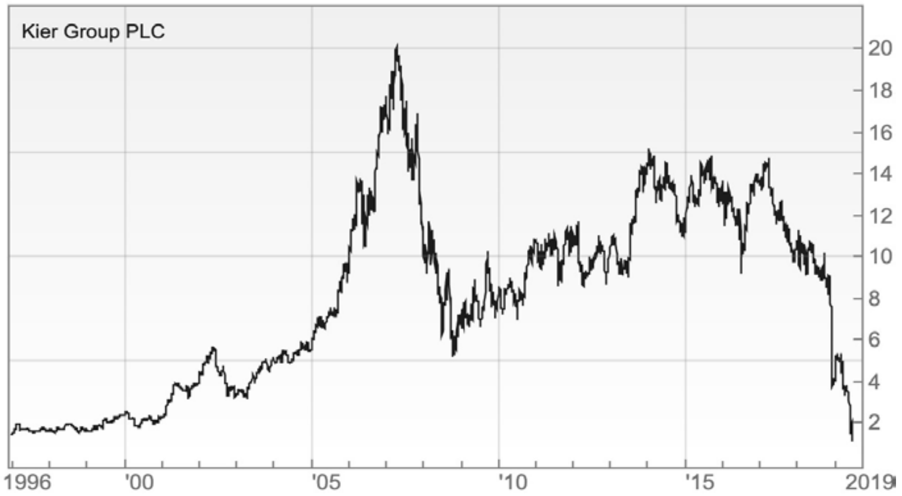
The UK construction group **Kier (LON:KIER)** traded on a modest P/E ratio of around 10x from 2000 to the end of 2018. While it would have been described as a value stock, it has proven to be expensive for investors – ie a value trap.

The intrinsic value approach

The intrinsic value approach assesses free cash flow generation – ie the surplus cash available for investors. The drivers of free cash flow are business quality and the scope to realise high-return growth.

> **"VALUE STOCKS TEND TO BE CHEAP FOR A REASON."**

Kier Group's modest P/E ratio did not make it 'cheap'



Source: SharePad

The combination of quality and growth can deliver significant free cash flow growth – as we saw with Google. It is easy to underestimate the earning power of a high-quality business with a growth tailwind.

Quality means durability

With capital preservation paramount, quality investors seek to own businesses that will stand the test of time. A modest return and durable business may be a better investment than a high-return business.

The tobacco sector has generated high returns in the past but is threatened by regulatory change and disruption – ie e-cigarettes, regulation etc. Tobacco stocks may therefore fail to preserve value for investors.

High-quality and resilient businesses rarely make the headlines. They simply deliver consistent results in an unassuming manner. Examples in the UK include the testing group **Intertek (LON:ITRK)** and the product-safety group **Halma (HLMA)**.

The quality investors Lindsell Train believe that: "Investors undervalue durable, cash generative business franchises." The bottom line is that: "investment brilliance depends on business resilience."

Do stocks outperform Treasury bills?

Research from Professor Bessembinder (*Do Stocks Outperform Treasury Bills?*) shows that most stocks deliver poor returns. He has examined 90 years of US stock-market history from 1926 to 2016.

During this period, 22 out of 23 stocks collectively matched the return on one-month US Treasury bills over their lifetimes. One in 23 stocks explained the US equity market's outperformance in comparison with one-month Treasury bills.

Only 1 in 281 stocks explained the majority of the US market's outperformance against Treasury bills – a few winners drive the market. The companies that do well over the long term are resilient to change, such as competition or disruption.

> "QUALITY INVESTORS SEEK TO OWN BUSINESSES THAT WILL STAND THE TEST OF TIME."

Quality means high returns

To formalise the quality investing approach, we need to establish a quality threshold. Otherwise quality will be in the 'eye of the beholder'.

The metric that quality investors focus on is the return on the capital invested in a business. For every £1 million invested in a business we want to see an attractive annual return.

Terry Smith sets the quality threshold at a 15% annual return on capital employed (ROCE). This needs to be earned over the full economic cycle and not just during periods of strong economic growth.

Smith also requires that corporate profits be backed up by free cash flow. This means that every £1 million invested in a business generates at least £150,000 in cash per year (before tax).

ROCE

ROCE is the annual profit (before interest and tax) divided by the total capital invested. It is independent of the capital structure of a business and therefore puts companies on an equal footing.

One way of thinking about ROCE is as the lump sum return. It is the return a business generates if it had been given a single lump sum of capital.

ROCE is the product of the operating profit (or EBIT) margin and the capital-turnover ratio (sales/capital employed). An increase in the profit margin and/or the capital-turnover ratio will increase the ROCE.

Rightmove case study

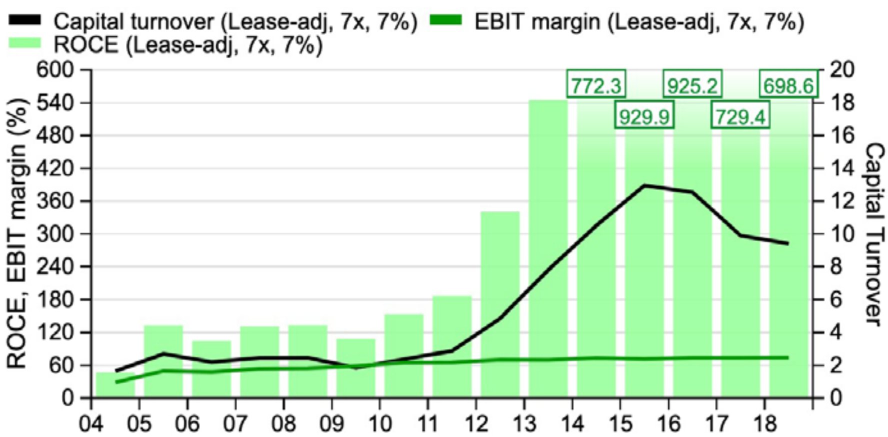
If we want to own high ROCE businesses we need to find companies that generate high margins and/or use little capital. The UK online property-listing platform **Rightmove (LON:RMV)** scores on both fronts.

