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“I remember my father reporting this note with 11 zeros was worth roughly one cabbage”

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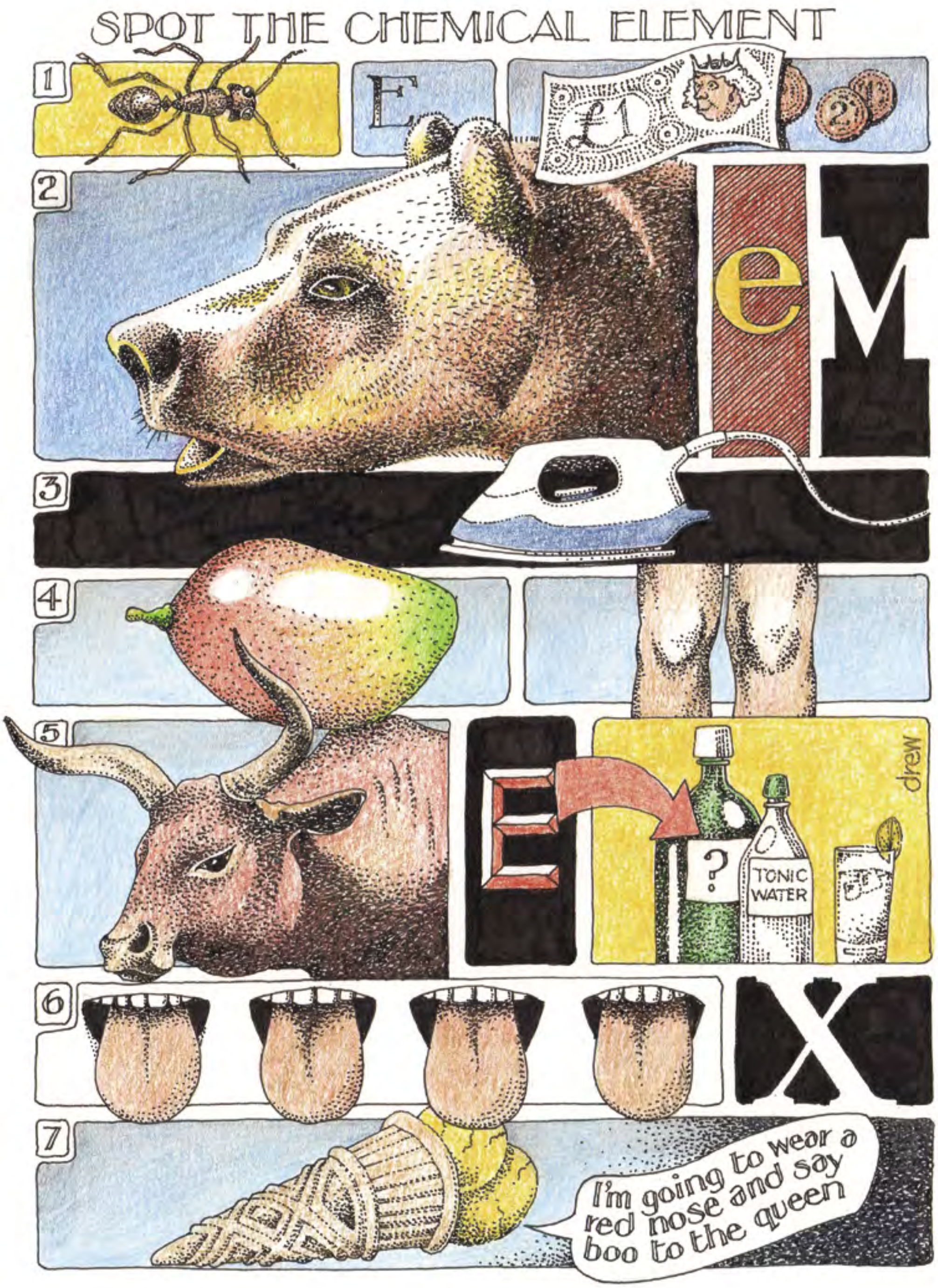

This little quiz from Simon Drew (simondrew.co.uk) is for entertainment purposes only. It is not a solicitation to buy, sell, trade, consume or do anything dangerous with any of the chemical elements listed here. Answers can be found inside the back cover.

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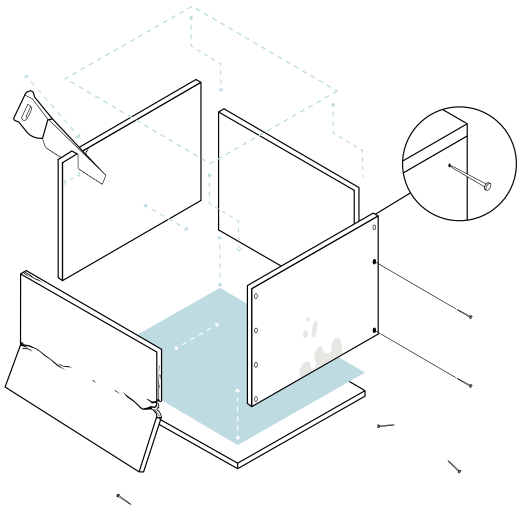


CREATING MONEY

Foreword

JONATHAN RUFFER
Chairman

RUFFER REVIEW II cannot claim to be the latest in a venerable line of offerings, but II is here and (as Lao Tzu nearly said) the second step can lead to a march of 1,000 miles.

