

equinox



half yearly investment magazine

Tomorrow's
world

Who wants to live forever?

Racing into tomorrow

equilibrium

April 2019

PLUS: The pain & gain of AI in finance | The UK: what's next? | Recycling Lives

Welcome



We're living in very uncertain times, and guessing what the world might look like in the future is harder than ever. We have record levels of political uncertainty both home and abroad, society is evolving faster than ever and leaps in artificial intelligence will no doubt bring both benefits and dangers. Therefore, the theme for this edition is "tomorrow's world".

This issue is packed with articles exploring how the world could be set to change. On pages 16-17 Neal Foundly looks into the impact that AI is having on financial trading and asks how realistic it is that automation could take over jobs of the future.

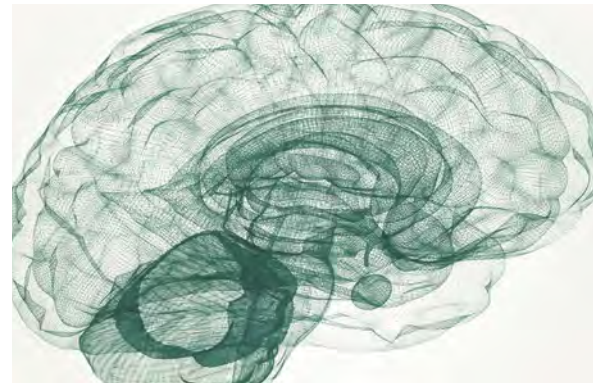
When it comes to financial planning, on pages 8-9, Ben Rogers shows how we use advanced software to plan for a range of outcomes so that clients will have confidence regardless of the uncertainty affecting the outside world.

We also have our usual investment commentary from Mike Deverell (from page 26 onwards). One of Mike's favourite sayings at the moment is: "we are in the planning business, not the predicting business." And he's right – we can't predict the outcome of Brexit or on what day the stock market will go up or down. But we can plan for all scenarios.

So it's fitting that, as we boldly venture into the unknown, I'm reminded of a saying from my favourite SciFi show *Star Trek* that covers our two main objectives for clients: "to live long and prosper." We will continue striving for these objectives, regardless of how uncertain the future is.

I hope you enjoy this issue and as ever if you have any questions, feedback or comments please get in touch.

Colin Lawson
Founder



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Tomorrow's world



What could tomorrow's world look like? To give us an idea, Investment Analyst Neal Foundly looks back through history to paint a picture of what the future might hold.

By Neal Foundly

Seagulls screech above the blood-splattered quayside. Herman Melville, the American author, steps aboard the *Acushnet* and looks back at the bustling, stinking dockyard of New Bedford, Massachusetts. It's December 1840 and he's about to embark on an 18-month voyage which will become the basis of his novel, *Moby Dick*.

The whaling industry is in its heyday, it's the fifth largest sector of the US economy, driven largely by the surging demand for lantern oil.

New Bedford was the hub of the industry and the richest city per capita in the US - if not the world, according to one 1854 American newspaper.

Little did they know that a few years later and only 640 miles away in Pennsylvania, two guys will decide to use a derrick, normally used for extracting salt, to drill for oil.

From then on, the decline of whaling was set. The production of kerosene and other oil products destroyed one industry but created another which would go on to change the world.

This is a classic example of what Austrian economist Joseph Schumpeter called “creative destruction”, which he described as the: “process of industrial mutation that incessantly revolutionises the economic structure from within, incessantly destroying the old one, incessantly creating a new one.”¹

Picture this

The process of creation and destruction has been a continual theme not only in commerce but also in nature and society.

Three thousand years ago the rulers of the Persian empire had it all. They occupied great swathes of the world including the Middle East, North Africa, Central Asia, India, Europe and the Mediterranean. In total, they ruled over 44% of the world’s population, until Alexander the Great picked up a sword.

Forty years ago, Kodak was a household brand whose dominance in the photographic film business was unparalleled. At its height, Kodak’s market share of the photographic film market was more than 80% in the US and around 50% globally.

Then, in 1975, an employee of Kodak invented something called a digital camera and showed it to his bosses. They were unimpressed. “They were convinced that no one would ever want to look at their pictures on a television set,”² he told *The New York Times*. The company went into administration five years after the first iPhone was sold.

You get the idea, and I’m sure you can recall similar examples.

Old news

These paradigm shifts remind us that in looking ahead there is always the danger of extrapolation. But let’s try, starting with the big stuff.

We know the world has a population of around 7.5 billion and it continues to grow. It is also, on average, getting older.

A Standard & Poor’s report from 2010 did not exaggerate when it stated that:



As technology becomes more integral to every aspect of our lives, so the risks become greater

“No other force is likely to shape the future of national economic health, public finances and national policies as the irreversible rate at which the world’s population is growing older.”

However, although the world is getting older, it is perhaps more important to note that the rate of ageing is accelerating.

In his excellent book *Factfulness* (2018, Sceptre), Hans Rosling highlighted that back in 1965 there were around 125 developing countries, including China and India, where women, on average, had more than five children largely as a result of the high infant mortality rate; more than 5% of children died before their fifth birthday.

Today however, 75% of the world’s population lives in middle-income countries. As Rosling put it: “poor developing countries no longer exist as a distinct group. Most people are not poor, not rich but somewhere in the middle and starting to live a reasonable life.” The corollary of this is that they do not need so many children and thus the ratio of old to young is rising.

The speed of this change is marked. If you look at the table below, you can see that in contrast to France, it took over a century for the proportion of the population over 65 to rise to 14% (and similarly for the other “developed” countries in the left hand column). Many of the rapidly developing countries in the right hand column – some of them being the most populous on the planet – will achieve the same within two decades.

Maturing nicely

This significant demographic shift will have very wide-reaching consequences. In the UK alone, by 2037 there are projected to be 1.42 million more households headed by someone aged 85 or over – an increase of 161%.

There are the obvious implications from this – the proportionally lower working population; the widening fiscal imbalances between government revenue and expenditure; the rising burden on healthcare and the lower rates of consumption.

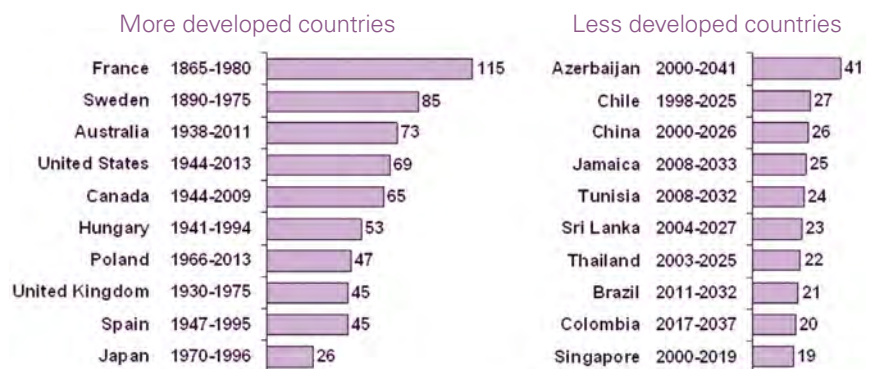
It is not all gloom and doom, however. There is plenty of evidence that an ageing population significantly increases community work and involvement in the arts.

Crime is expected to fall which will benefit all in terms of reduced losses and lower insurance costs.

In addition, an ageing population can provide support within families. The Bank of Mum and Dad will morph into The Bank of Grandma and Grandad, helping to fund the children and grandchildren when needed. The

Speed of population ageing in selected countries

Percent of population age 65 or older to rise from 7% to 14%



*Dates show the span of years when percent of population age 65 or older rose (or is projected to rise) from 7 to 14 percent. Source: K. Kinsella and Y.J. Gist, *Older workers, retirement, and pensions: A comparative international chartbook* (1995) and K. Kinsella and D. Phillips, “The challenge of gloal aging”, *Population bulletin* 60, no. 1 (2005)

financial services industry - Equilibrium included - will need to adapt to offer products suitable for these new arrangements.

Valley of fear

What could disrupt this extrapolation? Well, without being too morbid, a pandemic.

Highly infectious diseases tend to hit the old and frail much more than the young. The "Spanish flu" pandemic 100 years ago killed around one in every 18 people on the planet. It affected all nations, rich and poor – the likes of Groucho Marx, Franklin Roosevelt, Franz Kafka, DH Lawrence and Walt Disney survived it.

Others, such as Lawrence of Arabia's father, Arthur Conan Doyle's son and Donald Trump's grandfather, did not.

Unusually, the Spanish flu pandemic killed a relatively high proportion of 25 to 30-year-old adults³, but the overall effect was to reduce the average life expectancy by around 10 years from 34 to 24-years-old. Since then, average life expectancy has continued a steady upward path as standards of living and healthcare have improved to the age of around 72 years worldwide today.

Solid state

Technology for many people means a black box with a plug trailing behind it. However, such is the ubiquity of

technology that the lines are becoming increasingly blurred between what is a regular product and what is a technology-based product, as costs fall and components shrink in size, along with rising processing power.

The growth of technology has wider repercussions than just product design.

As we look ahead to a world of quantum computing, virtual reality, 3-D printing, robotics, artificial intelligence (see page 16 for a look at how AI is being used in financial services) and the internet of things, there are bound to be significant changes for business and society as a whole.

The value of cross-border data flows surpassed the value of merchandise trade for the first time in 2015 and the borderless nature of technology, particularly online services, is paving the way for a different world order.

Control, alt and elite

Consider large-scale political acts like the Berlin Wall. It was erected overnight on 13 August 1961, effectively cutting the city in two. If it happened today, would the 60,000 people who lived in East Berlin and worked in West Berlin and were therefore stranded because the wall prevented them from getting to work, have cared if they could just log-on and carry on with remote working?

Witness the constant battle by the Chinese authorities to control content. It

has adopted sophisticated technology, such as the "Great Firewall" (blocking content coming in and out of China) to prevent the population from open access. The total number of people employed to monitor opinion and censor content on the internet in China has been estimated at two million. This form of censorship comes at a serious cost to economic growth and individual free will.

Of course, that is not to say that borders are coming down any more than they did when global air travel started.

It's more likely that politics will change with co-ordinated action by global pressure groups having a greater voice in domestic affairs whilst technology will enable the electorate to make their feelings heard without waiting for election day. The ruling classes will need to get used to a much greater level of scrutiny.

Chinese takeaway

Some economies have proved more innovative and dynamic than others, and there seems no reason to believe that these differences in national economic performance will become a thing of the past.

On the contrary, with a global market, any competitive advantage is likely to bring larger rewards and government action aimed at enhancing the competitive advantage of firms becomes more (rather than less) important.



Every year, the financial information company Bloomberg produces an index of the top 60 countries in terms of research and development intensity, manufacturing, value-added, productivity, high-tech density and patent activity.

In 2019, South Korea was number one in the index, Germany was number two and Finland was third; the US was eighth.

Within 10 years there is every likelihood that the US will lose its influence in technology (and its place in this index) the same way German industry is now struggling to adjust to the transition from the internal combustion engine to battery cell-powered cars.

Despite the censorship issues, China (currently in 16th place) is a prime candidate to over take – it has been able to complete major developments in the field of technology in the last 10 years.

Chinese scientists are now focusing on robotics, semiconductors, high-speed trains, supercomputers, genetics, electric automobiles and have recently developed a space exploration programme.

Crash barrier

What could upset this apple cart?

The lack of technology security, for one. Anything from fake news to cyber warfare attacks on a country's infrastructure by state-sponsored

hackers. As technology becomes more integral to every aspect of our lives, so the risks become greater.



Look out the window and ask yourself what may not actually exist in a decade's time

It is one thing for a hotel company like Marriott to lose the data on 500 million accounts, as they did last year, but another for a Russian teenager to gain control of a water company, a bank or an artificial limb.

Would you drive a car if there was a 5% chance that hackers could take control and crash it remotely? What about a 20% chance?

“Whale meat” again?

Perhaps more intriguing is to consider what areas of society or business will change or disappear altogether?

Look out the window and ask yourself what may not actually exist in a decade's time - where is the whaling industry or Kodak company or Persian empire of today that will disappear tomorrow?

Petrol stations may no longer feature on our roads as electric vehicles proliferate; buildings and homes could be 3-D printed to order and installed in hours; holidays could be spent in a virtual reality experience on your sofa; social class division may become defined by social credit scoring;⁴ the Renminbi could become the global currency, usurping the US dollar.

The fact is, we simply don't know. Somewhere in the world a young person in a garage might be having an idea that could well cause tectonic change.

In a way, that's part of what makes life exciting and unpredictable.

In our world, investing for the future means looking for these opportunities but understanding when the tides turn.

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Hope for the best, plan for the worst

Financial Planner Ben Rogers explains how Equilibrium works today to give clients financial confidence tomorrow.

By Ben Rogers

The truth is that no-one can predict the future (apologies to any clairvoyants reading this). We don't know what opportunities may lie before us or what might blindside us on an average Wednesday. So, when it comes to your finances, what's the point of trying to plan for the future?

The answer: hope.

We don't go out into life hoping for the worst. We hope for the best. We hope that our lives and the lives of our loved ones, will be contented, enjoyable and free from worry. However, everyone is different and I'm in no doubt that my idea of happiness could vary greatly to that of a client enjoying their well-earned retirement, or a business owner who has painstakingly built their business from scratch. Therefore, there isn't a one-size-fits-all financial plan for this purpose.

As a Financial Planner, my ultimate aim is to provide my clients with financial confidence, in spite of not knowing exactly what lies ahead.



That confidence can allow them to make better decisions which will have a real impact on their lives. These decisions might be to;

- retire from a job that gives them no satisfaction
- improve the financial security of their children or grandchildren
- change how they exit their business to ensure a legacy is maintained

Quite often, confidence is also enabling clients to enjoy the present by abating concerns about the future, such as the cost of long-term care, or one partner predeceasing another.

Each client is different, and I help them to identify what is important and what their goals are. We then create a plan to work out how to achieve those goals.

Cashflow modelling

As humans, we can struggle to see the long-term impact of our decisions in the present and one of the strategies we use to address this is called cashflow modelling.

In its simplest form, this involves taking a snapshot of your current financial position; your assets, your liabilities, your income and your expenditure. Once we know your current situation, we can create a visual projection of your finances along a timeline and include the effect of different scenarios.



Don't be committed to the guess, be committed to the process of guessing

So, now we've built a picture of where you are, we need to build in your goals. As I mentioned before, we don't know what will happen in the future (you might even live forever, as we discuss on page 14) but that doesn't mean we can't use logical assumptions to create various scenarios. To do this we start moving along your timeline and think about what significant events might warrant plotting.