Rightmove had a capital-turnover ratio of 9.4x in 2012 and an EBIT margin of 74.2% (both lease-adjusted). Multiplying these together gives a ROCE of almost 700%.

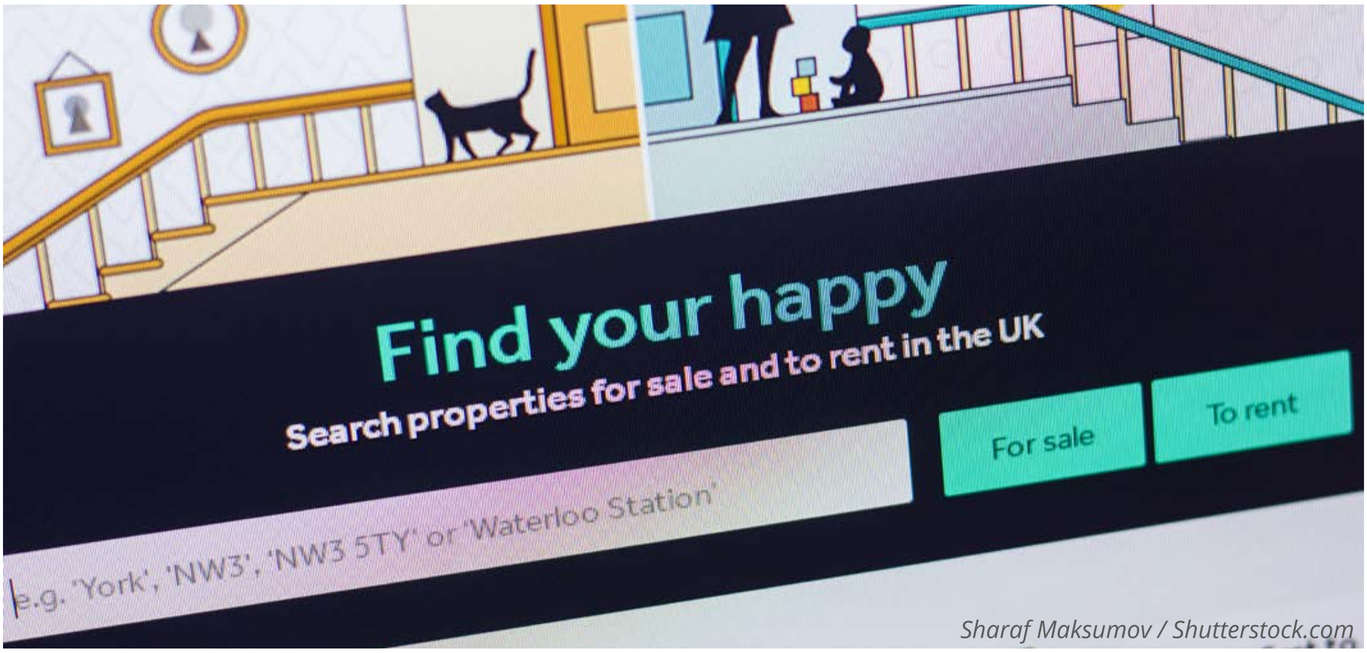
Quality and growth drive value

The intrinsic value of a company is driven by its current cash flow and the scope to increase it over time. Organic growth will increase free cash flow but acquisition-driven growth is capital intensive.

Rightmove's ROCE drivers



Source: SharePad



Sharaf Maksumov / Shutterstock.com

Sources of free cash growth include the ability to attract more customers; selling more products to existing customers; the ability to steadily increase prices; and the ability to increase margins.

In the absence of growth, a high-return business is comparable to a high-grade bond – it will return all of its free cash flow to investors. A good example is the Spanish stock-exchange group Bolsas Y Mercados Españoles (BME).

BME generated a robust 45.6% ROCE in 2018, while its EBIT margin was 54.7%. However, the group has returned the bulk of its annual profit to investors and free cash flow has made little progress since 2004.

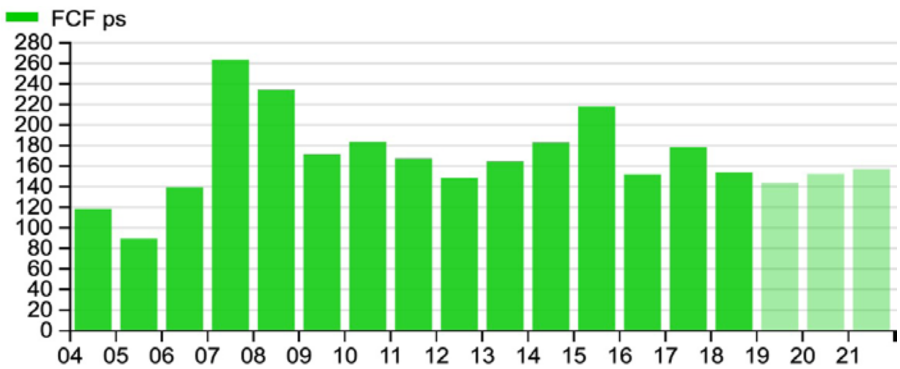
Stock compounders

Given the importance of quality with growth, I use the term stock compounders to describe companies that can generate high returns, sustain high returns and realise high-return growth.

Stock compounders are able to grow free cash flow over the medium to long-term. This will result in share-price momentum, provided that the initial valuation is not exorbitant.

Stock compounders need a growth tailwind to generate high-return growth. **Apple Inc (NASDAQ:AAPL)** provides a good example with its free cash flow per share increasing ninefold (excluding dividends) since the launch of the iPhone in 2007.