The Review is free to its recipients, and our challenge is to make it worth more than it costs. It does not rank with the Anglo-Saxon Chronicle for longevity, or with the New Yorker for wit, but it is, nevertheless, an ambassador for Ruffer LLP.

There are a number of dog-whistles within it. The first is: behold it's not just me working here.

Among the serious investment features, Henry Maxey and Peter Warburton represent important planks of our investment strategy. They're juxtaposed with Stephanie Kelton, making her case (not ours) for a new approach to monetary policy.

Elsewhere, we have both personal and pictorial views on hyperinflation, a look at investing and climate change, the foothills of a new cold war, and a piece on those rentable bicycles that seem somehow to breed.

This is the foreword, there is also a much-needed last word: I am the alpha; our CEO, Clemmie Vaughan, the omega.

Between the two we showcase dog leads without dogma, and dog-legs which get to the point in the end.


COLD
WAR II

WORLD ORDER HAS NEVER BEEN SO COMPLEX FOR INVESTORS. The US and China have entered a new phase of long-term strategic global competition. America has moved decisively from engagement to containment of China's technological, economic and military power. Globalisation has created new arenas for renewed 'Great Power' competition: financial markets; cyber & outer space; technology; the corporate world. As world order bifurcates, investors are on the front line.

ALEXANDER CHARTRES
Investment Director

THE POST-COLD WAR ERA has been benign for financial assets – despite several spectacular market busts. Three decades of above-inflation returns have been underwritten by globalisation, falling interest rates, lower inflation, technological progress and geopolitical stability. Sitting at the crossroads of them all has been China and its re-engagement with the West.

Two tectonic shifts during the original Cold War made this possible. First, the Sino-Soviet split (1956-66), which sundered the Communist bloc. Second, American defeat in Vietnam and the subsequent US commitment to regional stability in South East Asia. This provided the backdrop to Premier Deng's 'reform and opening-up' era in China from 1978 onwards. The result? Cheap Chinese labour and an artificially-depressed yuan exchange rate exerting downward pressure on inflation and interest rates worldwide. Returns on capital climbed. The Great Moderation had begun.

China's re-emergence was part of a wider regional story of extraordinary economic growth which has permanently reshaped the global political economy. Successive American administrations assumed that economic engagement would lead to political change in China. When the People's Republic was simply the world's low-cost workshop, it was easy to ignore the fact that political reform had gone into reverse after 1989's Tiananmen Square massacre of pro-democracy activists. But with China's rapid move up the value chain and into high tech industries, the reach of the Chinese regime has expanded tremendously – right into the nervous systems of Western governments, businesses and homes. Suddenly, the nature of China's political system matters again.

THE BLINK OF AN EYE

2001 may be remembered for the 9/11 terrorist attacks, but China's admission to the World Trade Organisation that December was arguably of greater long-term significance.

America became the focus of China's export-led economic development model with US dollar assets comprising the bulk of China's ballooning foreign-exchange reserves. Chinese purchases of US dollar debt pushed up prices of US government bonds, thereby helping to keep interest rates low. In turn this encouraged excessive borrowing and asset price bubbles. Trade was the making of the geo-economic colossus 'Chimerica'.

> "IF 'CHIMERICAN' SYMBIOSIS HAS UNDERPINNED THE GOLDEN MARKET ERA SINCE THE COLD WAR, SINO-US DISENGAGEMENT COULD ACHIEVE THE OPPOSITE"

Access to the US-led world trading system, the market mechanism and Western technology combined with modern business management enabled China to move from an essentially feudal, agrarian economy to an urbanising and industrial one in the historical blink of an eye. Kevin Rudd, former Australian Prime Minister and seasoned China watcher, observed that China's rapid ascent has been like "the English industrial revolution and the global information revolution combusting simultaneously and compressed not into 300 years, but 30".

Western businesses were happy to part with valuable intellectual property for a slice of this rapidly growing pie. All the while, the US-led response to the 9/11 attacks – two decades of blood- and treasure-sapping diversions in the Middle East – merely disguised the more fundamental shift in world order. America's long 'unipolar moment' was passing.

DIFFERENT DIRECTION

If 'Chimerican' symbiosis has underpinned the golden market era since the Cold War, Sino-US disengagement could achieve the opposite.