Confidence can allow (clients) to make decisions which will have a real impact on their lives

Again, this will vary for every client but as an example yours might include the following;

- Your children going to school or university
- Selling your business or retiring at age 60
- Spending more on holidays for the first years of retirement
- Helping your children onto the property ladder or paying for weddings
- Downsizing your house

None of these are set in stone and they are just guesses. But as the American Financial Planner Carl Richards wrote: "Don't be committed to the guess, be committed to the process of guessing."

All financial planning is an ongoing process. Life is almost guaranteed not to work out in line with the projection. However, through regular reviews you can update the cashflow model and your goals along the way – as well as simulate likely scenarios such as market volatility – to make sure you are still on the right track towards achieving your financial goals.

Financial planning can change lives and, as a Financial Planner, cashflow modelling is one of the most powerful tools we use to give people the confidence to do just that. But (to quote Spiderman's uncle with whom I share my name) with great power comes great responsibility.

Providing financial confidence isn't about telling people what they want to hear. It's about creating a robust and personalised financial plan that is regularly reviewed, to illustrate the potential impact of financial decisions. Could you afford a new house? Should you downsize? What age could you retire? Do you need to be putting away more for that dream holiday home, or selling the holiday home you already have? These are all things that are worth considering sooner rather than later.

My colleagues and I use a cashflow modelling program called Voyant. Voyant allows us to take complicated financial planning calculations and present them in a way that is easy to understand and to access. It complements traditional financial planning and advice and can help illustrate how your financial plan will support your financial goals.

At Equilibrium, we want to give you the confidence to enjoy the present, safe in the knowledge that your financial future is secure.

Find out more...

If you lack future financial confidence, why not talk this over with one of our financial planners? To learn more about how Voyant could be of service to your financial plan, call us on **0161 486 2250** or email us at askus@eqllp.co.uk.



The UK: what's next?

With the United Kingdom at the crossroads of Brexit, what could the next decade hold for the nation's economy? To find out more, *Equinox* spoke to noted economist Roger Bootle.

By Jon Yarker

With the UK facing an uncertain future in the face of Brexit, the press is full of speculation and debate about what could happen. Even Roger Bootle, Chairman of Capital Economics and former government adviser, admits it is extremely hard to predict where the UK's economy will be in 10 years' time. However, as the economist told *Equinox*: "I think we can hazard a few guesses.

"I think we will probably do well in areas such as pharmaceuticals and aerospace, where we are already leaders, over the next decade," Roger explains.

"They may be regarded as manufacturing but in fact they are very heavily knowledge and expertise based. That is the sort of industry in which I suspect the UK will do well," adds Roger, who was also a speaker at Equilibrium's 2019 Equinox Live conference.

He says: "My guess would be that the UK will continue to do well in business services and fast-evolving areas such as IT, digital media and the creative industries."

As the UK has strengthened its presence in the digital space, the retail sector has suffered through the rise of online shopping. With several high street household names downsizing or going into administration, many experts are looking to how UK business will embrace new technology and adapt to new consumer behaviour.

The UK has a history of pioneering and inventing new technologies and Roger believes it will continue to keep its foothold in the technological frontier (see page 16 to learn more about how we think this could impact the global economy).



There is a tremendous amount of nonsense spoken in relation to Brexit

Roger says: "I think it is likely that things like robotics and artificial intelligence are going to have quite an impact. There are going to be quite a few fields where jobs for humans could be lost and the question is how the other sectors will adapt. Overall, I think the economy will cope extremely well but this has important ramifications for how people are educated and trained."

At the time of our interview, the UK government was still mired in ongoing Brexit negotiations and political standoffs. Time will tell how the UK will look outside of the EU in the long term and economists are divided over how the UK's trade relationships with the rest of the world may fare. However Roger, who has openly supported Brexit, feels the issue is misleading in the short-term.

"There is a tremendous amount of nonsense spoken in relation to Brexit," says Roger. "The most important thing

to realise is that you don't need trade deals to trade. In terms of individual countries, the UK's largest single export market is the US and we don't have a trade deal with them!

"People tend to get this subject hopelessly out of perspective. It is complete and utter balderdash that trade can't exist without trade deals."



Economic activity is not a race

The UK's future place in the global economy isn't just influenced by trade, but how other countries develop in that time. Emerging markets (countries at an earlier stage of their economic development) are widely expected to develop relatively faster, albeit from a lower starting point.

Roger believes it is a fool's errand to compare the UK economy to others around the world ("economic activity is not a race") and instead says the focus needs to be on how the UK's economic progress is managed.

Roger explains: "I've never been of the view that the Bank of England or monetary policy has an overwhelming effect on the economy. Someone once compared monetary policy to pulling a brick across a table with an elastic band – either the brick doesn't move at all, or it flies across the table and hits you in the face."

"I think the most important factor influencing our future prosperity is how we decide to run this country. It is about good governance which is unfortunately intermediated through the political system."

For Roger, this is the main dilemma facing the UK. Though the political landscape will change over time through elections and cabinet reshuffles, Roger says the country needs to be managed with long-term development in mind. In particular, he points to problems such as low productivity, insufficient infrastructure and poor education and skill levels, as issues that need to be tackled.

"I can't help but think if our systems of governance – both political and corporate – were properly successful, these issues could be dealt with," he says. "Unfortunately, sometimes I think the political system is in a state of paralysis and I think that is what has happened with Brexit. The governmental system is failing to grapple with the central problems that beset the country."



Unlocking philanthropy

Equinox speaks to Co-Founders of The Philanthropy Network, Lizzy Steinhart and Steven Appleton, and member of the network, Colin Lawson

By Sam Richards

Almost everyone has donated to charity at some point in their life. Perhaps to a friend's fun-run or by throwing a pound coin in the bucket at the supermarket checkout.

"We don't really think twice about it," says Lizzy Steinhart, Philanthropy Adviser at LCM Wealth Management, who co-founded The Philanthropy Network alongside Steven Appleton, Partner and Head of Private Client at Brabners in Manchester, last March. "Most of us just put our hands in our pockets because it's the right thing to do. We don't put much thought into what happens to the money next. That spontaneous, unplanned giving is what I refer to as charitable giving. Philanthropy is quite different."

"A philanthropist," Steven explains, "develops an understanding not only of the issue they want to address, but a strategy for how to best address it."

The Philanthropy Network was founded with the goal of inspiring professional advisers to simply start a conversation with their clients about philanthropic giving, a topic which is currently often overlooked. Professional advisers regularly deal with high net worth and ultra-high net worth clients who have the funds, ability and, more often than not, the desire to make a huge impact on the charity sector, but many don't know where to start.

"Unfortunately, when clients bring up the topic of charitable giving, many advisers' go-to suggestion is to leave a donation in their will or create a foundation or trust," Lizzy explains. But there are plenty of options available that avoid the headaches that can accompany your own foundation or trust. And, while charitable

donations in wills are brilliant, they don't provide the benefactor with the satisfaction and pride of seeing the fruits of their generosity. Giving throughout a lifetime also sets an example for others including future generations who may inherit the client's wealth.

The aim for professional advisers should be purely to initiate that conversation about philanthropic giving and direct them towards a path that can help them to achieve their goals. By strategising how much money to give, who to give it to and the goal of the donation, the process of giving becomes not only more effective, but more rewarding for the donor.

"Be confident with the discussion. You don't have to know all of the answers, it's about starting a conversation with the client and beginning the thought process. There are plenty of philanthropic advisers and organisations who you can refer your client to," Lizzy advises. "The whole philanthropic conversation is about getting clients to utilise their money to make a real difference to causes that mean something to them. We all have different interests and motivations that stem from our experiences."

Lizzy believes that these conversations are hugely beneficial to client relationships. "If you can get into that territory and safe space with a client to discuss such a personal topic, you're really deepening and strengthening that relationship way beyond anything that you could achieve by, say, turning a contract around quickly. If you're the person who then helps them to reach their





Colin Lawson on The Philanthropy Network

I joined The Philanthropy Network because whilst I saw the benefits to initiating conversations with clients about philanthropic giving, it can be a difficult subject to navigate, often because it is such a deeply personal topic. Equilibrium's primary objective is to help clients make the most of their wealth. I believe that part of achieving that is helping clients to establish their core values and create a clear vision of their philanthropic goals and how they sit within their overall financial plan.

Since joining the organisation, I have actually managed to initiate that conversation with several of my clients and, to my surprise (and relief!), the reception has been brilliant. Introducing the topic of philanthropy has led to significant change in their approach to decision-making with regards to financial and intergenerational planning. I feel that not only will these conversations contribute to the greater good of the charity sector, but it will help Equilibrium deliver a better service to our clients.



The aim for professional advisers should be purely to initiate that conversation about philanthropic giving

Steven's experience and the success of The Philanthropy Network so far is proof of the huge appetite for this type of giving. The organisation's last event in November sold out, with people journeying to Manchester from London to attend.

Their next event, a breakfast seminar on Thursday 13 June at the Clink Café, Chepstow Street, Manchester, will feature philanthropy specialists including Martin Ainscough, an extraordinarily charitable and philanthropic individual who was awarded a CBE in 2016 in recognition of services to charity, education and young people. The venue is part of the Clink Charity, which trains and employs prisoners in an attempt to reduce reoffending rates. All ticket profits will be donated back to the charity, as well as the contributions from room hire and the breakfast.

Steven and Lizzy would like to acknowledge the input and support of the Steering Committee made up of key senior figures from the professional adviser community in the North West, representing Ward Hadaway, Castlefield, Cheshire Community Foundation and the Charities Aid Foundation.

philanthropic goals, you'll be remembered for it. In terms of building relationships with clients and families, that's really the highest praise you can get."

Steven has personally seen tremendous results just by having conversations with his own clients. He believes that a sum of over eight figures has been committed as a result of him initiating the discussion.

Find out more...

If you are interested in attending The Philanthropy Network's breakfast seminar, get in touch with Lizzy Steinhart at elizabeth@lcmwealth.co.uk or register at www.philanthropyseminarjune19.eventbrite.co.uk.

You can also join The Philanthropy Network's LinkedIn group if you are interested in learning more about philanthropy and how to engage with clients about it, simply connect with Colin Lawson and request to be added. There, you can read blogs, research and keep up-to-date with events.



Who wants to live forever?

Perhaps Freddie Mercury was asking a more philosophical question, but some scientists believe eternal life could one day be a real choice facing the human race.

By Sam Richards

Humanity has been fascinated by immortality since it first grasped the concept of death. Throughout history we have tried to defy our seemingly certain demise, with legends such as the philosopher's stone appearing as early as 300 AD.

Whilst we haven't found the elixir of life or the fountain of youth yet, the human race has undeniably pushed the limits of its own mortality. Death is so culturally engrained in



In the sense that matters most, ageing is just like smoking: it's really bad for you

society as an inevitability, any talk of "immortality" is often dismissed as pseudoscience, but advancements in medical and biological understanding have vastly improved not only our quality of life, but the length. In 1850, the average person would live to just over 36 years. Fast forward to 2018 and that figure had more than doubled in the UK, to 80 years.

What if "death and taxes" aren't the only certainties in life, as Benjamin Franklin and Daniel Defoe so famously claimed? The truth is, nobody actually dies of old age. As we get older, tiny errors in our DNA build up, making us more vulnerable to disease and injury and therefore death. Put simply, the cells in an 80-year-old just don't work as well as those in a 20-year-old.

Billions are being spent all over the world attempting to reverse the effects of ageing, and there is plenty of research (and history) to support the idea that biological advancements could extend life significantly. In 1990, Cynthia Kenyon (now Vice President of Aging Research at Calico Labs) found that by changing a single letter of their genetic code, roundworms could double their lifespan from three weeks to six.

The SENS Research Foundation (Strategies for Engineered Negligible Senescence) advocates treating age as though it were a disease. Aubrey De Grey, Chief Science Officer at SENS, explains in his book *Ending Age*: "I have been aware for many years that most people do not think about ageing in the same way that they think about cancer, or diabetes, or heart disease. They are strongly in favour of the

absolute elimination of such diseases as soon as possible, but the idea of eliminating ageing – maintaining truly youthful physical and mental function indefinitely – evokes an avalanche of fears and reservations. Yet, in the sense that matters most, ageing is just like smoking: it's really bad for you."

SENS has identified seven types of "damage" that cause ageing, including cell loss and nuclear mutations, and is currently researching strategies to reverse their effects. The organisation theorises that reversing these effects could lead to "negligible senescence".



The idea of immortality being within reach is both awe-inspiring and terrifying

Some scientists are taking the idea of immortality even further, exploring avenues outside of our biological constraints. Ray Kurzweil, a leading futurist, inventor and author of *The Singularity is Near* (reviewed on page 18) believes that the human race is nearing immortality. Kurzweil has watched the exponential growth of technology for decades and analysed trends to successfully predict many advances, such as a computer beating humans at chess. He believes that by 2030, software and nanobots will be able to cure most diseases, and that in an event called "the singularity", which he predicts will happen around 2045, artificial intelligence will surpass human intelligence and we will be able to upload our minds onto computers and become "digitally immortal".

Whilst some fear the possibility of evil, human-hating robots roaming the Earth, Kurzweil believes that this level of technology and capability for

intelligence is the path to immortality; superhuman intelligence will be able to solve problems and understand concepts that our biological brains are simply not equipped to do.

The idea of immortality being within reach is both awe-inspiring and terrifying. Defying death and spending eternity travelling the world (or even the universe), never needing to worry about losing your loved ones seems like a utopian dream, but how will society cope with the ever-growing population? Very serious questions are already being raised about our ability to cope with the number of people on Earth, and a decreased mortality rate would cause that number to skyrocket.