BME's free cash flow per share



Source: SharePad

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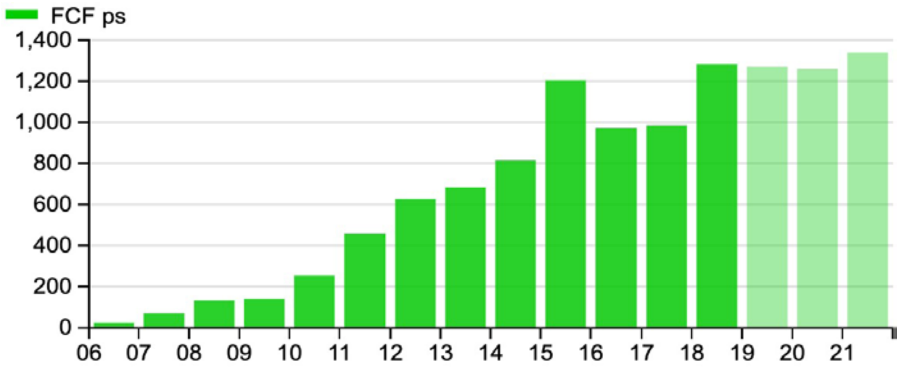
Apple's free cash flow per share: the iPhone effect



Source: SharePad

Apple share price since the iPhone launched

Source: SharePad

Diageo's top spirit brands

Source: Diageo

Stock compounders are durable

How can we identify stock compounders like Apple Inc? The first criterion is that a company needs to be durable. They have to be able to hold their own for the next 10 to 50 years.

A durable business benefits from resilient demand, good margins and a strong competitive position. They tend to have robust balance sheets with plenty of scope to service liabilities.

The spirits group **Diageo (LON:DGE)** is a durable on account of its portfolio of long-established spirits brands. Guinness, Johnnie Walker, Smirnoff, Captain Morgan, Baileys and Tanqueray all appear to be here to stay.

Stock compounders tend to generate high margins

High operating-profit margins are an indicator of a robust competitive position. Diageo generated a robust 34% margin of earnings before interest and tax on revenue in fiscal 2018.

What matters, though, is the sustainability of margins. Companies need competitive 'moats' to keep rivals at bay. These include strong brands, network effects, switching costs, economies of scale, patents and distribution channels.

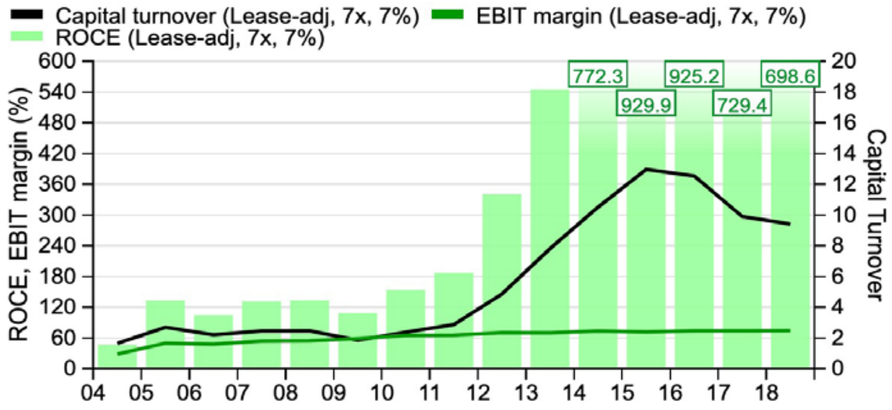
When it comes to spirits, consumers tend to focus on brand quality rather than price. Diageo also often controls product distribution, and bars and supermarkets have limited space to stock spirits.

Stock compounders are not unduly capital intensive

It is no use generating high margins if a business is extremely capital intensive. **National Grid (LON:NG.)** is a case in point. The utility group has an EBIT margin of 23.3% but a capital-turnover ratio of only 0.3x. The result is a 7% return on capital.

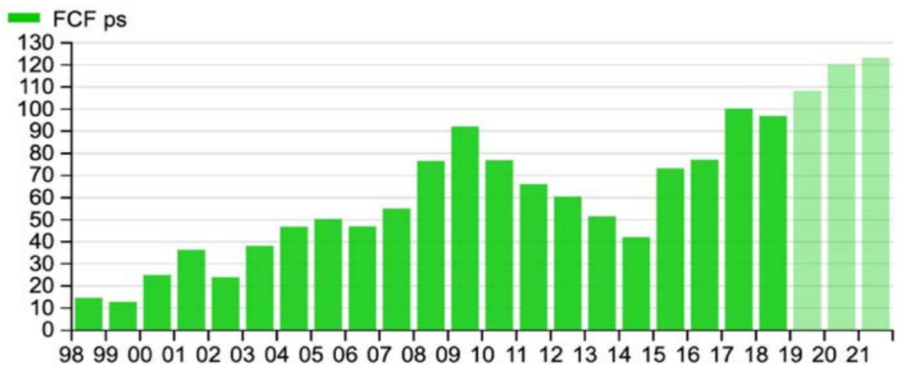
Franchisors like **Domino's Pizza Inc (LON:DOM)** are capital light because franchisees fund the business. Platform businesses that act as intermediaries, such as Rightmove and **Auto-Trader (LON:AUTO)** are also capital light.

Diageo ROCE drivers



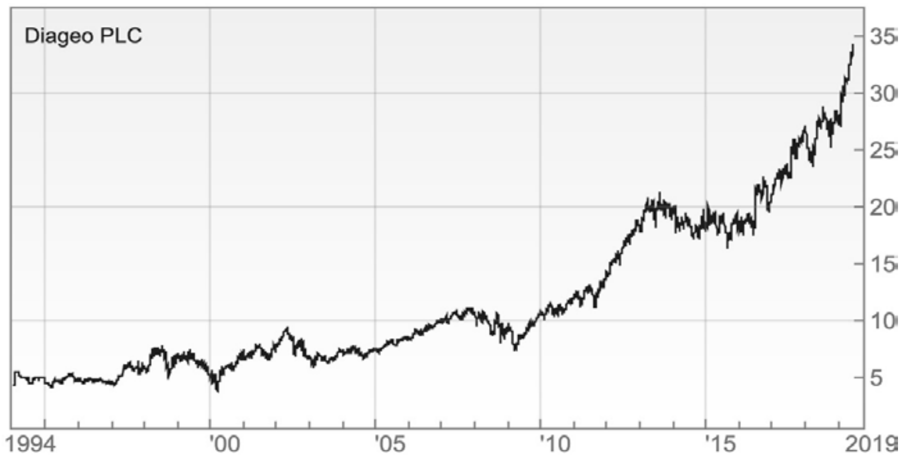
Source: SharePad

Diageo's free cash flow per share



Source: SharePad

Diageo's share price since 1998



Source: SharePad

The capital invested in a business may reinforce its economic moat and long-term durability. Diageo is a capital-intensive business with a capital-turnover ratio 0.5x – each unit of invested capital generates 0.5 units of revenue.