In our highly globalised world, the potential economic damage from a superpower stand-off is much greater

Page 8 image sources: Thucydides Bust (Chronicle / Alamy Stock Photo) and Milky Way (Chrispo / Alamy Stock Photo) than in the divided world system which existed from c.1945 until the collapse of the Soviet Union in the early 1990s. Then, the principal risk was armed conflict between East and West; economic interlinkages were minimal. In 1980, for example, the value of trade between the Soviet Union and the US totalled about $2 billion for the year. In 2019, trade between the US and China was worth about $2 billion per day.[1] China's economy is already estimated to have surpassed that of the US in purchasing power parity terms. In the 1980s, the Soviet Union probably never totalled much more than about half of US economic output.

Today, the economic stakes could not be higher. We have moved from a world of nuclear-tipped Mutually Assured Destruction (MAD), to MAD economics.

THE LONG VIEW

Many investors seem fixated on the short term, with sentiment tracking each twist and tweet in US-China trade tensions. To understand why a trade deal will solve little, however, we need a longer view.

For China, entry to the economic super-heavyweight division is simply a return to the historical mean. For much of its history, China has possessed the world's largest economy. For the Middle Kingdom's Asia-Pacific neighbours, a centuries-old imperial tribute system confirmed China's position at the centre of the universe.

Yet from the First Opium War (1839-42) and the Treaty of Nanking (the first 'Unequal Treaty') until the foundation of the People's Republic in 1949, China was repeatedly humbled by foreign powers. The contrast with its own imperial history and self-image as mankind's pre-eminent civilization was – and remains – acutely painful.

The Chinese Communist Party's (CCP) authority rests in part on avenging this historical humiliation and on maintaining domestic harmony and political stability, long the paramount objectives of Chinese policymaking; individual rights are, at best, an afterthought. Together with continuing economic growth, these aims form part of President Xi's "great rejuvenation of the Chinese nation" which will see China re-take its rightful place as the pre-eminent world power, dominate the industries of the future, and cement the CCP's claim to the ancient 'mandate of heaven'.

A CHRONIC DEFICIT LEADS TO CONFLICT

Here we return to trade wars of a more literal variety, for it was out of an earlier hegemonic trade dispute that the Century of Humiliation was born. Late eighteenth century Britain was industrialising rapidly. It also ran a chronic trade deficit with China, from which it imported silks, porcelain and tea. Access to Chinese markets, however, was tightly regulated by the Canton system. British diplomat Lord Macartney headed an embassy in 1793 which aimed to expand trade with China, but failed. Anxious to stem the deficit, British merchants began smuggling opium. This reversed the deficit but carried a huge human cost. Angry Chinese authorities suppressed the trade, triggering a response from British gunboats in 1839. The resulting Qing Dynasty defeat in the First Opium War saw China forcibly opened for trade with the Treaty of Nanking.

Tariffs may have replaced gunboats, but it is plain to see how hard it would be for any Chinese government to sign another 'Unequal Treaty' that carried any whiff of Nanking. This historical experience

1 Office of the United States Trade Representative (ustr.gov)

also informs the CCP's determination to dominate advanced industries. In the eighteenth century, the Qianlong Emperor's eschewing of Western technology ultimately proved fatal to the Qing regime. The CCP does not intend to make the same mistake. Its solution? 'Made in China 2025', a full spectrum effort to dominate strategic industries of the twenty-first century: 5G, robotics, AI, quantum computing, space and more. Western firms fretting about sanctions preventing sales of sophisticated products to China miss the point: the CCP intends to stop buying Western tech as soon as domestic alternatives are available. Meanwhile, China's Belt and Road Initiative (BRI) aims to create a "Community of Common Destiny for Mankind", CCP-speak for a China-centred geo-economic order to rival America's. BRI-related lending, critical infrastructure, trade and political influence are designed to give the CCP leverage over a vast swathe of mankind. Just as the Via Romana of the Roman Empire paved the way for the legions, where China's trade and industry lead, its political and military power will follow.

China's deep sense of civilisational uniqueness, its historical grievance and an understanding of society which prizes order and social harmony above individual rights differ profoundly from America's foundation mythology. The preamble to the US Declaration of Independence opens: "We hold these truths to be self-evident, that all men are created equal, that they are endowed by their Creator with certain unalienable Rights, that among these are Life, Liberty and the pursuit of Happiness." The only thing self-evident about the preamble, however, is that it is the product of Judeo-Christian civilization. The text continues that the "consent of the governed" is essential, and that people are entitled to remove governments that fail to uphold their rights. Such sentiments are alien to Chinese tradition – and an existential threat to the CCP. Where growing CCP authority overlaps with political ideas derived from the Western tradition, the result is tension and, increasingly, conflict. Hong Kong is on the front line of a clash of civilizations.

UNWELCOME CLUES

Mainland China has thus far remained resistant to these Western universalist assumptions, despite rapid economic advances. A wasted quarter-century has left Western policymakers acknowledging that they got China wrong and asking: now what?

History holds unwelcome clues. Harvard historian Graham Allison coined the term 'Thucydides' Trap' – the idea that the threat of a rising power to an incumbent is often a trigger for war. In *The History of the Peloponnesian War*, Thucydides wrote that "it was the rise of Athens and the fear that this instilled in Sparta that made war inevitable". Allison examines 16 successive examples of this phenomenon: war resulted on 12 occasions. I would argue that the degree to which powers come into direct competition – military but also economic – is at least as important in determining whether the Trap gets sprung.