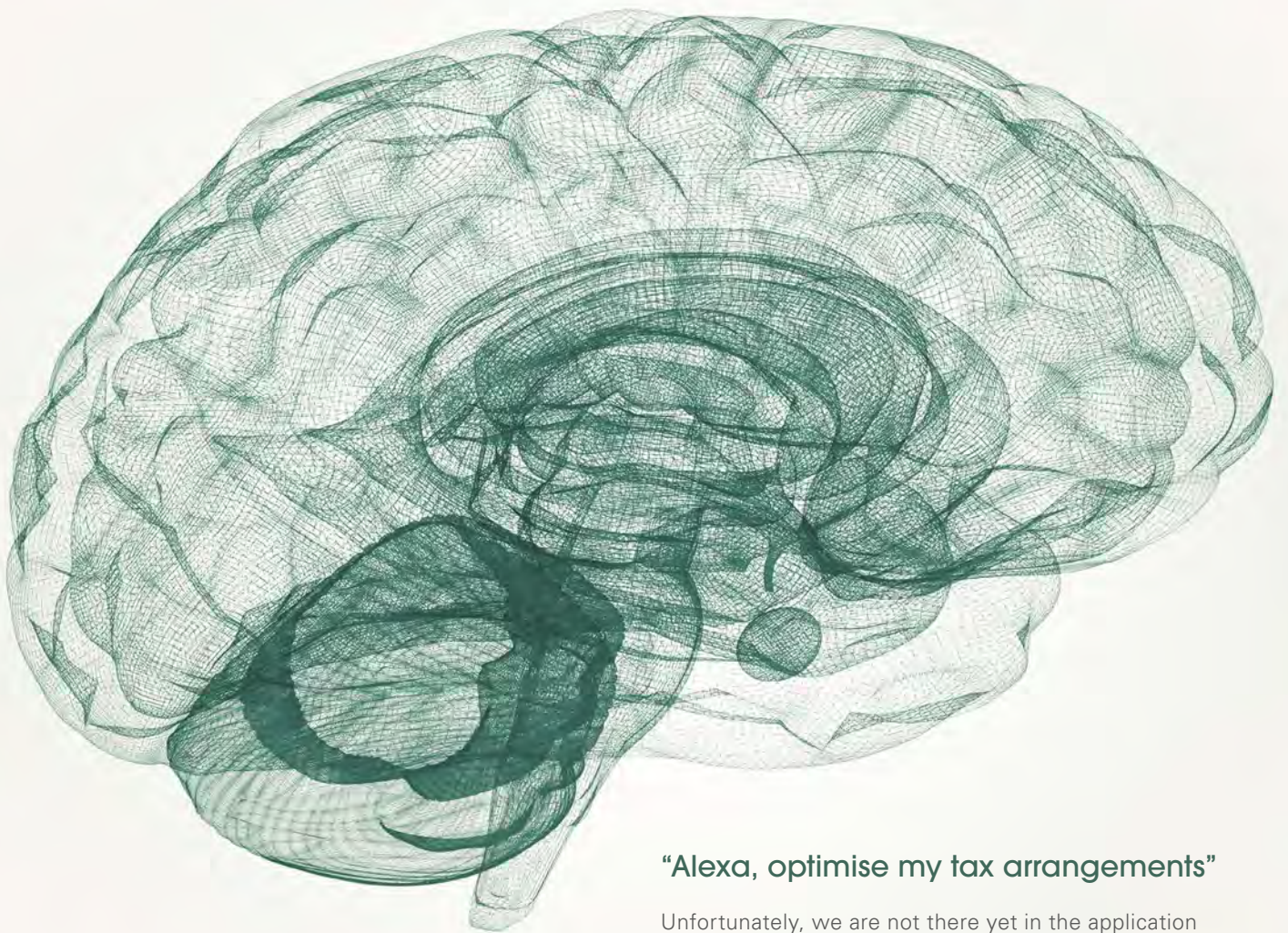
Dr. Peter Diamandis and Steven Kotler outline their optimistic outlook on sustainability in their book *Abundance* (also reviewed on page 18). In the universe, there is actually an ample supply of all the elements we need to sustain life, the issue is accessing and utilising them. The authors use the example of an orange tree to illustrate their point: a human could only physically reach the low-hanging fruit, and therefore that would be our only resource. However, upon further investigation it becomes apparent that there is plenty of fruit at the top of the tree, somebody just needs to invent a ladder. Again, we are presented with a limitation, this time the total amount of fruit on the tree. But once somebody realises that planting another tree produces even more fruit, the resource becomes plentiful again. And so on.

There are, of course, very legitimate concerns about overpopulation and sustainability. But when you take a look back at society and the adjustments and advancements it has made over the last century alone, does it not seem possible, or even probable, that the human race could adapt? Could we truly achieve sustainable immortality? Only one thing is certain; whatever happens, you'll still get taxed.

The pain & gain of AI in finance

With technology taking over more jobs and responsibilities, how long will it be until we can entrust our finances to a computer?

By Neal Foundly



“Alexa, optimise my tax arrangements”

Unfortunately, we are not there yet in the application of Artificial Intelligence (AI) to finance. But we are not far away.

You may have read about various AI projects that have been designed for applications from controlling self-driving cars to beating humans at playing sophisticated games like *Go* and *StarCraft*.

Critically, these tasks are very rules-based. Games are a great example of where AI has an advantage of learning by mistakes and playing to win by narrow margins. This is only possible in rules-based environments where the limits are bound.

As a result, it is likely that an AI system may well be able help clients navigate through the UK's 17,000-page tax code before too long. After all, the Inland Revenue is already looking at applying AI from its side of the fence¹.

In other areas of finance, AI is being applied where there are tight rules and limits such as in the execution of trades, analysis of media commentary, fraud detection and payment systems.

“Hey Siri, maximise my investment returns”

So far, we have been talking about AI being applied to tasks where it can be faster, forward-looking and able to learn on the job in narrow, defined fields.

However, this request to Siri is a whole different ball-game, as the software has a problem with real life.

For example, the AI behind Google's self-driving car needs to be updated for new rules almost daily. If a child is cycling around a roundabout the wrong way, it does not have a rule for that situation and the system needs to be told what to do.

So, imagine what is required for AI to navigate the investment world.

The multiplicity of interactions, risks and exogenous factors behind the macroeconomics of a developed

economy, or even microeconomics of a mid-sized company, are manifold.

Asset markets are highly complex, adaptive systems and continually adjust to the expectations of investors. Think of it as not only global weather forecasting but anticipating how people will react to it when they look out the window.



One needs to consider the overall net effect on the labour market

Architects of AI are trying, however. There is a development to build an intelligence that is, “contextualised, situationally aware, nuanced, multifaceted and multidimensional”, i.e. is both clever and has common sense.

This form of AI, known as Artificial General Intelligence (AGI), builds knowledge by a process of transfer learning, where it can apply knowledge from one situation to another that it has never seen before – learning like humans.

We are a long way away from a time when AGI becomes your investment manager, however.

Last year, a survey of the best minds in the field put the average date for when human-level AGI will be achieved as 2099. For another 90 years, we will

have to be content with AI improving the tasks involved in investing and finance, rather than actually running the money.²

“Google, lower my costs”

Autonomous, the IT consultancy, published a study of the implications of AI in finance last year. They concluded that across banking, insurance and investment management, AI could result in \$1 trillion of cost savings. In investments alone, this could save around 26% of total industry costs with around two-thirds of savings in the front office and the remaining third split between middle and back office.³

It is a sad fact that these cost savings will mean job losses. It is very difficult to gauge the numbers at this stage but if a quarter of the costs are reduced, this gives a rough indication.

However, one needs to consider the overall net effect on the labour market. When the automobile was invented, many worried about the future employment of the stable workers that tended the horses that pulled the carriages.

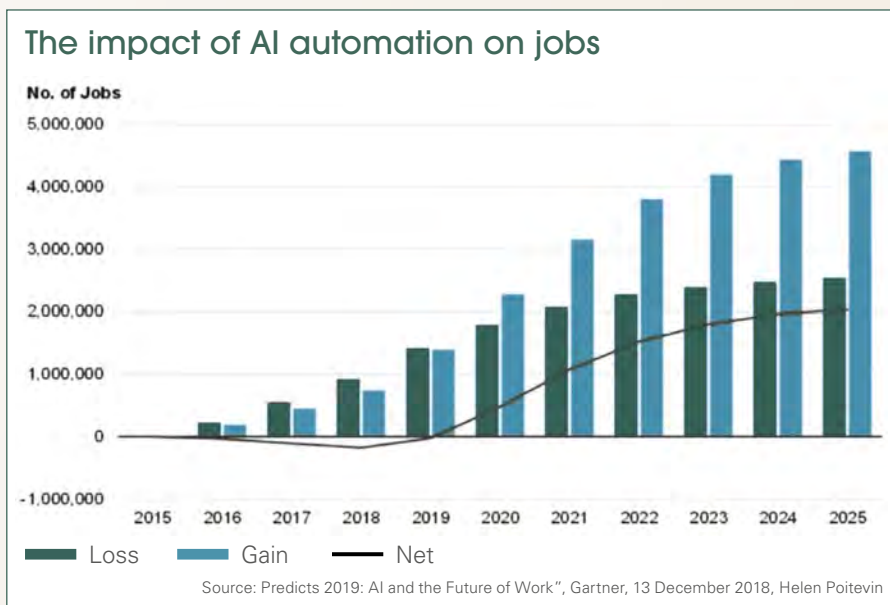
In the 1960's, fears over joblessness prompted President Lyndon B. Johnson to create the Blue-Ribbon Commission on Technology, Automation and Economic Progress. The Commission reassuringly concluded, “The basic fact is that technology eliminates jobs, not work”.

Consultants, Gartner, last year published a report forecasting that AI would actually increase the level of overall employment. The report argued that the growth of AI would mean people will learn to do less routine work and become trained in new tasks. Gartner Research Vice President Svetlana Sicular wrote: “The human is the strongest element in AI.

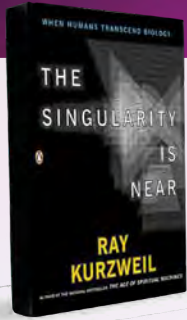
“Newborns need an adult human to survive. AI is no different. The strongest component of AI is the human touch. AI serves human purposes and is developed by people”.

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What we are reading this month...



Jon Yarker, Marketing Executive

The singularity is near

by Ray Kurzweil

It's quite ironic, reviewing a book about the future that is actually 14 years old. But when I sat down and read *The singularity is near* by Ray Kurzweil, well aware it was published back in 2005, this actually made it more interesting. How much had the author got right in his predictions?

Though it was written over a decade ago, *The singularity is near* is still relevant. This non-fiction book takes a detailed look at the future of humanity and artificial intelligence. The "singularity" in the title is a predicted stage of evolution in which human technology and intelligence will merge.

At over 600 pages long and with chapters such as "A panoply of existential risks", this isn't a light read. Nor will it be for everyone as some of the arguments made, though interesting, are overly in-depth in my opinion. However, when you look at how technology is evolving (it was recently reported that 154,000 artificial intelligence patents have been filed since 2010) this book does make for fascinating reading. If you're interested in what else the evolution of technology and its relationship with humans could hold, I highly recommend you pick up this book.



Sam Richards, Marketing Executive

Abundance: the future is better than you think

by Dr Peter Diamandis and Steven Kotler

Abundance is a beacon of hope amongst the current doom and gloom dominating the news. This optimistic book convincingly outlines the potential for an extremely bright future backed up by thorough research and studies.

Despite the media relentlessly implying that we live in a tragic period of history, *Abundance* explains that we are currently in an age of remarkable human achievement that far surpasses anything prior. Technology is improving at an incredible pace; anyone with a smartphone has access to more information than the President of the United

States did just 20 years ago. Diamandis and Kotler theorise that these advancements are the key to unlocking a plentiful world.

Delving deep into topics such as technology and health whilst remaining accessible in its language, the book paints a utopian future for all where everyone on Earth has access to vital needs such as clean water and education. It's a must-read for anyone feeling pessimistic about our planet and the path it is on.



Racing into tomorrow

Equinox spoke to Matt Hallam who has built a business around the combination of sport and new technology.

By Jon Yarker

"It's great to be part of the golden era of [British] cycling," Matt Hallam, Co-Founder of Crimson Performance, explains to *Equinox*. And what an era it has been – since 2012, Team GB has won 24 Olympic medals in cycling events including 14 golds. Champions such as Sir Bradley Wiggins and Sir Chris Hoy have become household names with Geraint Thomas – the third British cyclist to win the Tour de France – being named BBC Sports Personality of the Year for 2018. With so much success, more Brits than ever are grabbing their bikes and getting involved in the sport.

Seeing a business opportunity, in 2017 Matt co-founded Crimson Performance, a company that uses the latest technology to help cyclists fulfil their potential. Matt, a sports science graduate and bike fitter by trade, has helped create software that takes a rider's data (from a device called a "power meter") and uses this to track and modify their training progression.

"From market research we found that power meters were the most popular accessory purchase for bikes over a certain price," says Matt when asked about Crimson Performance's software. "We hope that we've been able to innovate by creating digestible information for people who don't want to be baffled by the science.

"The great thing is, you don't need a degree in sports science to be able to use this software. In addition, we launched an automated training programme last year. Our online business is subscription based (customers can select either a monthly or annual subscription) which unlocks access to our power-based training and testing software."

Crimson Performance works with riders, putting them through their paces and tracking their progress to visually quantify their data. This is used to indicate their untapped potential, hopefully helping them reach their next level of ability while avoiding bad training habits.

"Now people are training smarter, the use of power meters have become a prerequisite," explains Matt. "These are different to heart rate monitors, which are simple and can be easily influenced by something as innocuous as the rider's morning coffee! Power meters are the ultimate training tool and when used properly they can maximise every minute of every ride."

Crimson Performance has already sold many subscriptions to its training programme and has since unveiled a premium bike fitting service that aims to adjust riders' bikes to allow for optimum performance. Matt says: "You cannot out-train a poor bike fit and the investment made to optimise your bike position can unlock huge performance and comfort gains. We only offer one level of service, the "Ultimate Fit", which admittedly was a risk from a business standpoint but what is the point of aiming for anything but the best?"

Matt is excited to be working with so many new clients who are interested in taking their training to the next level. And whilst technology may be playing a larger role in training, Matt says some of the old school tactics are still timeless.

"For anyone interested in taking their cycling to the next level, I would say be realistic with what training you can do in a given week," says Matt. "Set realistic targets and short-term goals and be consistent with your training. A training programme should fit around a rider's family life and work!"

Find out more...

Discover how Crimson Performance could help take your training to the next level and learn about their subscription offers at www.crimsonperformance.com.



Job done

Walking away from working life can be a challenging process for many business owners. But this wasn't the case for Equilibrium client Mike Bailey who had a plan and stuck to it. *Equinox* spoke to him to find out more.

By Jon Yarker

It's early 2019, and Mike Bailey – Equilibrium client and former business owner – is relaxing in the kitchen of his spacious Cheshire home as he chats to *Equinox*. Having sold his business a few years ago, Mike is now happily retired and enjoying a new chapter in his life. But to understand his story and his journey, he takes *Equinox* back a few decades.



"Back in the 1990's, before I'd thought of buying any business I wanted to know roughly how much money I would need for the rest of my life," explains Mike Bailey (pictured left). "We had four children so I knew it wouldn't be cheap." For a long time in his career, Mike wanted to know exactly how much he needed to be able to enjoy his life to the fullest. So, he decided to sit down with a financial adviser (someone Mike consulted before he became an Equilibrium client) to calculate how much he would need to set aside in his retirement pot given his life expectancy and what he may need to pay for throughout his life.