This is partly down to the capital tied up in brown spirits that take a long time to mature. While this reduces the return on capital it also provides a powerful competitive moat – competitors cannot launch rival products overnight.

Stock compounders have a growth tailwind

To grow free cash flow a stock compounder needs to benefit from a long-term growth driver. Current global growth drivers include increasing travel, health-care demand, urbanisation and the shift online.

Diageo is benefiting from the increasing global demand for Scotch whisky, emerging-market demand for spirits and product premiumisation. These factors have helped the business to increase free cash flow per share.

Summary

The starting point for quality investors is to identify durable businesses. The next stage is to identify companies that can generate high returns, sustain high returns and realise high-return growth.

The quality investing approach has allowed fund managers like Terry Smith and Nick Train to outperform rivals. It may offer one of the best ways to perform well over the long term.

About Andrew

Andrew Latto, CFA, is an independent analyst and the founder of www.fundhunter.co. Fund Hunter's mission is to identify the best investment funds. The Fund Hunter model portfolio has meaningfully outperformed the All-Share index since inception. Andrew previously worked for an investment management company and a research company. He also contributes to www.cube.investments.

BY ROBERT STEPHENS, CFA

STOCKS IN FOCUS

THE APPEAL OF BOOHOO

Robert Stephens, CFA, considers why boohoo's strategy and business model hold significant appeal in a rapidly changing retail environment.

Online-only retailers such as boohoo have significant advantages compared to bricks-and-mortar shops. Not only do they have reduced business rates and lower costs, they are more closely aligned with changing shopping habits among consumers not just in the UK, but across the world.

The company is seeking to further appeal to evolving customer tastes through its environmental credentials. It is also investing heavily in its supply chain, with automation helping to build a strong foundation for future growth.

Of course, the company faces weak consumer sentiment in key markets such as the UK and US. Management changes may also lead to a period of further change for the business. However, with a variety of brands, a diverse geographical exposure and a marketing function that has been highly successful in appealing to its target demographic, the prospects for the stock appear to be encouraging.

Diverse business

Boohoo is a relatively young business. Founded in 2006, it focuses on offering a range of clothing and accessories for 18-30-year olds, and has gradually expanded to include three main websites. The biggest is boohoo, including boohooMAN, which contributed around 51% of revenue last year. The company also acquired a 66% stake in PrettyLittleThing in 2017, with an option to buy the remainder in 2022. This contributed 44% of revenue last year. Boohoo also acquired Nasty Gal in 2017, which contributed 5% of total sales last year.

"INTERNATIONAL EXPANSION IS SET TO BE A KEY PART OF ITS FUTURE GROWTH STORY."

Together, the three brands provide diversity for the business. They also highlight its ability to make acquisitions and successfully integrate them. This suggests that organic growth could be supplemented by further M&A activity over the long run. For instance, it recently acquired women's retailer MissPap for an undisclosed sum.

The company's geographic exposure has also become increasingly diverse in recent years. Today, it sells its products in a wide range of markets, with the UK supplying 57% of revenue, Europe contributing 13%, the US accounting for 19% of sales and the remainder coming from the rest of the world. International

"ORGANIC GROWTH COULD BE SUPPLEMENTED BY FURTHER M&A ACTIVITY OVER THE LONG RUN."

somemeans / Shutterstock.com

"THE USE OF CELEBRITIES AND SOCIAL-MEDIA INFLUENCERS IN ITS ADVERTISING CAMPAIGNS HAS HELPED TO BUILD A FAST-GROWING SOCIAL-MEDIA PRESENCE THAT INCLUDES 5.9 MILLION FOLLOWERS ON INSTAGRAM."

expansion is set to be a key part of its future growth story. This may help to insulate it to some degree from weakness in local markets, as well as providing it with exposure to fast-growing economies where its offering may be better aligned with local consumer tastes than incumbent retailers.

Online appeal

Over the last decade, the percentage of total UK retail sales undertaken online has increased from 5.7% to 18.6%. Improved technology and the increasing confidence of consumers to shop online means that online-only retailers such as boohoo have enjoyed a tailwind. This is showing little sign of slowing down, with 26.8% of total retail sales in the UK expected to be made online by 2022. This means that even if the wider retail sector delivers somewhat sluggish growth over the medium term, online sales growth could remain high. In fact, over the next three years, online retail sales are expected to rise by almost 8% per year.

As well as having the potential to benefit from increasing demand for online clothing and accessories, boohoo also has an advantage over its bricks-and-mortar peers when it comes to costs. It has warehouses in Lancashire and Yorkshire that distribute its products across the world. This provides it with a low-cost base compared to many of its sector peers, many of whom are tied into expensive leases in a wide range of locations across the UK.

Since business rates are based on a property's value, online-only operators generally pay far less than their high-street rivals. Therefore, while a number of boohoo's sector peers are gradually moving towards an increasingly omnichannel business model that includes significant investment in their online operations, ultimately, they are likely to be held back by the cost of running a store estate. At a time when consumers are highly price-conscious, this could allow boohoo to offer more competitive pricing or higher margins, than many of its peers.

Growth strategy

Clearly, having a few websites and a couple of warehouses is not enough to produce a successful business. The company has therefore invested heavily in offering a better customer experience than other retail peers. A key part of this strategy has been an investment in its supply chain. For example, it has spent £32 million on its distribution centre in Lancashire, with automation being introduced in April 2019. Not only is this likely to reduce costs, it could also provide faster and more accurate deliveries and returns to customers, helping to differentiate its offering from those of its sector peers.