The US has long been the unchallenged underwriter of Asia-Pacific security. Now, China wants America out of its geopolitical backyard – one that is home to over half the planet's population, and to much of this century's prospective economic growth. Multiple incidents across East and South East Asia point to the rapid decline of the strategic order which has been so propitious

Image Sources: Reception of the Diplomatique & his Suite, at the Court of Pekin - published September 14, 1792 - James Gillray (agefotostock / Alamy Stock Photo) and Map of South China Sea 1794 (Andrew Fare / Alamy Stock Photo)

LORD MACARTNEY HEADED AN EMBASSY IN 1793 WHICH AIMED TO EXPAND TRADE WITH CHINA BUT FAILED

for regional prosperity, ranging from North Korean missile tests to Chinese incursions into other nations' territorial waters.

Other warning lights are flashing. Vice President Pence's address at the Hudson Institute in 2018 heralded an overtly hawkish shift in official US rhetoric. Whilst "Beijing still pays lip service to 'reform and opening', Deng Xiaoping's famous policy now rings hollow", Pence noted. Its trade policies are "inconsistent with free and fair trade" and "a new wave of persecution is crashing down on Chinese Christians, Buddhists, and Muslims". The clash of values is becoming impossible to ignore. Facing down China is now one of the few truly bipartisan issues in America.

NEW FRONT LINES

The digital dimension is another way in which this hegemonic competition differs from its antecedents – and in cyberspace, the strategic struggle is already hot. With minimal economic, technological, cultural and educational interaction, options for direct confrontation in Cold War I were limited – unless you wanted to risk nuclear war. Buffer zones were physical; proxy conflicts were military. Cyberspace collapses buffers and allows an adversary potential access to the heart of your economy, politics and society. Everyone and everything is on the front line.

Proxy wars can now be fought in the corporate world, too. As a partially-capitalist economy, China's corporations bestride the globe as the CCP's outriders. By law, Chinese firms owe ultimate allegiance to the state (read: CCP). Huawei is the most high-profile casualty so far. If data is the new oil, just as the US Navy has no intention of ceding the world's arterial shipping lanes to Chinese power, America will not want China to dominate the shipping lanes of the twenty-first century: telecommunications.

Real sea lanes are contested, too. The People's Liberation Army Navy now boasts more hulls than the US Navy. A Soviet-style parade in Beijing in October 2019 featured hypersonic missiles and advanced jets, hinting at the rapid advances in technology which are further destabilising the existing order. In 1906, the Royal Navy launched HMS Dreadnought, the world's first all-big-gun battleship. Overnight, all other warships became obsolete. Rapid technological advance risks rendering swathes of existing capability redundant overnight, encouraging precautionary military spending.

A more traditional hard power stand-off is developing in and around the South China Sea. Following its withdrawal from the Intermediate-range Nuclear Forces Treaty, the US is poised to deploy medium-range ballistic missiles in the region: "sooner rather than later", according to Defense Secretary Mark Esper. Taiwan tensions are also rising. Taiwan's 'reunification' with the mainland is core to Xi's aim of rejuvenation, but events in Hong Kong have strengthened the hand of those Taiwanese who seek greater distance from Beijing, as President Tsai's emphatic re-election recently highlighted. With 'rejuvenation' due to be completed by 2049 – the 100th birthday of the People's Republic – the clock is ticking, and America is pledged to Taiwan's defence.

SPLIT LOYALTIES?

South East Asia poses tricky questions for asset allocators. Many of the region's nations rely on the US for military and political muscle but all – including countries such as Australia – are more reliant economically

> "China is now one of the few truly bipartisan issues in America"

on China than the US. To date, many of these South East Asian countries have been beneficiaries of the trade war. Vietnam, for example, has seen huge increases in foreign direct investment as supply chains have relocated from China. India, Thailand, Japan and Taiwan are also winners. But will the US be content to continue providing for these countries' defence if the world divides around, say, different technological standards, or will tough choices have to be made?

China's leaders know that they must act quickly to reduce dependence on American technology, US dollars and overseas energy. Meanwhile, responsible corporate management will re-engineer supply chains to minimise future risk. Rapid technological advances will supercharge this trend. The auto industry, for example, has long been the poster-child of globalised manufactured goods. As old technologies are retired, however, businesses are likely to consolidate production of new models with shorter supply chains – a further tailwind to this de-coupling. Pandemic disease risks will also focus minds. Economic disentanglement will accelerate. Alongside China, Germany looks especially vulnerable as a large manufacturing and exporting economy.