Mike says: "All this was put into his computer program along with a rough guess of how long I could expect to live, obviously a crucial factor, and out popped this ridiculously large number. So, from an early stage, I was roughly aware of what I needed but no idea how I was actually going to get it."

This figure was very much on Mike's mind years later when he and his business partner bought out Didsbury Engineering, a Manchester-based aerospace and defence engineering company, in 2003. Mike had been working there as Managing Director and saw the potential to make the troubled enterprise profitable again. What followed was several years of hard work to improve the business (including changing premises, developing new products and entering fresh markets) but he always kept in mind how much money he'd need to accumulate to retire comfortably.



It was nice to be able to walk away sooner rather than later. The sale price more than met my aspirations

In 2011, with Didsbury Engineering profitable and its debts paid off, Mike and his business partner started to think about their exit. This would take several years to organise but the goal was still as clear as ever.

"It was at least a couple of years before the actual exit stage that we started the selling process. It took around two and a half years to get everything in order," says

Mike, whose target figure was still the same one that he and his financial adviser had arrived at decades earlier.

"A good piece of advice I have always kept in mind is if you ever manage to get to your number, sell. If that number covers everything you can think of, why would you want more?"

However, there was still plenty of work to do. Mike and his partner signed up to a company that helps business owners find buyers. With Didsbury Engineering having a truly global reach, the search for a buyer went worldwide. Initially, 220 potential buyers were identified and, of these, 60 would sign non-disclosure agreements.

This was further whittled down to 20 who they would meet with. Though a busy time, Mike enjoyed this period: "I loved the exit process and never saw it as challenging. I've always been in sales, marketing and business development so I viewed selling the business as the ultimate sale - so for me it was quite exciting."

He enjoyed meeting all these people and there was a diverse range of suitors. Aside from the usual aerospace suspects, in this final 20 was a potato farmer looking to diversify his business interests and a member of a famous pop boy band curious for a new investment.

It was a busy time, full of meetings and negotiations. During this period, the staff were kept up to date so there were no secrets. Mike had made it clear to his employees they were seeking a good company to sell to, so that Didsbury Engineering would be in safe hands.

Eventually, in 2016, the deal was completed and Mike agreed to stay on for a year. However, to his pleasant surprise, he was able to walk away early. He says: "In the end I only stayed on a few months because the new owners got on so well with the general manager I had hired to replace me, it wasn't long before I was surplus to requirements.

"It was nice to be able to walk away sooner rather than later. The sale price more than met my aspirations and that ridiculous figure we had determined all those years earlier, so I was never nervous about finishing work. I was actually really looking forward to it. It never crossed my mind that I'd finish work and not know what to do next."

So, after years of planning and pursuing his goal, Mike had finished work and was able to enjoy his retirement. He has since

used his experiences to help benefit others, starting a consultancy called the "Business Edge" which helps owners structure for an exit.



It never crossed my mind that I'd finish work and not know what to do next

Mike says: "I also sit on a panel, organised by the company that sold our business, which allows owners looking to sell their companies to ask us questions about the process. I find that is a nice thing to do every couple of months as you get to travel to different places, get to know some interesting businesses and meet some very nice people."

Though he was prepared and looking forward to finishing work, Mike admits it did take some getting used to. Specifically, when attending an Equilibrium event after the sale, Mike realised he had to find a new way to introduce himself.

"I was sitting at a table with two ladies and for various different reasons we had all finished work. We all found it funny that we were struggling with how to introduce ourselves. None of us had business cards any more, we all thought 'Retired' sounded too old, 'Between jobs' sounded like you have been sacked, 'Finished work' sounds like you had to give up, so we joked about getting business cards printed up with some vague job titles so we were still a 'somebody!'"

Mike may be struggling to put a label on it, but whenever he is asked "what do you do?" he won't be short on answers. He is now enjoying his retirement and filling it with family time (no longer confined to the weekend), walking his dog Molly, birdwatching and getting around to improving his golf skills. His future plans include a lot of trips (he and his 14-year-old son have already been to both the North and South Poles) and Mike says he is enjoying his retirement with no pressure on time: "It's so nice to be able to spend as much time as you want on something rather than rushing it because you have to go to work on Monday morning."

Recycling Lives

How can a business plan change the world? *Equinox* spoke to Recycling Lives to discover how their company is creating positive social change.

By Sam Richards

Gary's criminal record started at age 13. At 40-years old he was in prison, had never had a job and had no qualifications. What future awaited him? With reoffending rates at almost 70%, you'd be forgiven for assuming that upon release, it wouldn't be long before Gary was back behind bars.

But Gary's life had changed forever. He left prison with a job, some money in his pocket and a purpose to his life, all thanks to a fantastic programme by Recycling Lives which facilitates the business and the community alike.

Grown from a family-owned scrap merchants in Leyland, Recycling Lives was founded in 2008 by Steve Jackson, who was awarded an OBE in the 2013 New Year Honours list for his services to employment and the community in Lancashire. The waste management company offers a vast array of services; whilst its recycling and waste management solutions are extensive (covering general waste, mixed recycling, cardboard and packaging, hazardous and confidential waste), it also offers compliance schemes, award-winning training programmes, recruitment services and business support and mentoring for small businesses.

But there's much more to Recycling Lives than its commercial services. Making a positive impact on the community is an integral part of their business. The company is committed to delivering 10% of their turnover in social value, and they have various programmes in place to achieve this. Their recruitment of ex-offenders delivered social value of over £8 million in 2017/18 alone by saving taxpayers' money, and over 40% of their 400-strong workforce have either been in prison or homeless at some point.

Around 15 years ago, Recycling Lives' predecessor business was approached by a prisoner from HMP Kirkham looking for an opportunity to work on day release. Bringing a raft of skills and showing untold dedication to the business, he proved that giving offenders a chance was worthwhile.

Steve saw an opportunity to make a difference. Many prison-leavers weren't returning to a better life – in fact, the reality was quite the opposite. Unemployment or even homelessness are very real threats to ex-offenders, and by offering these individuals an opportunity, the business could change people's lives, make a positive impact on the community and gain dedicated, hard-working employees all at the same time.



The plan worked. Steve found that the people coming from the prison were some of the most hard-working individuals he'd ever met because they were so grateful to be given an opportunity. Meanwhile, the company was winning more and more contracts with councils recycling unwanted TVs, and they used the opportunity to open a recycling workshop within the prison itself, known as an HMP Academy. They employed and trained the prisoners to take apart the TVs, separating the useful pieces to be sold on. In addition to the social and business benefits of this, the client (in this case, the council) also profited as they received a rebate for the value of their product. Plus, they too had made

a positive social impact by providing the contract for the Academy.



Every member of society is responsible for building a better world, and more and more people are recognising that

has also delivered around 2.5 million meals to disadvantaged groups across Lancashire and Cumbria by redistributing surplus food from supermarkets – meals that would otherwise have gone to waste.

The positive impact of these schemes is massive, and it only serves to help Recycling Lives grow even further by winning more contracts and, in turn, attracting brilliant staff. Companies and individuals alike want to work with the business because they are competitive commercially but with the added value that they are driving real change in society - it's not just about the money.

This was the birth of Recycling Lives' HMP Academies programme, which now operates 12 academies across the UK and is growing fast. The scheme pays prisoners £55 a week for their work (which is the maximum allowed), and they are supported to save this wage ready for release, therefore ensuring that, as well as a job, they also have some savings. Recycling Lives also has a pastoral care programme providing many with the support and drive to excel.

The company's ethos has proven to be an effective business plan throughout its history. The loyal and hardworking team that Recycling Lives has built has helped the business leap from strength to strength. Last year, their turnover rocketed from £46.5 million to £75 million. In three-year's-time, they plan to be at £300 million. Their commitment to delivering 10% of their turnover in social value means that the more they grow, the higher their positive social impact climbs. If they reach their target of £300 million, they'll be creating a massive £30 million of social value.

You may be wondering, "this all sounds great, but does it work?". Quite simply, yes. The reoffending rate of individuals who go through the HMP Academies programme is less than 5% compared to the nationwide average of around 67%. That is a huge social impact, and the HMP Academies are just the start of the work that Recycling Lives does.

Robert Hall, New Business Director at Recycling Lives, explains: "Our board and everyone in the business is geared to the same commitment – if the commercial value goes through the roof, we will always continue to deliver that 10% social value, we'll never shy away from it. It's engrained in our business."

The company also offers a residential programme that gives homeless people a place to live and teaches them valuable life and employment skills to get them back on their feet. Their Food Redistribution Centre

Recycling Lives provides a valuable lesson for both existing and aspiring business owners and employers. Every member of society is responsible for building a better world, and more and more people are recognising that, hence the success of the company. We are all responsible for our society, and the real lesson to be learnt from Recycling Lives is very simple: if you see a problem, start fixing it.

Find out more...

You can learn more about Recycling Lives and their services at www.recyclinglives.com.

Talkin' about their generation

With access to so much technology from an early age, what does the future hold for Generation Z?

By Jon Yarker



Throughout history, people have been slow and even scared to use new technology. When the phone was invented in 1876, preachers warned phone lines would be used by evil spirits. After the first railway was created, doctors warned the human body wasn't supposed to travel at more than 30mph. And the fear around Y2K had many worrying the new millennium would bring back the dark ages.

Now, nearly two decades on, technology is extensively used within everyday life. Ecommerce has changed how we consume goods and services, social media means we are now more connected than ever and with smartphones becoming widely owned, there are almost endless opportunities at everybody's fingertips.

This brings us to Generation Z.

Generation Z stands apart as the generation that has grown up with, and is therefore automatically accustomed to, all this technology that has defined the modern age. Generation Z doesn't remember a time before the internet or the frustrations of dial-up. Generation Z has grown up with a smartphone in hand and boundless information just a few taps away.

So, who are Generation Z? And how are they different to millennials? Well, there are a lot of different labels but the table below could provide some clarification. Millennials were typically born between 1980 and 1994 and, confusingly, can also be known as "Generation Y" or "Gen Next". Generation Z follows millennials with births ranging from 1995 to 2012, so as of time of writing, the oldest Generation Z member you'll come across is 24-years-old. And anyone younger than this is known as

Generation Alpha (we'll cover them in a couple of decades' time when they're confusing Generation Z...!).



Generation Z doesn't remember a time before the internet

Aside from their age band, what else makes Generation Z different? Looking past the clichés of smashed avocado on sourdough toast and "smartphone zombies", in 2018 a survey by IPSOS Mori came to some surprising conclusions around this generation.

The findings are initially quite positive. Compared to millennials when they were the same age, members of Generation Z are nearly twice as trusting of other people (in 2017 61% of survey respondents said they would naturally trust someone compared to 36% in 2002). This corresponds to a shift towards higher social activism, with nearly 50% of 14 to 16-year-olds saying they had given their time to help in the community over the past two years. These idealistic traits also cross over into their spending habits, with 25% of UK schoolchildren saying they had avoided certain products because of the conditions under which they were prepared (compared to 19% of millennials at the same age).

One of the other distinctions between Generation Z and millennials is that the former has grown up with an incredible amount of interaction with technology and media that previous generations

came to much later in life. And this has had an impact on the way they access and interpret information. For one, among Generation Z there has been a huge drop in trust of online news sites since 2010. The same 2018 IPSOS Mori survey found only 50% of 12 to 15-year-olds believed most or all of what they saw on news websites and apps – compared to 87% of children the same age in 2010. A curious contradiction is emerging here; this is a generation that is more likely to trust each other but not traditional sources of information. Furthermore, the fact that more schoolchildren are willing to avoid certain products shows this generation is more discerning of corporate practices than before.

In the future, Generation Z may approach the workplace differently as well. Starting with higher education, universities – with increasingly high tuition fees – may not be the most popular path into the workplace (last year alone saw a 2% dip in university applications across the UK). With higher education proving less attractive, tomorrow's workforce may establish their own career paths. For instance, the Genius Network – a global organisation of entrepreneurs centred around sharing ideas at seminars and workshops – recently held a panel debate of four successful businesspeople all from Generation Z. These entrepreneurs, aged between 17 and 21, told the audience how they had all strived to make their own careers and avoid well-trodden paths. One of the panellists, 17-year-old marketing specialist Connor Blakley, said: "If you're zigging and zagging within the same confines of all the same things that everyone did before, you're going to get the same results."

And in terms of the opportunities open to Generation Z, it is natural that they will start to think outside the box when it comes to their futures. For instance, in recent years the business landscape in the UK has undergone severe change with several sectors facing significant headwinds (such as retail) and Brexit is casting a shadow of uncertainty over several industries. The next few years could see new career paths open up, with more people entering the job market at a younger age and non-traditional sectors attracting more applicants.

Whatever happens, one day Generation Z will be in charge, becoming world leaders, heading up corporations and dictating the cultural tone in society. But what kind of world will they inherit? Turn back to page four where we try to answer this question!

Which generation are you?

Generation name	Births start	Births end	Youngest age today*	Oldest age today*
The Lost Generation / The Generation of 1914	1890	1915	104	129
The Interbellum Generation	1901	1913	106	118
The Greatest Generation	1910	1924	95	109
The Silent Generation	1925	1945	74	94
Baby Boomer Generation	1946	1964	55	73
Generation X (Baby Bust)	1965	1979	40	54
Millennials / Generation Y	1980	1994	25	39
iGeneration / Generation Z	1995	2012	7	24
Generation Alpha	2013	2025	1	6

(*age if still alive today) source www.careerplanner.com

Views from the frontline

In this section we hear from four investment professionals who share their views on their particular asset class. For this edition we have focused on some of the more "alternative" funds within the portfolios

Infrastructure

Infrastructure funds invest in assets such as toll roads, airports, railways, power generation and other similar assets. They tend to do so by buying shares in relevant companies or in investment trusts that directly own the infrastructure. These are often seen as a more defensive form of equity where income streams are less reliant on the economic outlook.



Bertrand Cliquet

Portfolio Manager
Lazard Global Listed Infrastructure Equities

Infrastructure offers a number of compelling characteristics that may appeal to investors. The longevity of the assets is rarely matched by other companies. The most compelling characteristics emerge when investors focus on assets delivering essential services to communities, such as water, electricity, gas, transport or telecommunication infrastructure.

Those companies' cashflows will be largely uncorrelated to the economic cycle, providing substantial diversification benefits to a portfolio, as well as robust capital preservation attributes. Additionally, price adjustments are linked to inflation. As such, we think that the asset class can be a good middle ground between fixed income securities and broader equities, offering returns consistent with inflation +5% over a market cycle.

However, investors should be ready to navigate rising political and regulatory risk. Investing in countries with a strongly established separation of legislative, executive, and judicial powers will be key to protecting investors' capital, in our view, by better safeguarding the stability and predictability of revenues.