In order to enhance its competitive advantage, the business has sought to align itself as closely as possible with its target demographic of 18-30-year olds. For instance, the use of celebrities and social-media influencers in its advertising campaigns has helped to build a fast-growing social-media

> **"THERE ARE FEW COMPANIES THAT CAN OFFER THE LEVEL OF GROWTH POTENTIAL THAT BOOHOO APPEARS TO HAVE."**

presence that includes 5.9 million followers on Instagram. It has also sought to offer a wide range of sizes to promote inclusivity, and the recent launch of its first dedicated recycled clothing range could resonate with customers in an era where sustainability is a key concern for the 18-30 demographic.

Threats

Although boohoo has a number of growth catalysts, there are also risks facing the business. Notably, the consumer outlook for its two key markets, the UK and US, is highly challenging. In the US, for example, retail sales have increased by just 1.1% in the last nine months, while sentiment in the UK is likely to remain weak as the Brexit process continues. Although clothing is a staple good, there are always opportunities for consumers to trade down to cheaper options, or delay purchases of non-essential items.

As previously mentioned, the company was formed in 2006, with its co-founders managing the business until very recently. While they both remain on the board, and one is executive chairman, a new chief executive has recently been appointed. This could lead to a change in how the company is run, as well as a shift in strategy. Given the success the business has enjoyed over recent years, any changes to its management team may pose a risk to its future prospects.

Outlook

Boohoo's most recent trading update highlighted that its performance has been strong across its markets, as well as within its various brands. Notably, its growth outside the UK has been strong, with sales growth of 66% in the US and 71% in Europe (excluding the UK) providing it with an increasingly diverse business model.

In the current financial year, it is forecast to post a rise in earnings per share of 24%. Although this is lower than the annualised rise in earnings per share of 54% achieved over the last four years, it still represents a superior growth rate than that of the vast majority of its retail-sector peers. Crucially, boohoo also has the right business model. Therefore, unlike many of its industry peers, it will not need to close stores and reduce headcount.

Although it trades on a price-earnings ratio of 51, this drops to 43 when its current financial year's forecasts are used. Since double-digit earnings per share growth seems to be likely over the medium term, given the prospects for online operators within the retail industry, the stock could be fairly priced at the moment. Certainly, it is not difficult to find cheaper alternatives within the retail sector. But there are few companies that can offer the level of growth potential that boohoo appears to have.

Investment potential

While the wider retail sector is undergoing a challenging period as it seeks to adapt to changing consumer tastes, boohoo's business model appears to be fit for purpose within an increasingly online-focused world. The investment it has made in its supply chain and in ensuring it has a buoyant social-media presence could act as catalysts on its growth. It appears to have a significant competitive advantage over its peers in terms of being aligned with customer tastes and having a lower cost base.

The business has evolved into an increasingly diverse operation that is gradually becoming less reliant on the UK. This could help it to overcome potential threats that may be ahead in the near term. Also, the continued presence of its co-founders on the board indicates that its strategy may not deviate significantly from that which has been successful in recent years.

With the company continuing to align itself with evolving customer tastes and being likely to benefit from further investment in its supply chain, it appears to have a bright future within what is expected to be a fast-growing online retail segment. Therefore, although it may not be a cheap stock within what seems to be a heavily discounted sector at the moment, boohoo could generate high returns over the long run.

About Robert

Robert Stephens, CFA, is an Equity Analyst who runs his own research company. He has been investing for over 15 years and owns a wide range of shares. Notable influences on his investment style include Warren Buffett, Ben Graham and Jim Slater. Robert has written for a variety of publications including The Daily Telegraph, What Investment and Citywire.

BY RICHARD GILL, CFA

BOOK REVIEW

THE CRYPTO TRADER

HOW ANYONE CAN MAKE MONEY TRADING BITCOIN AND OTHER CRYPTOCURRENCIES

BY GLEN GOODMAN

Richard Gill, CFA, reviews *The Crypto Trader*, the book where author and "master crypto trader" Glen Goodman teaches readers the trading strategies that he has personally developed and used to make multi-hundred percent gains on a range of different cryptocurrencies.

There haven't been many areas of the market which have delivered eight-digit percentage gains over the past decade or so – that's returns in the tens of millions of percent. But cryptocurrencies has been one of them. From lows of around six cents in summer 2010 to the peak of $19,783 in December 2017, the ubiquitous digital currency bitcoin skyrocketed in price by 32,971,567%! In contrast, the best-performing London-listed stocks only delivered a miserly gain of around 2,400%.

While many fortunes have been made in cryptocurrency, many shirts have also been lost. Following the 'popping of the bubble' at the end of 2017, bitcoin fell to just 16% of its peak value within a year and is currently trading at barely half its top price. So this is clearly a highly volatile market. However, where there is volatility, there are trading opportunities.

In *The Crypto Trader,* author and "master crypto trader" Glen Goodman teaches readers the trading strategies that he has personally developed and used to make multi-hundred percent gains on a range of different cryptocurrencies. Goodman was previously an ITV news reporter who traded the markets for extra cash in his spare time. But he then found out his trading game was much more profitable, so he quit his day job. He has made a number of big calls during his career, including turning a £3,000 trade into £100,000 by betting there would be a financial crash in 2008, and also by calling the top of the cryptocurrency market.

Buying bitcoin, exchanging ether

To begin with, it's worth pointing out that this book is relatively light on describing the technology that underlies bitcoin and other cryptocurrencies, but covers just enough for traders to understand the basics. Instead, the main focus is on how to make money in these fast-moving markets. Interestingly, Goodman claims that his strategies can generate higher profits with *less* risk than seen in traditional stock-market tracker funds. The book ties into the current zeitgeist of empowering investors to make their own financial decisions and achieving financial freedom – Goodman himself is now a full-time trader.

Part one of three opens with a discussion of how cryptocurrency trading developed, from the early days of bitcoin's creation in 2009, to its various collapses along the way and the consistent launch of new digital coins. An explanation of some of the slang used amongst cryptocurrency traders is a fun segment, followed by a slightly more depressing discussion of how many people have been tricked into handing over their money to fraudsters on the promise of big, quick gains. Fortunately, Goodman gives some top tips on how to identify potential scams, followed by a chapter on the technology basics.