Cold War II comes at a vulnerable moment for the CCP. Every major economy with a per capita GDP of more than c$10,000 is a democracy. China is approaching this level of wealth, seeking to become the first autocracy over the line. Will it succeed? China's financial system looks vulnerable. Over-indebtedness remains a chronic issue, complicated by an ageing population. The historic challenge to keep China together and stable remains real. The CCP's authority rests on competence, prosperity and 'national resurrection'. A material knock to any of these pillars would be dangerous and could emerge out of the blue. A botched response to a major disease, for example. The Orwellian Social Credit system of which Pence also spoke is as much a confirmation of fragility as it is of strength, as is the 'Golden Shield' public surveillance project. Surveys suggest that more than one fifth of urban Chinese consumers would permanently leave China, given the chance. This rises to over one third in the high-income bracket, suggesting widespread discontent. Simultaneously, the Xi era has – so far – been characterised by a growing Mao-style cult of personality around the president and the tightening grip of the CCP over politics, society and the economy. In Xi's own words: "the Party leads everything." The reform and opening era instigated by Deng is under threat, and China's long-term economic prospects with it.

As the CCP grapples with these challenges, America has moved decisively from engagement to containment of China's technological and economic power, and its geographical, military and political reach. Regardless of any trade deal, de-globalisation of supply chains critical for national security will gather pace. In time, hegemonic economic blocks with their own primary currencies, bond markets and business and credit cycles may emerge. China simply cannot offer the sort of concessions which the West quite reasonably demands – equal treatment for companies operating in China's internet or domestic market, for example – because these would undermine the CCP's hold over China's economy and society.

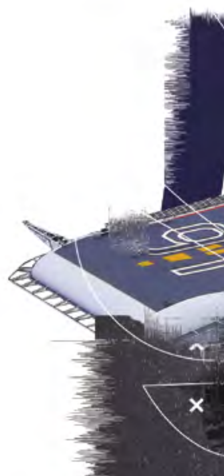
INVESTMENT TIDES TURNING

To survive, the CCP must make the world safe for autocracy. Since globalisation is a phenomenon not just of goods and services but of criticism, too, Chinese censors will seek to extend their reach further into the heart of Western societies and economies. Businesses dependent on Chinese money will come under sustained pressure to conform to CCP positions on everything from Hong Kong to Uighur detention camps and Taiwan. (Apple, Arsenal Football Club and America's NBA are just three prominent recent examples to fall off this tightrope.) As the values clash becomes more prominent, it will be harder for international businesses to maintain feet in both camps.

Beyond the more obvious risks of geopolitical shocks to markets, the new Cold War will touch almost everything. When bond yields peaked in 1981, China had just begun its extraordinary ascent. Now world order is bifurcating just as yields reach record lows. This is likely to be a world of materially higher geopolitical risk, complexity, volatility and, ultimately, inflation. Governments will have little choice but to spend more to address deteriorating geopolitical security alongside climate change, ageing demographics and domestic political unrest. Unlike the aftermath of the Credit Crunch which saw emergency stimulus concentrated on the financial sector, this government spending will hit the real economy directly. Squaring the funding circle for our already heavily leveraged governments? Central banks, which will keep rates low to ensure debts remain sustainable. With historic indebtedness thus likely to prevent material interest-rate hikes, financial repression is here to stay.

Concerted Chinese and Russian attempts to 'de-dollarise' could undermine the greenback's value and increase US yields. China will need to liberalise its own currency market if the yuan is ever to be a plausible dollar alternative (this probably also means China does not want a dramatic devaluation if it can avoid it). Investors should reappraise valuations for businesses whose high multiples are predicated on continuing China-led growth. Such market access cannot be taken for granted. China's patriotic consumers are a 'Great Power' in their own right – just ask Japanese car makers operating in China during the 2012 Senkaku dispute. The risk of companies unwittingly becoming geopolitical proxies is high. And if hegemonic spheres become the order of the day, individual emerging markets may become 'winner takes all', plumping entirely either for Chinese or US suppliers and technological standards.

Mergers and acquisitions, particularly in the technology sector, are increasingly subject to national security considerations and capital markets themselves are being weaponised. In a nod to the other great investment hegemon of the early twenty-first century – indexation – US politicians have proposed legislation to prevent US government pension funds shifting their benchmarks from developed world assets to those that include Chinese and Russian stocks. It is easy to imagine a world where managers controlling trillions of dollars of assets look to divest not simply from carbon-intensive industries but from oppressive authoritarian regimes, too. Benchmarks are a brewing battleground.



NEW OPPORTUNITIES

After 30 years in which finance and business had a free hand, investors will increasingly have to acclimatise themselves to a world where geopolitics trumps all. Yet this is a Cold War unlike the last, with perpetual battlefields in business, technology, cyberspace, trade, markets and outer space. Investors are on the front line of them all. Some argue that ICT is a general-purpose technology which will overwhelm the fallout from Sino-US disengagement. This, it is suggested, could keep globalisation and the deflation machine – covered elsewhere in these pages – on track, and with it the present monetary and market paradigms. This seems unlikely. Technology is just one dimension of a complex post-Cold War political economy which has been deflationary in nature. China's re-engagement with the global economy has been another. Disengagement threatens the reverse.