Residential mortgage-backed securities

Whereas most bonds are essentially loans to companies, Residential Mortgage-Backed Securities (RMBS) are bonds made up of packages of mortgages. By buying a bond, we are therefore lending to individuals although each bond contains hundreds or even thousands of mortgages. The sub-prime versions of these bonds became infamous in the financial crisis but, just like corporate bonds, RMBS is a very broad market ranging from heavily secured government backed, to higher yielding bonds with greater risk.



Greg Parsons

CEO
Semper Capital Management

The market for RMBS in the US is over \$6trillion in size and offers a range of investment opportunities. This consists of agency (government-guaranteed) securities and non-agency (non-government guaranteed) securities.

The non-agency component represents a diverse combination of both legacy (pre-financial crisis) and next generation (post-crisis) mortgage securitisations. The credit quality of legacy bonds is far improved from the days of the financial crisis with increases in the amount of equity in the underlying homes and in the personal incomes of the borrowers. While house price growth may slow, it remains positive and above the rate of inflation. Furthermore, legacy non-agency RMBS securities are paying down at approximately 15% per year (as mortgages are repaid, repayments are made on the bonds).

Meanwhile, the next generation issuance has typically undergone stringent underwriting resulting in improving credit quality. Collectively, this asset class can be characterised by a high relative yield due to perceived complexity, low interest rate sensitivity and credit considerations and market opacity. Many bonds have floating rates rather than fixed coupons (interest payments).

They are also lowly correlated to other asset classes. These factors help make RMBS a compelling investment option given risks around uncertain domestic and global growth and geopolitical turmoil. There are persistent structural inefficiencies embedded in the mortgage market that allow a skilled, active manager to persistently add value for investors.



Long income commercial property

Long income property funds are generally seen as lower risk than mainstream commercial property funds. The asset class can be split into two categories; direct buildings, often let to companies such as supermarkets, and freeholds. These are often linked to buildings such as hotels where the operator may sell the freehold to a fund manager, raising capital for renovations without having to increase borrowing.

Long/short equities

Whereas traditional equity managers typically only make money in rising markets, long/short funds can potentially make money even in falling markets. They can bet on individual stocks to either rise (going "long") or fall (going "short"). They can be risky as we are relying on a manager to get their calls right, but generally they aim to mitigate some of these risks by pairing both long and short positions to reduce sensitivity to overall market direction.



Roger Skeldon

Co-Fund Manager
TIME Commercial Freehold

Investing in commercial long income property is very different to traditional commercial property, with reduced risk as measured by volatility.

As with all strategies there is a trade-off between risk and return. Long income property also known as long lease property, provides little exposure to valuation risk but also a secure, stable income with a level of inflation protection.

The TIME Commercial Freehold fund has a weighted average lease term in excess of 60 years, five times that of traditional UK commercial property. In addition, over 95% of the property portfolio's rent reviews are either inflation linked or have a fixed uplift, rather than being subject to an open market negotiation, where the prevailing market environment will ultimately have an impact on performance.

The fund typically invests in buildings where the occupation of the business is fundamental to the operation of the tenant, such as hotels, supermarkets or fitness centres. The length of the lease and the fact that the building is an integral part of the business mitigates some of the risks often linked to property funds such as the loss of income through vacant buildings. The return profile of the fund is not linked to short-term property market fluctuations as a result.



Malte Heining

Portfolio Manager
Carmignac Long/Short European Equity

The Carmignac European long/short strategy combines two critical advantages to thrive in more volatile markets. On the one hand, we have the flexibility to adjust net equity exposure very dynamically in both positive and negative territories (-20% to +50%). This means the fund can position itself to make money from individual stocks or markets falling, as well as rising.

The fund seeks to generate positive risk-adjusted returns with low correlation to the general market environment over the long term.

We expect a volatile environment to stay with us for the foreseeable future. Years of abundant liquidity and low rates created an asset bubble and, with discount rates going up, we are likely to see widespread contraction that could hit all asset classes. While this environment might be more difficult to navigate for long-only funds with a less active approach, we believe that it offers significant opportunities for European long/short funds like the Carmignac portfolio.

However, one of the main risks with this type of investing is that long and short positions may undergo simultaneous unfavourable development in opposite directions. However, we constantly monitor risks through a continual sizing of positions and a disciplined review of the validity of investment thesis with the aim to limit volatility and downside risk.

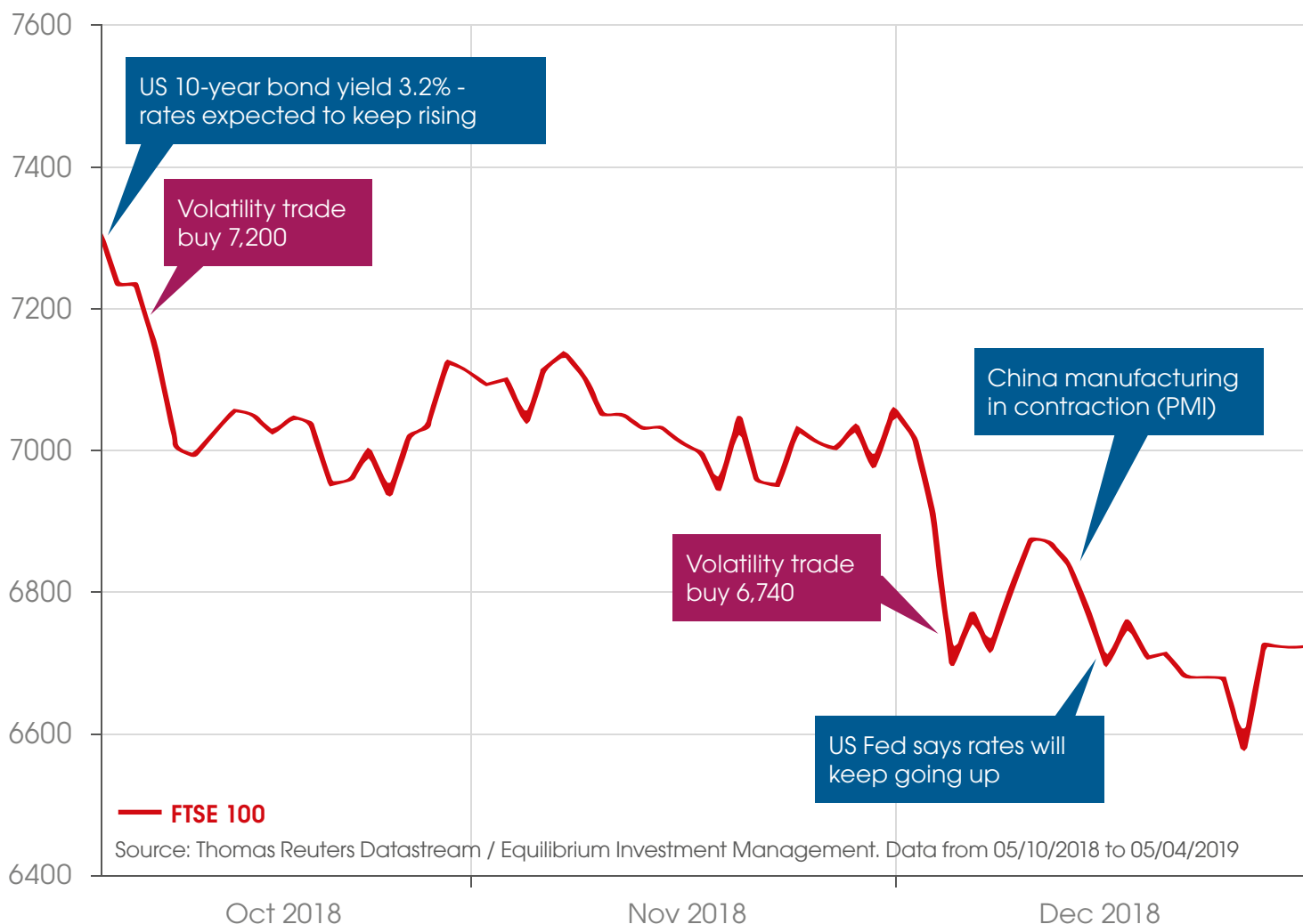
Investment review:

Finding value amid volatility



Welcome to the investment review section of this edition of *Equinox*.

By Mike Deverell



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Explaining our approach

Amid headlines full of Trump and Brexit uncertainty, we explain how we approach markets and support decisions with evidence.

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Asset class outlook

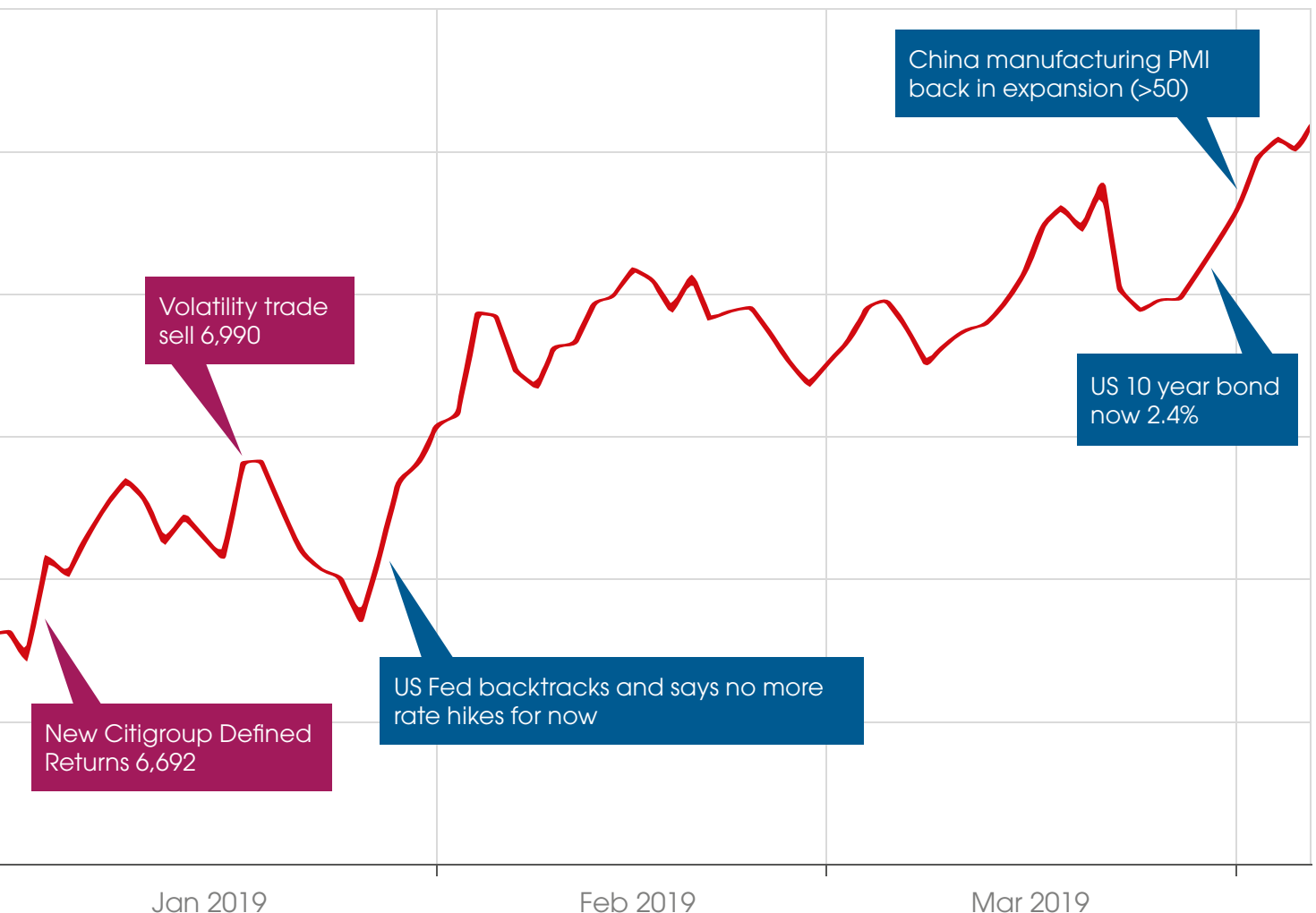
Taking stock of all the available evidence, we evaluate each asset class and explain how they figure into our investment strategy.

It has been a turbulent six months for global stock markets. The final quarter of last year was the worst for markets since the Greek crisis in 2011. Unlike then, there was no single catalyst for the sell off, rather a number of concerns around slowing economic growth and overly-tight monetary policy.

However, the first quarter of 2019 saw markets rebound to pretty much where they were six months ago, as growth fears receded and the US Federal

Reserve signalled that they would halt further rate increases.

As always, we've tried to take advantage of volatility as it has occurred. The chart on this page shows some of the events which have moved markets, alongside the actions we've taken over the period.



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Performance & sector analysis

After a turbulent few months in markets, here we look at how our selected funds have performed compared to their relative sectors.

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Portfolio performance

Here, we provide a thorough breakdown of how each portfolio has performed - both in the short term and long term.

Introduction

Over the past couple of years, we've been advising caution with regards to stock markets.

For some time, markets have looked expensive in our view compared to the underlying earnings of the companies that make up the indices. We felt that these high valuations assumed earnings would not just grow substantially but instead continue growing at strong rates for some time into the future. The implication was that the strong global economic growth we saw in 2017 was likely to continue indefinitely.

We always thought that this was unlikely to continue forever. Economies go through cycles, and we were worried that if growth disappointed, stock markets could drop back significantly. We certainly saw this in the second half of 2018!

A bear market (defined as 20% down from peak) was just about avoided, but investors' faith had been shaken.

However, after the recent falls our views have evolved from cautious, to cautiously optimistic. Markets are generally a bit lower than they were at their peaks. Meanwhile, earnings have had a chance to catch up to share price growth. The ratios between price and earnings therefore look a bit better than they did, even if stocks are not stunningly cheap aside from a few areas of value.

As usual, we'll spend some time going over what has affected markets and what we think might happen in the future. However, we'll also spend some time looking at long-term expected returns. Whilst the short term is important, we are long-term investors and seek to benefit from long-term trends.

Later on we'll demonstrate why returns of 4% to 5% pa above inflation are more than achievable for a typical balanced portfolio in the future.

We launched our range of funds in November 2017. Clearly our timing could have been better given that 2018 was the first negative year for the stock market since 2011!

Despite this, all three of our funds are first quartile in terms of returns and Sharpe ratio since launch compared to the Financial Express UT Mixed

Investment 20-60% shares sector from 1 November 2017 (the funds are not part of any Investment Association sectors).