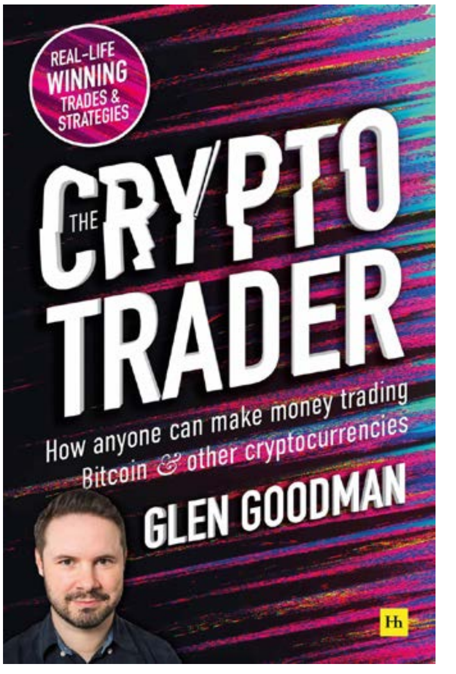
“BITCOIN SKYROCKETED IN PRICE BY 32,971,567%!”

The final chapter in part one goes into a bit more background on the author's trading experience. While turning an investment of £5,000 into £10 might not seem like a good thing, this is how Goodman describes one of his early stock-market experiences. This is because it taught him the crucial lesson of "never hold on to a losing trade". As with trading any financial instrument, preserving capital is priority number one, and following this rule has led Goodman into a successful trading career.

After giving two other key rules, to "grow your profits" and "trade the trend", part two builds on this solid foundation and teaches traders exactly how to make some money. Chapter four covers some trading basics, explaining how to buy and sell cryptocurrencies by signing up for online trading services and describing some important industry terms like 'hot wallet', 'private keys' and 'cold storage'. Also important in this section is how to read and understand a cryptocurrency trading screen.

In chapter five, we learn about Goodman's approach to money-making strategies. Due to its high potential for losses he avoids day trading, which he describes as a "mug's game". Instead he focuses on long-term trends, simply looking to buy cryptocurrencies in the early part of an upward trend and sell them when they are near the top. This focus doesn't attempt to precisely guess the top or pick the bottom of a market, but instead concentrates on taking profits from a hefty chunk of the movement in between. A range of charting techniques is then looked at in the following chapters so that targets can be chosen. Chapter 10 provides a detailed review of some advanced technical techniques which can be used to decide when you should bank your profits, with Chapter 11 focusing on minimising risk by putting together a cryptocurrency portfolio and managing capital allocation.

No book on trading would be complete without covering human psychology – the main theme of a brief part three. Goodman covers some of the main trading biases which we all suffer from, despite often being aware of these, and how they can affect performance. To overcome the biases Goodman advises awareness and handily summarises all of the main lessons learned in the book to maximise chances of cryptocurrency trading success.



Crypto-coining it in

While many traders are still nursing wounds caused by the recent crash, Goodman remains an advocate of the cryptocurrency market, believing that there are still many opportunities to make money. In fact, he goes as far as saying that this is a once-in-a-generation opportunity. For those investors and traders who want to take advantage of that, there is no better book than *The Crypto Trader*. It has all you want in a trading guide, including detailed strategies, real-life examples and proven money-making methods, all provided by someone who has successfully honed their craft over many years of trial and tribulation in the markets.

EXCLUSIVE BOOK OFFER

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MASTERBOOK

Code can only be used on the Harriman House website. Minimum order of £5 required. P&P will be added at the checkout.

About Richard

Richard Gill is an investment analyst with over a decade's experience of analysing small/mid cap equities. He is the Head of Research at Align Research. Richard qualified with the Chartered Financial Analyst (CFA) designation in 2012 and was awarded PLUS Markets Financial Writer of the Year at the 2008 PLUS Awards. He has been a judge at the Small Cap Awards from 2013 to 2018.

BY TIM PRICE

THE FINAL WORD

SYMPATHY FOR THE DEVIL

The Woodford debacle does not invalidate the case for active management, any more than the global financial crisis invalidated the case for having banks, argues Tim Price.

"A lot of people will tell you that Neil Woodford has been a victim. A victim of exchange traded funds. A victim of a growth-obsessed market. A victim of Brexit. A victim of overly prescriptive regulation. A victim of amateur investor panic. A victim of the media. But either way, he is a very rich victim indeed. And that is what sticks in the throat most about this sorry saga of mission creep, arrogance and ego. Someone's made a huge pile of money since 2014. You were told it could be you. It's actually been Neil Woodford."

— Merryn Somerset Webb in *The Financial Times*,
'Neil Woodford broke the ground rules — now investors will pay the price',
5 June 2019.

"All investment gurus make bad decisions and have bad years — even Warren Buffett, with whom Mr Woodford has been compared. Going against the herd can bring results. Yet, perhaps thanks to the superstar status he attained, he was able to push to the limit many of the unwritten ground rules of the profession."

— *The Financial Times* editorial,
'Investors need answers over the Woodford affair',
7 June 2019

"THE SPECTACLE OF OUR INVESTMENT MEDIA COLLECTIVELY PILING IN ON NEIL WOODFORD IS AN UNEDIFYING ONE."

> **"WE SEEM TO BE TRAPPED IN A (HIGHLY REGULATED) SYSTEM WHEREBY NOBODY IS EVER ACTUALLY HELD ACCOUNTABLE FOR THE DECISIONS THEY MAKE."**

The spectacle of our investment media collectively piling in on Neil Woodford is an unedifying one. Special mention should perhaps go to the Financial Times, which spent years inflating Mr Woodford's reputation – first at Invesco Perpetual, and latterly at his own business – with its liberal use of the adjective 'star'. The Financial Times is now cheerfully tearing down that same reputation with gusto – much of the editorial comes across, to this reader at least, as old scores being grubbily settled. To be fair, Merryn Somerset Webb has always been sceptical about the cult of 'star' managers – and about the supposed value-add of big funds versus low-cost index trackers. But some of her colleagues at the 'pink paper' have covered this story with a zeal bordering on ghoulishness. Journalism, and especially financial journalism, can be an ugly business.