While new dimensions offer domains for less conventional conflict, the critical danger is that Cold War II creates a 'Black Swan factory' akin to earlier eras: a geopolitical setup which magnifies seemingly small or isolated events into issues that threaten markets broadly. (Think of Archduke Franz Ferdinand's assassination in 1914.)

But with these challenges come equally large opportunities. Whether in cyber security, defence, drones, AI, strategic resources including food and water, gold and precious metals, index-linked bonds, infrastructure plays, cheap stocks hit by temporary admission to the Entity List, or strategic beneficiaries of diverted trade, investment and capital flows, the possibilities abound.

Welcome to COLD WAR II. ●

Image source: China's aircraft carrier Liaoning is seen during a new training mission upon arrival at an unidentified sea area, July 13, 2017. (Xinhua / Alamy Stock Photo)

Climate change:

the roles of divestment and engagement

THE OXFORD UNIVERSITY PRESS CHOSE 'CLIMATE EMERGENCY' as its 'Word of the Year' for 2019, while the Financial Times chose the Swedish word 'flygskam', or flight shame, as one of its ways of capturing last year in a word. To tackle climate change, both governments and companies need to act; how companies manage their greenhouse gas emissions has become fundamental to their long-term financial performance. For investors seeking to influence the behaviour of companies, it is not necessary to choose either divestment or engagement. It is possible to combine both approaches, in ways that can be tailored to specific concerns.

ALEXIA PALACIOS
Analyst – Responsible Investment

THE PAST DECADE HAS SEEN A MIXED RESPONSE TO THE ISSUE OF CLIMATE CHANGE. On a positive note, the Paris Agreement was signed by 197 countries in December 2015. Its goal is to limit the increase in average global temperatures to well below 2°C above pre-industrial levels; and striving to limit the increase to 1.5°C.

Yet global greenhouse gas emissions – after a brief stabilisation in the middle of the decade – have continued to grow. From 2010 to 2019, the growth rate was around 1.5% a year. According to the World Meteorological Organisation, global average temperatures have already risen by 1.1°C. Data from NASA shows concentrations of carbon dioxide in the atmosphere reaching over 400 parts per million for the first time in more than 800,000 years.

The Intergovernmental Panel on Climate Change's (IPCC) 2014 report stressed the need to act swiftly and decisively: global warming is now "unequivocal" and human activity is "extremely likely" to be the dominant cause.[1] Notably, this report emphasised the link between greenhouse gas emissions and the changing climate.

In a 2018 report, the IPCC stated that average global temperatures have already risen 1°C above pre-industrial levels, and are currently increasing at 0.2°C per decade. Therefore, it is likely that temperatures will rise 1.5°C above pre-industrial levels between 2030 and 2052. An increase of this extent will have considerable negative consequences around the world – from ice-free summers in the Arctic to species loss and extinction. And if temperatures rise to 2°C above pre-industrial levels, the magnitude of the environmental damage is likely to be substantially worse.

THE UNKNOWN POLICY RESPONSE

As the effects of greenhouse gas emissions are cumulative, persistent and not localised, the response needs to be international. It requires a shared global vision of long-term goals and frameworks that will accelerate energy transition and other action over the next decade.

The ratification of the Paris Agreement was a step forward, and an example of the global co-operation required. To achieve the goals set in Paris, greenhouse gas emissions need to be substantially reduced. The Paris Agreement requires each country to set out – in its Nationally Determined Contributions

> "The lack of clarity on government policies makes it difficult to plan effectively."

1 Intergovernmental Panel on Climate Change. 2014 Synthesis Report

(NDCs) – its commitment to reduce greenhouse gas emissions, and details of how it intends to adapt to the impacts of climate change.

There is a diverse range of views on what the reduction targets for greenhouse gases should be. At Ruffer, we expect that the NDCs or climate pledges will be tightened in 2023, to align with the pathway to meet the goals of the Paris Agreement.

For investors, there will be opportunities for companies that contribute to the mitigation of or adaptation to climate change. Yet the lack of clear and co-ordinated policies to mitigate the worst effects of climate change increases risks. The physical risks of climate change are becoming increasingly apparent: in a globalised economy with complicated supply chains, the number of companies affected is vast. This has caught the attention of central bankers, concerned about the threat to financial stability. The transition risks to companies are also significant, and the lack of clarity on government policies makes it difficult to plan effectively.

Work co-ordinated by the Principles for Responsible Investment (PRI) suggests that the delay in government action around climate change means the most likely policy response by 2025 will be "forceful, abrupt, and disorderly".[2]

How companies manage their greenhouse gas emissions has become fundamental to their long-term financial performance. Investors need to consider these issues seriously, and incorporate them both in their analysis of individual companies and into their overall investment approach.