The Sharpe ratio is a measure that compares returns and volatility and also considers how much risk is taken for each unit of returns. Our focus is always on risk as well as returns and so this is a very gratifying figure. The following pages will show why controlling risk is so important.



Everything we do is driven by planning and data

Planning, not predicting

The world has always been an unpredictable place.

In the investment world, things have arguably never been so unpredictable. The fortunes of economies or stock markets will be largely affected by a few binary events where we can't know the outcome in advance.

For UK-based assets, what happens with Brexit will be a key driver of returns in the short term. This will decide the direction of the Pound, which in turn will have a big effect on inflation and will probably impact the direction of the next interest rate move.

In the rest of the world, trade talks between the US and China will be key. From the outside, the trade war currently appears confined to these two nations. However, a product from China will often have components from Japan or Korea. The Chinese buy plenty of goods from European and American companies. The trade war affects everyone, but especially manufacturing nations.

As I write, hopes are high that these two great powers will agree a long-term ceasefire, but with Trump in charge things are never predictable!

As with all such matters, we will find out as much as we can and take a view on what we think is going to happen. However, seeing as we don't have a crystal ball, we won't be taking any big bets with your portfolio based on what we think the outcome will be.

Fortunately, we don't need to be able to predict the future.

Making plans

Everything we do is driven by planning and data.

There will be very little comment about Brexit in this magazine because the situation is so fast-moving that anything I write will soon be out of date.

At the time of writing, we still don't know whether we are going to have a Brexit with a deal, a no deal Brexit, a long-delayed Brexit, a customs union, or no Brexit at all!

However, we can broadly split some of the above into two categories. A no deal would likely see the Pound fall a long way, with overseas investors pulling back from the UK even more than before. Inflation would rise in the short term. However, the Bank of England would be likely to cut interest rates to stimulate the economy.

A deal of any sort would most likely see the opposite moves in currency and possibly in rates too, although the extent of this would depend on what variant we saw! We also think that overseas investors might start to look at the UK again once this added uncertainty is removed.

If we can make such assumptions then, even without knowing the outcome, we can plan ahead and know how to react (employing the same strategy with the trade war between the US and China).

We are always trying to think ahead. When reviewing equity weightings we don't just decide how much equity to hold in portfolios now. We also decide at what point we want to increase equity or reduce it in the future, setting a market-based trigger which we keep under review.

Wherever possible we want to have decided in advance what we will do in a given scenario. We don't want to waste valuable time deciding what to do at the point at which action is required.

This is short-term planning, but long-term planning is even more important. The investment portfolios we run are simply a tool we can use to fulfil a client's financial plan.



In the rest of the world, trade talks between the US and China will be key

Achieving a client's financial goals (whether that is to provide a certain level of income, a legacy for their children, or simply enough money to live the lifestyle they want) generally requires returns ahead of inflation. How much we need to beat inflation by will depend on the client's goals we are working towards. The level of risk they can take to achieve their goals depends partly on their tolerance for risk but also their capacity for loss, especially if they are reliant on the portfolio for their expenditure.

Setting an appropriate asset mix that provides the best chance of achieving

their long-term goals without taking too much risk is vital.

Planning is important but it can't be done effectively without data.

Evidence based

To work out what an appropriate mix of assets would be, we can use data showing the historic risk and reward of each.

We can then investigate different combinations of each asset class to find one that, historically, would have given us the returns we wish to achieve. We can also look at various time periods to see what would have happened to each combination during the best and worst times. Investment returns do not come in straight lines and there are periods when each of the main asset classes can lose money.

Our balanced portfolio is designed to provide a return of around 5% above inflation over the long term. If we assume inflation is around 2% pa then the portfolio needs to return around 7% pa.

Some investment periods will be better than others. Over some five-year periods the stock market will make a huge gain, over others it will make a loss. For the Balanced Portfolio, we need much greater consistency and

we'd rather not lose money over any five-year period.

Having set these objectives, we can then try different blends of assets and use index returns to see what might have happened historically.

Table 1 shows these modelled returns for a mix of assets similar to the asset allocation of our Balanced Portfolio. This assumes no active management or changes between the asset classes.

The average managed fund (the FE UT Mixed Investment 20%-60% Shares sector) and the FTSE Allshare Index are shown for comparison.

The Balanced Model returns 6.81% over the average five-year period, just shy of the 7% target. The average managed fund that takes a similar level of risk returned only 6.17%.

The FTSE Allshare Index returned an average of 8.35% pa over that period and so meets one of the objectives (return) but not the other (risk). In the worst five-year period you would have lost 6.58% pa in the FTSE Allshare Index which would be very painful, especially if you were relying on the portfolio for income.

Even the average managed fund loses money in the worst five-year periods, -1.33% pa. However, the worst return for the Balanced Portfolio over five years is 0.63%.

These returns are based on a buy and hold/index strategy. However, in reality, we will try to adapt the asset allocation to the market environment, aiming to mitigate losses when risks are high and maximise gains when we think markets look cheap. We also invest in actively managed strategies where appropriate.

We have been running portfolios in this fashion since 2008. Chart 1 shows what would have happened to returns had an investor held the balanced buy and hold portfolio from 1990 to 2008, and our actively managed Balanced Portfolio since then (pink line). For comparison, the buy and hold portfolio (if managed the same way and without the team's input) is shown in blue, the average managed fund in orange, and the target 7% pa in green.

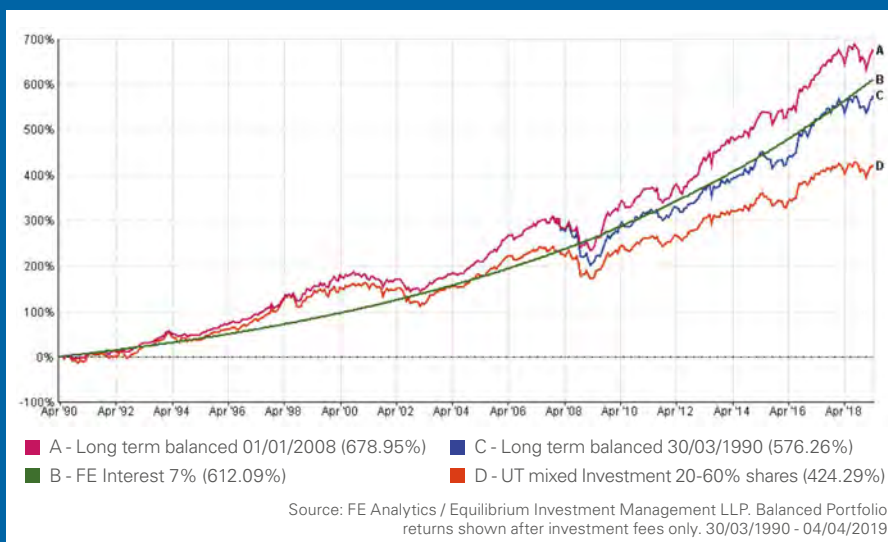
Our active management pushes the returns of the Balanced Portfolio from just below 7% pa over this period to well above.

Table 1: Balanced assets vs mixed sector and index since 1990

Balanced returns since 1990	Strategic model %	UT Mixed Investment 20%-60% Shares	FTSE Allshare Index %
Average five-year period	6.81	6.17	8.35
Best five-year period	13.54	14.6	20.61
Worst five-year period	0.63	-1.33	-6.58

Source: FE Analytics/Equilibrium Investment Management LLP to 31/03/2019

Chart 1: Balanced Portfolio vs buy & hold portfolio since 1990



This data is very useful in financial planning since we can test what the effect would be on a client's finances should it be repeated.

As well as knowing the average and best and worst outcomes, it is also useful to know how frequently different outcomes have occurred in the past.

Chart 2 shows how frequently the returns of the Balanced strategy have been within particular ranges (red bars) compared to the FTSE Allshare in blue.

Investing in the FTSE is highly uncertain, with a relatively flat distribution of returns. However, the Balanced Portfolio has a much steadier distribution as the chart shows the most frequent returns ranging between 7% to 8% pa.

The point of all this is that, whilst short-term events matter and will affect returns in the coming few years, over the long term there is very robust evidence to show that the target returns are more than achievable.

Having this robust framework around risk and return targets informs every investment decision we make. It forces us to consider the downside as well as the upside of each decision, and ensures we don't take more risk than is appropriate.

Asset class evidence

We can also use other evidence to work out what we think the returns will be from each of the main asset classes over the next few years.

There are certain metrics for each asset class which have historically been good indicators of future returns. One we often mention for stock markets is the price/earnings ratio. This values a company by

measuring its current share price relative to its earnings per share.

Another metric which has been even more useful historically, at least for the UK market, is the price/book ratio. This measures the relationship between the market value of the company based on its current share price and the book value – that is implied by the accounts (total assets less liabilities).

When investors are optimistic about the future, the share price implied value of a company will be at a large premium to the book value, factoring in expected growth. When investors are pessimistic, companies can even trade at a discount to book value.

One of our favourite Warren Buffett quotes is that you should be "fearful when others are greedy and greedy when others are fearful." Buying stocks when they are cheap tends to lead to much better returns than buying when they are expensive! Whilst that seems totally logical, stocks are only cheap when the outlook is bleak.

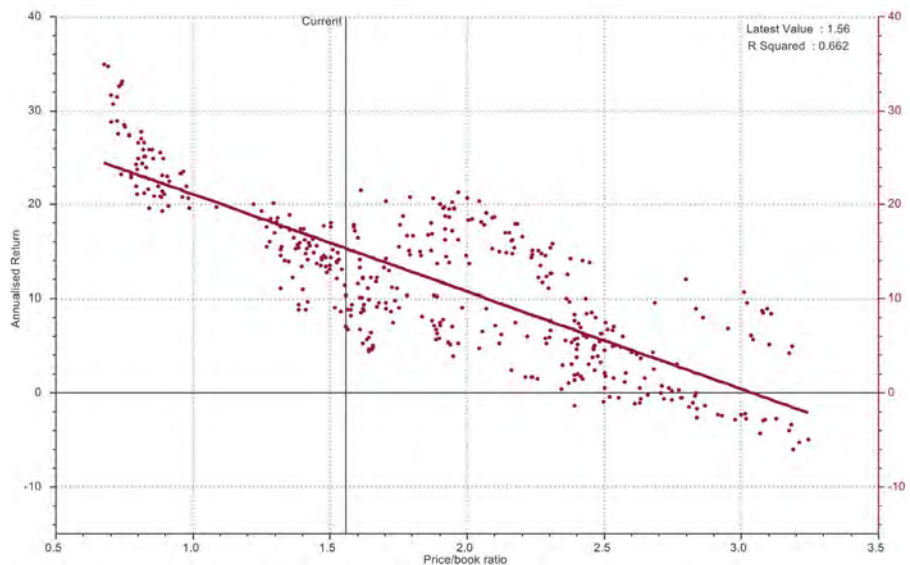
Chart 3 shows the relationship between the price/book ratio of the UK stock market and the returns over five-year periods. Each dot represents a different five-year period, with the higher dots seeing higher returns and the lower dots lower returns.

Across the horizontal axis is the price/book value of the market at the beginning of that period. Typically, you see a much better return when you buy at a low ratio and a lower return when the period begins with a higher ratio.

The current ratio is somewhere in the middle, but slightly towards the left (shown by the black line). In the past, when the ratio has been at this kind of level the returns have always been positive over five years. Often, they have been higher than 10% per annum and as much as 20% per annum.

Whilst many investors are concerned about Brexit, this has left the UK stock market looking better value than many other parts of the world in our view. In particular, this is true in companies

Chart 3: UK price/book ratios vs stock market returns



Source: Thomson Reuters Datastream / Equilibrium Investment Management

Chart 2: Frequency of Balanced Portfolio returns



Source: FE Analytics / Equilibrium Investment Management to 31/03/2019

that make most of their profits from the UK domestic market rather than internationally.

In the short term, sentiment around Brexit may well drive returns in this sector. Longer-term, we think valuation is more important. As such we are relatively optimistic about this part of the stock market at least.

Fixed interest data

We can produce similar charts for other asset classes, some of which are equally or even more compelling.

For example, the yield on a gilt is a fantastic indicator of what returns you will receive. In fact, if you buy a 10-year gilt and hold it for the full decade, the yield tells you exactly what return you will receive. A gilt return is fixed in advance and the return on capital is guaranteed by the government. The correlation between the yield and the return over 10 years is therefore 100%.

However, even over five-year periods the yield gives you a very good indication of returns.

Right now, the yield on a gilt is 1.09% per annum, so we can be fairly confident that returns from this asset class will be very low in the medium to long term.

In corporate bonds, yield is again a good indicator of returns. However, the so-called "spread" is also important. Whereas buying a gilt means lending money to the government, buying a corporate bond means lending money to a company. There is more risk, and so investors demand a premium known as the spread.

As with equities, when investors are concerned that more companies might go bust, the spread of the corporate bond index over gilts is wider. When investors are relaxed, the spread is tighter. Again, the best time to invest is usually when investors are most fearful and demand a higher premium! As fears recede, the premium demanded will reduce, meaning the corporate bond can make gains over and above the yield.

Right now the premium is somewhere in the middle, and in our view this spread is unlikely to dramatically widen or narrow. As a result, we'd expect returns to be somewhere around the yield.

Our fixed interest portfolio has a yield of around 4% per annum, so that is our best guess for returns.

Commercial property

Over the long term, commercial property returns are driven by rental income.

Again, the size of this yield is one of the key drivers of returns over the long term. Commercial property yields on average about 5% per annum. This is a fair bit lower than the long-term average yield of this asset class.

However, with gilt yields so low it is a premium of almost 4% above the so-called risk-free return. This seems a decent cushion and so as long as gilt yields don't rise dramatically, we would expect property returns to be roughly in line with the yield.

However, different types of building within commercial property have very different characteristics.

Arguably, we are in the middle of a structural change in the retail industry as people increasingly shop online. Chart 4 shows the percentage of sales made online, which hit an all time high of 17% in 2018.

This has a big impact on commercial property. It has a detrimental impact on certain high street retailers and shopping centres who have not adapted to the new world.

However, it also creates opportunities in parts of the industrial sector such as distribution and warehousing. The goods we buy online have to be stored and shipped somehow!

At present demand is high and supply is limited in the industrial sector, whilst in retail this is the other way around. Supply and demand clearly has a big impact on what rents can be commanded and what investors will pay for buildings.

It's tempting to buy a load of industrial buildings and avoid retail like the plague. However, the time to do that was probably a couple of years ago. As we've seen with equities and corporate bonds, it often pays to do the opposite of what everyone else is doing!

It's also worth pointing out that a small shop with a short lease in an unpopular town centre is a very different prospect to a brand-new supermarket on a long, inflation linked-lease. Even in an economic downturn people still need to buy groceries!