The case against Mr Woodford is already common knowledge. Few objective observers would, I suspect, challenge the view that at his new firm, if not before, he took in too much money, too quickly. Some might also say that there was too much duplication of individual investments across his various funds; that the regulatory system was aggressively gamed in order to maximise exposure to illiquid and in some cases unlisted securities; his business was overly reliant on a handful of key relationships; and that he made some problematic investments.

As a fellow fund manager and the owner of an independent asset-management business, I should probably add that I take absolutely no pleasure in Neil Woodford's precipitous reputational decline. Here is someone who risked his own capital in setting up a business that is now struggling in an existential quest for survival − that he was richly rewarded during the process is hardly the point. The reputational damage alone could now prove terminal for the business – and possibly prevent any further corporate 'adventuring' on Mr Woodford's part.

Neil Woodford built his previously solid reputation as an income manager at Invesco Perpetual. In 25 years at the firm he managed to turn a £1,000 investment into roughly £23,000. He survived the bursting of the dot-com bubble with his reputation enhanced thanks to a focus on "boring" defensives, notably tobacco stocks. He repeated the trick by avoiding bank stocks during the global financial crisis.

When Neil Woodford announced his departure from Invesco to set up on his own in late 2013, most analysts recommended following him. The reaction of one market observer, however, was particularly interesting. Brian Dennehy of FundExpert commented:

"Investor action over the past year has been telling. As superb as Neil Woodford has been, more than £500m has been withdrawn from his two flagship funds over the past year. This suggests that some time ago the funds became saturated. The risk for Invesco Perpetual now is that a significant leak could turn into a flood.

"If an investor holds no more than 10 percent of his or her portfolio in Mr Woodford's funds, there is no need to panic. If more than 10 percent is held, alternatives should be considered."

Those remarks are instructive and turned out to be prescient given the current liquidity crisis affecting Mr. Woodford's Equity Income Fund. One

"THE LESSON FOR INVESTORS IS CRYSTAL CLEAR: NO MATTER HOW GOOD AN INVESTMENT APPEARS, THE LAST LINE OF DEFENCE IS ALWAYS GENUINE PORTFOLIO DIVERSIFICATION."

of the reasons I find the current media 'scrum' around the tribulations of Woodford Investment Management so distasteful is that a dominant voice like that of the Financial Times has the power, literally, to change events − in the same way that Robert Peston's revelation about Northern Rock seeking emergency support from the Bank of England back in 2007 quickly became a self-fulfilling prophecy. If Mr. Peston had exercised a modicum of discretion, the company might have survived. But by announcing its plight, he effectively triggered the bank run that ended it as a public company. The investment media have no particular obligation to maintain market stability during a time of company-specific crisis, but one wishes they could sometimes exercise some editorial restraint rather than encourage nervous investors over the edge, by fuelling fires that are partly of their own making.

Questions are rightly being asked about the close nature of the relationships between Woodford Investment Management and its professional counterparties, including fund platforms and outsourced custodians. But as the witch-hunt continues, why not also ask questions about the accountability of individual investors for their investment choices? I quote from the prospectus of LF Woodford Investment Funds II:

"Investors are reminded that in certain circumstances their right to redeem shares (including a redemption by way of switching) **may be suspended".**

And also:

"Depending on the types of assets the sub-funds invest in there may be occasions where there is an increased risk that a position cannot be liquidated in a timely manner at a reasonable price".

The prospectus itself runs to some 77 pages. If it were down to me, I would scrap much of the regulatory 'boilerplate' and have a large warning on the front page (of this and every other fund prospectus), in a large font and in red, saying simply: caveat emptor.

However, we seem to be trapped in a (highly regulated) system whereby nobody is ever actually held accountable for the decisions they make. More to the point, we seem to be trapped in a system where nobody should ever have to suffer anything of any kind – a point that trader and financial educator Chris Clarke makes in this recent interview.

We should not overlook the pivotal role played in Neil Woodford's downfall by the Kent County Council Pension Fund, whose £263 million redemption request triggered the suspension of the Woodford Equity Income fund. If that organisation's name sounds familiar, it might be because Kent County Council had £50 million on deposit with Icelandic banks during the global financial crisis. Enough said, perhaps.

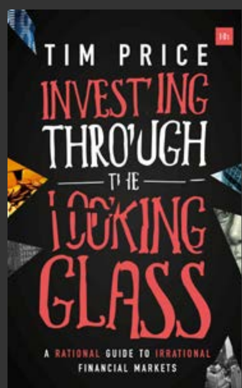
The Woodford fiasco does not invalidate the case for active management, any more than the global financial crisis invalidated the case for having banks. But it is clear that the blame is widely distributed amongst the various players, including financial intermediaries who blithely followed a manager with an impressive track record, and professional counterparties who may well be found wanting at a parliamentary inquiry. The regulators themselves have hardly covered themselves in glory either.

But, what is done is done. I hope that Neil Woodford's business survives. Its near-death crisis has emphasised that investing, even in supposedly 'blue chip' investments, carries risk. It has pointed out that capitalism is driven by that Schumpeterian tide of creative destruction. Entrepreneurs take risks, but not all get the prizes that they may or may not deserve. The lesson for investors is crystal clear: no matter how good an investment appears, the last line of defence is always genuine portfolio diversification. Brian Dennehy suggested a 10% limit for any one manager – and that's a limit we endeavour to respect within our own firm, Price Value Partners, too.

The reversal of fortune on display here shows just how quickly a thriving asset-management business can go into reverse. The lesson would seem to be that if it can happen to Neil Woodford, it can happen to anybody. As a reminder of the challenging nature of the investment game, it could not possibly have come at a better time.

About Tim

Tim Price is manager of the VT Price Value Portfolio (www.pricevaluepartners.com) and author of 'Investing Through the Looking Glass: a rational guide to irrational financial markets'.