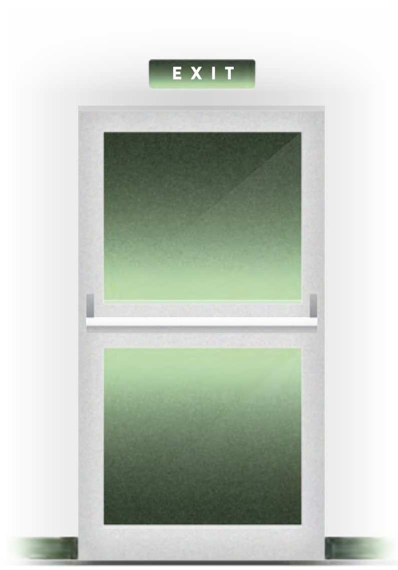
Some argue that companies which emit large quantities of greenhouse gases will never change, and so it is not possible to reconcile owning their shares with a concern about climate change. Others propose that by owning shares you have the opportunity to influence a company, encouraging its management to become part of the energy transition necessary to achieve the goals of the Paris Agreement. Others still seek to combine elements of these two approaches.

We discuss the options of divestment and engagement in more detail below, and introduce our approach at Ruffer.

DIVESTMENT

Divestment involves selling the shares of companies because of concerns over environmental, social, governance (ESG) or ethical issues. Recently, the focus has been on fossil fuel companies.

Often, divestment is based on the beliefs or values of investors. For example, both the Church of England and the Catholic Church, through Pope Francis' encyclical Laudato Si, have stated the importance of addressing the moral issues created by climate change.



2 UNPRI.org. What is the inevitable policy response?

Among those divesting, some have concluded that continuing to invest in companies that have significantly contributed to climate change is irreconcilable with their moral values. Some take this argument further. By encouraging divestment, they aim to reduce the 'social license to operate' of fossil fuel companies. This, in turn, would reduce the power and influence these companies have, and so make it easier for governments to take action to tackle climate change.

The second line of argument for divestment is based on the economic risks – specifically, the risks of continuing to invest in fossil fuel companies. To achieve the goals of the Paris Agreement, society needs to reduce its emissions of greenhouse gases considerably, and so it is likely that the consumption of fossil fuels will need to fall. Consequently, there is a risk that fossil fuel assets will not be able to earn an economic return for their entire useable life. This can happen for a number of reasons including regulatory, economic or physical changes. It is particularly important for conventional fossil fuel assets, due to the length of their useable lives.

A third line of argument is that engagement is ineffective. In this view, fossil fuel companies have known about climate change for many decades – if shareholder pressure has failed to change their approach to date, it is unlikely to be successful now, because the companies are simply unwilling to change. It was back in the 1990s that fossil fuel companies began accepting publicly the occurrence of global warming, and the link between greenhouse gas emissions and climate change. For example, John Browne spoke about this, as CEO of BP America, at a speech at Stanford in 1997.

While these arguments are all important, there are other factors that need to be considered.

First, divestment is only possible once. Yes, it can be used to make a statement, something that is likely to gain the attention of companies and perhaps also the media. But once the shares have been sold it is usually no longer possible to be involved in discussions on company policy. Second, there is an argument that by selling the shares and depressing the share price, other investors – less concerned about climate change – are able to purchase shares at a lower price, while the business model of the company remains unchanged. These are the main arguments in favour of engagement.

ENGAGEMENT

Engagement is the process of continued dialogue with companies and other relevant parties, with the aim of influencing companies' behaviour in relation to environmental, social or governance considerations. Investment managers and asset owners, along with many environmental groups, have been engaging with companies about climate change for a number of years. There are valid concerns about the success of engagement so far. However, in the last few years there have been considerable shifts; engagement could now be a very powerful tool to effect real change.

As concerns about climate change have intensified, the desire to engage with companies on these issues has grown. This has led to the launch of a number of shareholder initiatives, including Climate Action 100+. (Ruffer was a founding investor signatory of Climate Action 100+ and we are actively involved in its work.) Through this five-year global initiative, investors commit to engaging with 161 companies with significant greenhouse gas emissions, in industries from metals and mining to consumer products.

The engagement with these companies has three goals: to improve their governance of climate-related risks; to reduce emissions; and to increase disclosure. By the end of December 2019, more than 370 investors representing over $35 trillion of assets had signed up to Climate Action 100+.[3] The scale of this initiative gives considerable power to investors, and creates a valuable opportunity to exert continued pressure on companies to align their business models to transition successfully to a low-carbon economy. Academic research in this area has started to identify how to make engagement more successful, and the mechanisms by which it can create value for both investors and companies.[4] A number of these findings have been incorporated into the structure of these collaborative initiatives, and we are hopeful this will lead to increased success.

At the same time, organisations such as CDP (formerly Carbon Disclosure Project) and the Transition Pathway Initiative have given investors tools and quantitative analysis to use as the basis for meaningful engagement with companies. This is important as it allows investors to measure the progress companies are making, both on an absolute basis, and relative to their peers within their industry.