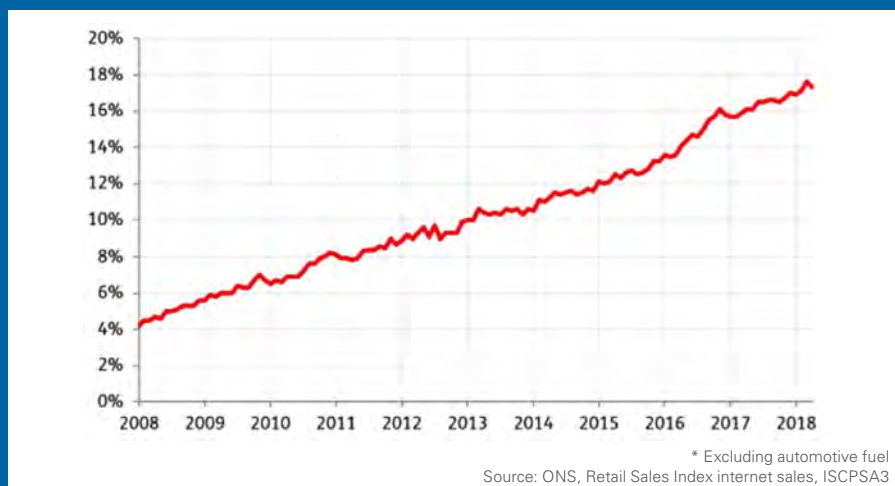
For now we think remaining light on most types of retail is the right thing to do, particularly with Brexit related risks still present. International investors are avoiding UK assets at present and retail in particular. There could be further outflows in the event of a no deal Brexit.

On the flipside, a deal which is viewed positively could see money flood back into the asset class.

18-month risk and return

Taking into account all the factors above, we try and work out what we think the range of likely returns might be for each asset class over the medium term, around 18 months.

Chart 4: Seasonally adjusted internet sales by value as a proportion of all retailing* in Great Britain, 2008 to 2018



Because the outlook is inherently uncertain, we don't just look at what our estimate is for returns (we prefer the term "best guess" since we will almost certainly be wrong!), but what might be the likely return in a realistic but optimistic outcome and in a realistic pessimistic scenario.

Chart 5 shows our estimated returns and ranges for the next 18 months for each of the asset classes we invest in.

For example, our best guess for cash returns is 0.75% pa for the next 18 months, in line with the current Bank of England base rate. If there is a positive Brexit outcome and if the UK economy improves, we think the Bank could put rates up by 0.25% or even 0.5%.

On the flipside, in a no deal Brexit we think the Bank could cut rates by perhaps 0.5%. This gives us a realistic range of returns from 0.25% to 1.25%, with the central case being 0.75%.

This does not mean that interest rates can't go outside these ranges. If the economy and inflation take off then perhaps the Bank might put up rates even more. In a deep recession the Bank might need to drop rates to zero or even go negative. However, we think those scenarios are unlikely. The ranges we give are supposed to encompass 70% of potential outcomes.

Putting together our current views for each asset class and the mix we hold at present, we think a balanced portfolio could return perhaps 7% to 8% per annum over the next 18 months.

Defined returns

You may notice on Chart 5 that the asset class with the highest estimated returns over the next 18 months is defined returns.

Defined returns are structured products that are based on the stock market. A typical product promises to pay a particular rate of return should the market be the same or higher than it was on the day the product was set up on a given date in the future. The products we invest in can last for up to six years but will "kick out" early on one of the anniversary dates provided the market is not below the start level.

Chart 5 shows that we believe that equities might return perhaps 9.6% pa over the next 18 months. If we were right, then defined returns would produce

10.3% per annum, assuming each one kicks out at its next-but-one anniversary (a rough average time to maturity of around 18 months).

Not only do these products have a higher expected return than the stock market at present, they typically only have around 75% of the volatility of the stock market and usually fall less when the market goes down.

In return for the additional certainty of return and the downside protection, we are giving up some potential upside. If the market goes up 20%, then the defined returns will still only provide 10.3%. However, we think that it is a trade-off worth making at present.

Over the past 12 months, when the markets have been up and down all over the place, defined returns has been the best asset class in our portfolios. Chart 6 shows the returns of a typical mix of defined returns products compared to the FTSE Allshare over the past 12 months.

Short-term outlook

We've deliberately focused on the long-term outlook and the fundamentals for each asset class so far in this investment review.

However, whilst in the long term markets are a weighing machine, in the short term they are more like a voting machine. The short-term direction of the various asset classes will depend on various factors.

Perhaps the two most important factors are what happens in the giant economies of the US and China.

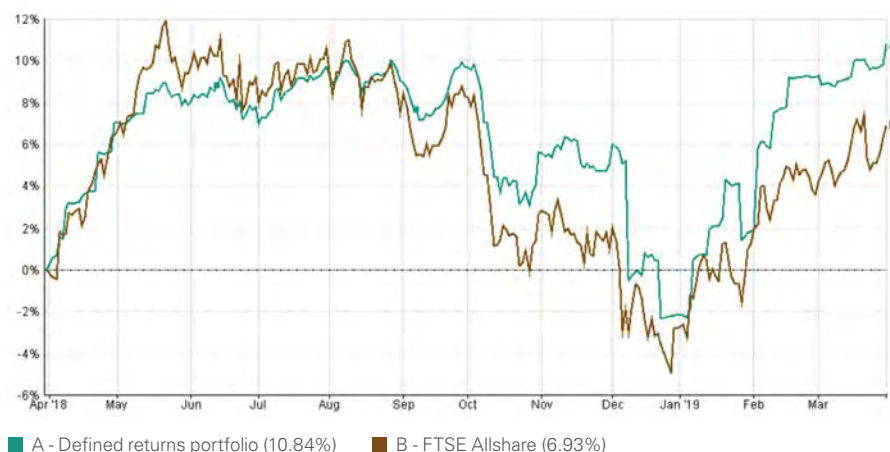
There has been a lot of coverage in the financial pages recently about the inverted yield curve in the US. Whilst this sounds like a pretty dry subject, it is important because it has historically been a very good indicator of recessions.

Chart 5: Estimated "best guess" asset class return predictions (annualised)



These are our "best guesses" for the returns for each asset class. They are not intended to be forecasts but allow us to weigh up the risks and potential returns of each.

Chart 6: Defined Returns Portfolio vs FTSE Allshare



Source: FE 2019 30/03/2018 - 01/04/2019

In normal conditions, the yields on long-term government bonds are higher than those on short-term bonds and on cash. There is a “term premium” built into these yields. Investors would expect to be paid a greater level of returns to lend money for a longer period. If you plotted yield against time on a graph it would have an upward sloping curve.

However, there are times when the curve inverts and slopes the other way. This means that short-term interest rates are higher than long-term rates.

Recently, the US curve has inverted with a US 10-year government bond yielding less than a three-month bond. Historically, whenever this state of affairs has lasted for at least a quarter, the US has entered recession soon afterwards.

We discussed this in the previous edition of *Equinox* in October. At the time we said that the reason it was such a good recession indicator is that it means that investors think rates are too high and will be cut in the future.

However, some people argue that it isn't a predictor of recessions as such but is actually a cause of recessions. A flat or inverted yield curve dampens the willingness of banks to lend. Banks borrow short term (such as deposits) and lend for the long term. When there is a big premium between the two, banks make plenty of money and are incentivised to lend.

When this premium is low or even negative, banks have much less incentive to lend. This reluctance to lend can then cause growth to fall.

Whether or not this is true, it seems very likely that growth in the US will be much lower than it has been in the past couple of years. When Trump was elected president, he enacted tax cuts and short-term spending. This boosted the economy in the short term but the effect is starting to wear off. What was previously a stimulus is now a drag to growth.

Given the size of the US economy, any slowdown will have a big impact on global markets. However, we expect this slowdown to be relatively mild and perhaps it is even already reflected in market prices.

Expectations for earnings growth of companies around the world have

been slashed. Perhaps they have been cut too far and there is scope for a positive surprise?

The US Federal Reserve (the Fed) has also said they will put any further interest rate increases on hold, and will even consider cuts if required.

China

What happens in China is equally important.

Whilst the US is the largest economy in the world, China makes a bigger contribution to world growth.

China's economy was “only” \$12.2 trillion at the end of 2017 compared to the US at \$19.4 trillion, but it is growing at a much faster rate. The Chinese economy at the end of 2017 was \$1.2 trillion bigger than it was at the end of 2016, whereas the US economy had grown by only \$766 billion in the same period (source: Trading Economics). An acceleration or slowdown in China therefore affects everyone.

China cannot continue to grow at the same pace over the long term as its economy matures. Whereas in the early 2000s double digit growth was seen regularly, nowadays we expect around 6.5% pa growth and in five years' time this growth rate will likely be closer to 5% pa.

This is simply a function of size – adding \$1 trillion to a \$10 trillion economy is 10% growth but adding \$1 trillion to a \$20 trillion economy is only 5% growth. China's challenge is to ensure that growth is stable, by rebalancing their economy away from investment spending and exports and more towards a consumer-led economy as we have in the West. It has already gone some way towards doing this.

What China doesn't need whilst it goes through this process, is anything that hits its manufacturing and export sector. The so-called trade war with the US therefore came at a very difficult time.

This trade war has hit exports all around the world, not just in China.

Over the past few months China has acted to stabilise its economy by stimulating bank lending, cutting taxes and increasing investment. This seems

to be working judging by the latest economic data, which shows the Chinese manufacturing sector back in growth mode after some poor data in the latter half of 2018.

Goldilocks returns?

Markets like it when the economic outlook is not too hot and not too cold.

The current economic data falls neatly into that definition. China appears to be past the worst of its mini slump. Meanwhile, although the US appears to be slowing, there seems little chance of a deep recession at present. However, it is enough of a slowdown to stop the Fed from putting up rates any time soon.

Perhaps more importantly, the Fed has also said it will keep its quantitative tightening (QT) under review.

The Fed has a large stock of US government bonds which it bought under its quantitative easing (QE) programme. QE was designed to stimulate the economy by providing liquidity. The Fed would use newly “printed” cash to go out and buy bonds on the open market.

More recently, the Fed started to partially unwind this. Previously, when a bond they held matured, they used the proceeds to buy more bonds. However since they began carrying out QT, they have not reinvested the money but instead “cancelled” it. They are essentially doing the opposite of QE, removing liquidity from the financial system which has a “tightening” effect.

Many people believe this process hit markets perhaps even more than the increase in rates.

The Fed previously said the QT process was on autopilot, something which spooked markets. However, they have since gone back on this and have now hinted they may halt QT in the future.

Should the current “ok but not great” economic data persist, this may allow markets an extended period of recovery.



Sector performance & analysis

UK equities

Since the referendum in 2016, there has been a big divergence within UK equities.

Companies that make most of their money internationally have done very well, with the fall in the pound increasing their profits in sterling terms.

However, domestic UK equities are very much unloved, with international investors avoiding them like the plague. This primarily affects companies in the mid and small cap sectors, rather than large caps in the FTSE 100.

As a result, those funds which invest in smaller companies in the UK have underperformed lately.

Table 2 shows the returns of our UK funds in our portfolios relative to their benchmarks. Our holdings with Miton and Marlborough have performed relatively poorly in the past couple of years, even though they still have performed well over the long term.

As covered elsewhere in this issue, should we see a Brexit deal which is viewed positively by investors then some of this international money could recognise bargain-hunting opportunities in the UK. We think many stocks in the smaller end of the UK stock market look extremely cheap and so will stick by these funds despite their struggles of late.

Global equities

The past 12 months saw a real rollercoaster for global equities. Whilst all markets suffered sharp drops and recoveries, there was something of a split between emerging and established markets in terms of timing.

Emerging markets, including those in China and India, suffered their large drops earlier in the year but have seen double digit gains over the past six months as can be seen from Table 3. Our Indian fund is up over 20%

Table 2: UK Equity Fund performance

	3 months %	6 months %	1 year %	3 years %	5 years %
LF Miton UK Multi Cap Income B Inst Inc	4.43	-5.17	-0.79	15.73	35.02
Royal London UK Equity Income M Acc	11.19	0.90	7.85	31.61	38.32
Rathbone Income	9.69	0.54	6.73	21.63	35.77
Equilibrium UK Conservative Equity	8.44	-1.24	4.43	19.39	26.36
Sector : UT UK Equity Income	9.90	0.21	5.15	23.43	28.03
LF Miton UK Value Opportunities B Inst Inc	11.12	-4.90	-1.78	17.30	47.51
Lindsell Train LF Lindsell Train UK Equity	12.51	7.12	13.81	45.93	74.46
Marlborough Special Situations	6.30	-10.40	-4.14	34.34	55.04
Portfolio : Equilibrium UK Dynamic Portfolio	9.78	-3.63	2.15	33.49	53.04
Sector : UT UK All Companies	10.75	-0.27	5.24	29.61	29.69

Figures are highlighted in green where they are in excess of the relevant sector.

Source: FE Analytics

over six months, but only 2.1% over 12 months, which tells you all you need to know about how volatile it has been!

Established markets held up much better until the last quarter of 2018, and so the six-month numbers are generally still negative, even if the one-year numbers look much better.

Our fund selection was generally very positive, with the majority of funds outperforming over most time periods.

In the short term, having less exposure to the US and more to Japan has hit the performance of our Global Established Portfolio, although it remains ahead of its benchmark (unit trust sector performances split 40% North America; 40% Europe ex. UK and 20% in Japan) in the long term. Our Global Speculative Portfolio of emerging market funds continued to benefit from its focus on Asia and so has outperformed substantially over most time periods.

AIM

The EQ AIM Portfolio invests in stocks listed on the Alternative Investment Market (AIM) which we believe qualify for business relief (BR). The primary purpose of the portfolio is for inheritance tax planning.

The total return for the FTSE AIM Index for the year to 5 April 2019 has been -8.2% and for the EQ AIM Portfolio was -9.1%.

The last 12 months have seen a v-shaped market for investors in AIM stocks. Generally, stocks rose from April to September in 2018 but then fell sharply towards the end of the year. Investors became very risk averse

as the prospect of Britain's exit from the European Union was seen as potentially negative for UK domestic demand growth.

From peak to trough, the market had fallen by around 23%.

However, as we moved into 2019, it became evident that most of the investee companies were still seeing good profit growth and the Brexit delays reduced the risks of a sharp economic downturn. Since the year end, the FTSE AIM Index and the EQ AIM Portfolio have returned 7.8% and 9.8%, respectively.