JULY 2019

INVESTOR EVENTS DIARY

EVERY WEDNESDAY

Event:	SR Live webinar
Organiser:	SyndicateRoom
Time:	12:30
Place:	Webinar
Tickets:	www.syndicateroom.com/events/sr-live

MONDAY, 29 JULY

Event:	Master Investor Sheffield meetup
Organiser:	Master Investor
Time:	18:00-21:00
Place:	Jaywing, Albert Works, Sidney Street, Sheffield S1 4RG
Tickets:	50% discount using code: MIF07 https://misheffield.eventbrite.co.uk

FRIDAY, 25 OCTOBER

Event:	London Investor Show
Organiser:	UK Investor Events
Time:	09:30-17:00
Place:	Novotel London West, 1 Shortlands, London W6 8DR
Tickets:	https://www.eventbrite.co.uk/e/london-investor-show-2019-tickets-53471905910

WEDNESDAY 13 NOVEMBER

Event:	Investing in the age of Longevity
Organiser:	Master Investor and Longevity Forum
Time:	10:00-17:00
Place:	Science Gallery, Great Maze Pond, London SE1 9GU
Tickets:	50% discount using code: MIF071 https://milongevity.eventbrite.co.uk

SATURDAY, 28 MARCH 2020

Event:	Master Investor Show
Organiser:	Master Investor
Time:	09:30-17:00
Place:	Business Design Centre, 52 Upper St, London N1 0QH
Tickets:	Sign up now for a free premium ticket using code: MAG07 https://masterinvestorshow.eventbrite.co.uk

MARKETS IN FOCUS

JUNE 2019

GLOBAL EQUITIES

Index	Last Month %	YTD%	52-Week Strength
NASDAQ 100	7.6	21.2	
Russian TSI	7.3	29.2	
Dow Jones	7.2	14.0	
S&P 500	6.9	17.3	
CAC 40	6.4	17.1	
FTSE All-World	6.3	14.7	
Hang Seng	6.1	10.4	
DAX Xetra	5.7	17.4	
CSI 300	5.4	27.1	
Euronext 100	4.8	16.9	
Swiss Market	3.9	17.4	
Bovespa	3.8	14.6	
FTSE 100	3.7	10.4	
S&P/ASX 200	3.5	17.2	
Nikkei 225	3.3	6.3	

COMMODITIES

Commodity	Last Month %	YTD%	52-Week Strength
Bitcoin	30.0	204.0	
Palladium	15.6	28.5	
Iron Ore	12.9	56.4	
Crude oil (Light Sweet)	11.1	29.7	
Gold	7.7	9.9	
Crude oil (Brent)	7.6	18.8	
Sugar (No. 11)	5.6	6.2	
Silver	5.0	-1.7	
Platinum	2.9	2.0	
Copper	2.9	3.4	
Cocoa	2.2	1.5	
Coffee	2.0	4.8	
Palm Oil (Crude)	-3.5	-6.2	
Natural Gas	-5.3	-21.5	
Cotton	-10.1	-15.2	

FOREX

Pair/Cross	Last Month %	YTD%	52-Week Strength
EUR/USD	1.7	-0.7	
EUR/JPY	1.3	-2.3	
EUR/GBP	1.3	-0.2	
AUD/USD	1.2	-0.5	
GBP/USD	0.5	-0.5	
USD/JPY	-0.4	-1.6	
EUR/CHF	-0.6	-1.0	
GBP/AUD	-0.7	-0.1	
USD/CHF	-2.3	-0.8	
USD/CAD	-3.1	-3.5	

CENTRAL BANKS – RATES & MEETINGS

Central Bank	Key Rate	Next	After
Bank of England (BoE)	0.75%	Aug 01	Sep 19
European Central Bank (ECB)	0.00%	Jul 25	Sep 12
Federal Reserve System (FED)	2.50%	Jul 31	Sep 18
Bank of Japan (BoJ)	-0.10%	Jul 30	Sep 19
Bank of Canada (BoC)	1.75%	Jul 10	Sep 04
Reserve Bank of Australia (RBA)	1.25%	Jul 02	Aug 06
Swiss National Bank (SNB)	-0.75%	Sep 19	Dec 12
Banco Central do Brasil (BCB)	6.50%	Jul 31	Sep 18
Central Bank of Russia (CBR)	7.50%	Jul 26	Sep 06
Reserve Bank of India (RBI)	6.00%	Aug 07	Oct 04

FTSE 350 TOP RISERS

Company	Last Month %	YTD%	52-Week Strength
Millnm & Copth Hotels	40.4	46.5	
BCA Marketplace PLC	34.3	10.5	
Centamin PLC	28.7	5.2	
888 Holdings PLC	24.0	-6.9	
Hochschild Mining PLC	23.5	22.7	

FTSE 350 FALLERS

Company	Last Month %	YTD%	52-Week Strength
Kier Group PLC	-61.8	-73.9	
Ted Baker PLC	-40.7	-47.8	
Thomas Cook Group PLC	-23.9	-57.2	
Metro Bank PLC	-23.1	-69.0	
Amigo Holdings PLC	-19.8	-29.2	

FTSE 350 SECTORS RISERS

Sector	Last Month %	YTD%	52-Week Strength
Industrial Metals	14.5	39.7	
Electronic & Electrical Equip	12.2	32.3	
Automobiles & Parts	11.9	-5.3	
Leisure Goods	11.3	63.4	
Mining	11.0	21.2	

FTSE 350 SECTORS FALLERS

Sector	Last Month %	YTD%	52-Week Strength
Tech Hardware & Equipment	-2.6	29.1	
General Retailers	-2.1	11.8	
Tobacco	-1.1	0.8	
House Goods & Home Const	-0.6	6.5	
Real Estate Investment & Serv	-0.5	6.6	

IA SECTORS RISERS

Sector	Last Month %	YTD%	52-Week Strength
China/Greater China	6.7	16.2	
Europe Excluding UK	5.6	15.9	
Asia Pacific Excluding Japan	5.2	13.4	
Global Emerging Markets	5.1	12.6	
Europe Including UK	4.7	15.8	

IA SECTORS FALLERS

Sector	Last Month %	YTD%	52-Week Strength
UK Index Linked Gilts	-1.8	8.4	
UK Smaller Companies	-1.1	11.9	
Short Term Money Market	0.0	0.3	
Standard Money Market	0.1	0.3	
UK Gilts	0.1	5.4