In the portfolio, there were five stocks that returned more than 20% over 12 months. Three companies in particular, Gamma Communications (telecoms systems), EMIS Group

AIM portfolio - stock performance

Top stocks by total returns

49.9%	Gamma Communications
38.1%	EMIS Group
31.0%	GB Group
23.1%	RWS Holdings
21.9%	Burford Capital

Bottom stocks by total returns

-100%	Patisserie Holdings
-59.0%	Mulberry Group
-43.1%	Restore
-40.0%	CVS Group
-37.3%	Scapa Group

Source: FE Analytics

Table 3: Global Equity Fund performance

	3 months %	6 months %	1 year %	3 years %	5 years %
Baillie Gifford Japanese B Inc	11.02	-6.31	0.21	72.34	96.27
Schroder Tokyo Z Inc	2.41	-8.29	-3.26	45.11	70.83
Sector : UT Japan	5.72	-7.30	-2.19	45.74	70.51
LF Miton European Opportunities	15.33	1.06	14.28	Not held	-
BlackRock European Dynamic FD Inc**	15.14	-1.09	4.77	43.48	54.63
Sector : UT Europe Excluding UK	9.57	-1.45	1.38	33.93	37.83
Vanguard US Equity Index A Inc	12.49	1.47	17.99	61.55	109.87
Sector : UT North America	13.19	-0.50	16.94	56.18	95.30
Portfolio : Equilibrium Global Established Portfolio	10.70	-3.07	6.02	53.24	82.32
Portfolio : Global Est Benchmark	11.67	-1.04	10.30	47.26	69.61
GS India Equity Portfolio	4.77	20.55	2.10	Not held	-
Invesco Hong Kong & China (UK)	18.94	6.49	7.69	72.95	95.13
Schroder Asian Alpha Plus Z Inc	15.08	11.64	7.55	75.52	92.90
Portfolio : Equilibrium Global Speculative Portfolio	13.12	12.42	6.29	70.12	84.28
Sector : UT Global Emerging Markets	10.11	9.83	1.63	52.34	51.79

Figures are highlighted in green where they are in excess of the relevant sector.

Source: FE Analytics

(IT for healthcare) and GB Group (identity systems), all proved that technology is driving strong profit growth even in these uncertain times.

On the negative side, the mismanagement and false accounting at Patisserie Valerie, the coffee shop chain, was regretful but also a reminder of the risks behind these small companies. Other stocks that fell notably over the period include Mulberry (luxury goods) due to the rapid collapse of one of its major retailers, House of Fraser. Mulberry was replaced with Craneware (IT) in the January 2019 rebalance.

The majority of companies in the portfolio have now reported figures and underlined their confidence with the announcement of healthy dividend increases.

Whilst we are not out of the Brexit woods, many of the perceived risks by investors last year have not transpired and we would hope that, looking ahead, the enduring growth potential of the portfolio companies will continue to be appreciated by the markets.

Alternative equity

Alternative equity saw a decidedly mixed bag of returns. The idea of alternative equity is to provide long-term returns similar to those of traditional equity, (perhaps slightly lower) but with much lower volatility. Ideally, we want the funds to be correlated lower than to traditional equity. Chart 7 shows the returns of our Alternative Equity Portfolio in orange vs the FTSE Allshare Index in blue, since launch in 2008. This illustrates what we want to see from the portfolio.

Over 12 months the returns of this portfolio have been disappointing. Whilst it did part of its job (protecting assets during the falls in the stock market) it has struggled to provide much in the way of returns.

The portfolio is benchmarked against the UT Mixed Investment 20-60% Shares sector although many of the funds sit in the UT Targeted Absolute Return sector. The portfolio returned 0.27% over the 12 months to 5 April 2019 compared to the Mixed sector which returned 3.7%. The average absolute return fund lost 0.68%, showing how difficult such funds found it last year.

Fixed interest

Fixed interest had a difficult 2018 with most types of bonds seeing a negative return as central banks increased interest rates.

However, since the beginning of 2019 things have improved as the chance of rate increases reduced.

Our portfolio generally has a higher yield and a lower sensitivity to rates than a typical corporate bond or gilt fund. It therefore bore up well when other funds were falling but kept pace during the recovery. Over 12 months the portfolio increased by 3.49%, compared to the UT Sterling Corporate Bond sector which returned 2.9%. The UT UK Gilts sector returned 2.75% over the same period.

Property

For much of 2018, property was the best performing asset class in our portfolios as stock and bond markets posted negative returns.

We began the year with 4% in property in most portfolios, holding just a single fund – the Kames Property Income fund. We held this as we have been avoiding London offices and the retail sector wherever possible.

Over the course of the year we increased property to 8% of the portfolio, adding in the Standard Life and Aviva property funds. Towards the back end of the year we reduced risk in the portfolio by switching part into the Time Commercial Freehold fund (see page 26 “Views from the Frontline” for more details of why “long income” property is different and more defensive).

In December the Kames Property Income fund saw large outflows and so was forced to “re-price” from an “offer” to a “bid” basis, essentially reducing the price by around 5%. Although this hit the portfolio, we had by then reduced our Kames holding by around half compared to the beginning of 2018.

Excluding the effect of the re-price, the Kames fund has performed well for us. As with UK equities, we think property could benefit from any certainty around the Brexit process.

Chart 7: Alternative Equity Portfolio vs FTSE Allshare Index



■ A - FTSE All Share (87.17%) ■ B - Equilibrium Alternative Equity (77.04%)

Source: FE Analytics 2019 31/12/2007 - 08/04/2019

Model portfolio returns

Below is the performance of our Cautious Portfolio, Balanced Portfolio and Adventurous Portfolio.

Strategic asset allocation



We also show returns compared to the Asset Risk Consultants indices made up of other discretionary managers' portfolio returns. These are shown in the table below and are given to 1 April 2019 as ARC indices are published on a monthly basis:

Model Portfolio	6 months %	1 year %	3 years %	5 years %	10 years %	Since launch* %
Cautious Portfolio	-1.02	1.94	13.31	20.79	94.25	67.22
ARC Sterling Cautious PCI	-0.98	0.94	8.82	13.80	47.45	39.90
Balanced Portfolio	-1.50	2.10	15.55	25.02	105.54	72.21
ARC Sterling Balanced PCI	-1.57	2.41	15.12	21.61	78.89	51.77
Adventurous Portfolio	-2.08	2.23	21.88	33.09	119.18	79.65
ARC Sterling Balanced PCI	-1.57	2.41	15.12	21.61	78.89	51.77

* Launch date 1 January 2008. All data to 5 April 2019.
 Figures are highlighted in green where they are in excess of the relevant sector.

Sector portfolio returns

Equity Portfolios	6 months %	1 year %	3 years %	5 years %	10 years %	Since launch* %
UK Conservative Equity	-1.24	4.43	19.39	26.36	169.63	86.58
UT UK Equity Income Sector	0.22	5.16	23.44	28.05	167.05	79.83
UK Dynamic	-3.63	2.15	33.49	53.04	245.01	127.25
UT UK Equity All Companies Sector	-0.26	5.26	29.63	29.71	176.16	82.45
Global Established	-3.07	6.02	53.24	82.32	239.42	155.81
Global Established Benchmark **	-1.02	10.32	47.29	69.64	234.81	144.02
Equilibrium AIM	-9.47	-4.36	43.31	98.55	617.27	69.58
FTSE AIM All Share ***	-13.2	-8.18	35.08	15.70	145.14	35.91
Global Speculative	12.42	6.28	70.12	84.28	192.87	86.58
UT Global Emerging Mkts Sector	9.88	1.68	52.42	51.86	144.07	63.61
Balanced Equity Mix	-0.27	4.64	41.47	56.16	198.25	110.56
Balanced Equity Benchmark ****	-0.32	6.25	37.59	46.71	185.15	99.25
Alternative Equity	0.75	0.27	10.07	17.89	89.67	76.95
UT Mixed Asset 20-60% Shares	0.74	3.70	18.10	24.56	90.22	55.40
Fixed Interest Portfolio	3.52	3.49	17.85	20.01	92.38	79.65
UT Sterling Corp Bond Sector	3.58	2.90	13.07	24.41	94.63	65.59
Property Portfolio	-0.82	1.19	15.14	35.12	-	72.77
Composite Property Benchmark *****	-0.06	2.43	6.69	25.66	62.44	62.99

* Launch date 1 January 2008 except Property Portfolio 1 July 2009.

** Global Established Benchmark is 40% UT North America, 40% UT Europe Ex UK, 20% Japan.

*** Performance data prior to 17 March 2015 (launch date) is calculated using the backtested model portfolio.

**** Balanced Equity benchmark is an appropriate composite of the benchmark for each component of that equity mix.

***** Composite Property Benchmark is an equal weighting of all eligible funds in the UT Property Sector. Property portfolio switched to cash 15 June 2012 to 11 April 2013 as we did not hold property funds in this period.

Figures are highlighted in green where they are in excess of the relevant sector.

Market returns

Equity markets	6 months %	1 year %	3 years %	5 years %
FTSE 100 Index (UK)	3.91	8.03	38.25	35.33
FTSE Allshare Index (UK)	2.93	6.93	36.24	35.72
FTSE 250 Index (UK Mid Cap)	-0.79	2.59	26.99	36.24
MSCI Europe Ex UK Index	1.67	3.99	39.09	37.50
S&P 500 Index (USA)	1.49	18.51	60.33	112.56
Topix (Japan)	-5.96	-0.14	47.02	75.65
MSCI Emerging Markets Index	9.79	2.52	55.43	55.42

Fixed interest

IBOXX Sterling Corporate Bond Index	4.82	4.11	15.82	31.33
UT Sterling Corporate Bond Sector	3.58	2.90	13.07	24.41
FTSE British Government Allstocks (Gilt) Index	5.56	3.55	9.51	28.64
UT Gilt Sector	5.09	2.75	9.52	29.23
UT Sterling High Yield Sector	1.50	2.71	17.68	18.23

Property

MSCI UK Monthly Property	1.38	5.37	21.70	61.11
Composite Property Benchmark*	-0.06	2.43	6.69	25.66

Other measures

Bank of England Base Rate	0.37	0.67	1.36	2.38
UK Retail Price	0.32	2.41	9.15	11.85

* Property benchmark is a composite of all eligible funds in the UT Property sector.

Risk warnings and notes

Past performance is never a guide to future performance. Investments will fall as well as rise.

Any performance targets shown are what we believe are realistic long-term returns. They are never guaranteed.

None of the information in this document constitutes a recommendation. Please contact your adviser before taking any action.

Unless stated otherwise:

- All performance statistics are from Financial Express Analytics on a bid-bid basis with income reinvested.
- All performance data is to 5 April 2019.
- Model portfolio performance is stated after a 1.5% Equilibrium fee and a 0.35% platform charge, but with the discounts we receive from fund managers factored in.

- Your own performance may vary from the model due to dividend pay dates, transaction dates, contributions and withdrawals.
- Actual performance may also differ slightly due to constraints over how we can reflect fees and discounts from fund managers. These are assumed not to change over the whole investment period. In reality, discount levels change as we change the funds in which we invest.
- Individual sector portfolios are shown with no charges taken off or fund manager discounts applied.

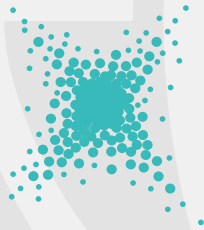
For details of your own portfolio performance, please refer to your half-yearly statement from the wrap platform in which you are invested. We will also provide personalised performance information at your regular reviews.

Ideal funds

Portfolio	Fund name	Initial charge %	Annual management charge %	Ongoing charges figure %
Liquidity	Cash	0.00	0.00	0.00
Fixed interest (short dated)	Royal London Short Duration High Yield	0.00	0.50	0.63
	TwentyFour Absolute Credit	0.00	0.40	0.66
	L&G Sterling Short Dated Bond Index	0.00	0.14	0.14
	Semper MBS Total Return Fund	0.00	0.75	1.00
Fixed interest	iShares Corporate Bond Index	0.00	0.15	0.17
	Jupiter Strategic Bond	0.00	0.50	0.73
	Royal London Extra Yield Bond	0.00	0.75	0.83
	TwentyFour Dynamic Bond	0.00	0.75	0.80
	L&G Allstocks Index Linked Gilt Index	0.00	0.15	0.15
Property	Aviva UK Property	0.00	0.75	0.83
	Kames Property Income	0.00	0.75	0.96
	Standard Life UK Real Estate	0.00	0.75	0.84
	Time Commercial Freehold	0.00	0.98	1.29
Defined returns	Direct Defined Returns	0.15	0.00	0.00
	Atlantic House Defined Returns	0.00	0.55	0.78
Alternative equity	H2O Multi-returns	0.00	1.00	1.00
	Henderson UK Absolute Return	0.00	1.00	1.06
	Odey Absolute Return	0.00	0.75	0.92
	Old Mutual GEAR	0.00	0.75	0.82
	Polar UK Absolute equity	0.00	1.00	1.17
Infrastructure (alternative equity)	Foresight UK Infrastructure Income	0.00	0.65	0.65
	Lazard Global Listed Infrastructure	0.00	0.85	1.03
Equity - UK Conservative Equity	Royal London UK Equity Income	0.00	0.62	0.68
	Miton UK Multi Cap Income	0.00	0.75	0.82
	Rathbones Income	0.00	0.75	0.79
Equity - UK Dynamic	Lindsell Train UK Equity	0.00	0.65	0.75
	Miton UK Value Opportunities	0.00	0.75	0.83
	Marlborough Special Sits	0.00	0.75	0.80
Equity - Global Established	Baillie Gifford Japanese Co.	0.00	0.60	0.63
	BlackRock European Dynamic	0.00	0.75	0.92
	Miton European Opportunities	0.00	0.50	0.66
	Schroder Tokyo	0.00	0.75	0.91
	Vanguard US Equity Index	0.00	0.10	0.10
Equity - Global Speculative	Goldman Sachs India	0.00	0.85	0.99
	Invesco Hong Kong and China	0.00	0.94	0.94
	Schroder Asian Alpha	0.00	0.75	0.96

These are the funds in our standard portfolios at 5 April 2019. These will change periodically and have not all been held throughout the period covered by this document.

The results are in...



client experience 2019

The mark of excellence

We were delighted to be awarded the “mark of excellence” in client experience by the CX Awards.

Following a survey of our clients, our overall client experience received a score of

9.12 out of 10!

We would like to thank everyone who took part in this.



We were also proud to receive feedback such as;

“They go the extra mile”

Elaine Roche

“I think they are an example of an efficient, caring company”

Paul Durbin

“I value their expertise highly and only wish I had taken a friend’s recommendation (to join them) years earlier”

Eileen Furr



To find out more about what our clients are saying about us,
visit www.eqllp.co.uk/testimonials

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equilibrium

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