Engagement and divestment can also be combined. For example, investors can commit to engage with a company for a set number of years, but if companies haven't achieved certain targets by the end of this

3 Climate Action 100 (2019), Progress Report
4 See UN PRI (2018). How ESG Engagement creates value for investors and companies

> "Even in the most ambitious scenarios that reach the goals of the Paris Agreement, oil and gas will still provide a significant proportion of our energy in 2050."

period they then consider divesting. This approach can be particularly powerful if the timeline is publicly shared with the companies. The time taken to effect real change must be considered though, with some academic papers finding that engagement takes on average 1.5 years to be successful.[5]

A growing number of companies are now making significant commitments to reduce their greenhouse gas emissions, and to align their business models with the goals of the Paris Agreement. This partly reflects public pressure – and related reputational risks for businesses – but also, importantly, the influence of shareholders through collaborative initiatives such as Climate Action 100+.

OUR APPROACH

Ruffer believes that engagement is an effective tool and we are committed to engaging with those companies in which our clients' assets are invested. For those businesses that make a significant contribution to global greenhouse gas emissions we are engaging to encourage them to adapt their business models to align with the transition to a low-carbon economy. This includes fossil fuel producers, mining companies and producers of energy-intensive products. We also discuss with these companies why greater transparency around climate change disclosure, as well as tangible targets for reducing greenhouse gas emissions, are important to investors.

Given the largest corporate greenhouse gas emitters often have operations in many countries around the world, and the effects of climate change are not localised, we think that engagement through collaborative initiatives such as Climate Action 100+ has the best chance of achieving lasting and positive change. The companies this initiative is engaging with are of great importance, given their combined

5 Dimson, E. et al (2015), The Review of Financial Studies, Active Ownership

ENGAGING WITH EXXONMOBIL CORPORATION

With ExxonMobil, Ruffer first voted for a climate change-related shareholder resolution in 2016. This was co-filed by the New York State Common Retirement Fund and the Church Commissioners for England; it failed to win the support of a majority of shareholders. A similar resolution was filed in 2017, which we also supported, and this was successful, with 62.1% shareholder support, despite not receiving the backing of ExxonMobil's board. This resolution asked the company to report annually on how technological advancement and international climate-change policies will affect its business and investment plans. It led to ExxonMobil producing its first energy and carbon summary report in 2018, which analysed climate scenarios that limit the increase in temperatures to 2°C; this has formed the basis for further engagement with the company.

However, the company's disclosure on this issue did not go far enough, and Ruffer was asked to participate in a Climate Action 100+ group meeting with ExxonMobil in Boston in November 2018 to discuss the core objectives of the initiative of improving governance, reducing emissions and increasing disclosure. ExxonMobil was resistant to pressure to disclose targets for reducing its greenhouse gas emissions in line with the Paris Agreement.

The lead investors of the Climate Action 100+ working group for ExxonMobil filed another shareholder resolution in 2018. This asked ExxonMobil to disclose short, medium and long-term greenhouse gas reduction targets that are aligned with the Paris Agreement. As we agreed with the importance of this additional disclosure, we co-filed this resolution. ExxonMobil asked the US Securities and Exchange Commission (SEC) for, and was granted, 'no action' relief and so did not include the resolution on the ballot for its 2019 AGM. Subsequently, we decided to vote at the AGM against the re-election of all non-executive directors because we did not feel they have appropriately represented shareholder concerns regarding climate change and the risks this poses for the company.

In addition, we supported a shareholder resolution asking for an independent Chair of the Board. This is because we believe that the company's unsatisfactory handling of the Climate Action 100+ shareholder proposal – including its decision to seek no-action relief from the SEC, and the slow progress of engagement with Climate Action 100+ – are linked to poor governance. We also supported shareholder resolutions asking for a board committee to assess social and environmental issues and for additional disclosure of the company's lobbying activities. Prior to the AGM, we wrote to Darren Woods, CEO and Chair of the Board, to explain why we had voted in this way, so the company understood why we were both frustrated and concerned about its approach to climate change. Since the 2019 AGM, we have had a number of constructive meetings. Our engagement activities are ongoing.

ENGAGING WITH ARCELORMITTAL SA

ArcelorMittal is the largest steelmaker in Europe. This is an interesting engagement for Ruffer, as the current production process for steel uses considerable amounts of metallurgical coal to reduce the iron ore into iron, and subsequently to steel.

The production process has been made much more efficient over the past few decades, but expected future efficiency gains are not going to be sufficient to meet the goals of the Paris Agreement. Much of the infrastructure needed to transition to a low-carbon economy – such as wind turbines – require a lot of steel. Reducing the carbon intensity of steel production is therefore important.

I am one of the joint-lead investors for the Climate Action 100+ working group, and we have been intensively engaging with the company over the past 12 months. At the Annual General Meeting (AGM) in Luxembourg in May 2019, we asked the company to set targets to reduce its greenhouse gas emissions and to review its lobbying activities.

Our previous meetings with the company had involved senior executives, but not Lakshmi Mittal, CEO and Chair of the Board. Therefore, we felt it was important to attend the AGM to make sure the whole board was aware of the initiative and what we are trying to achieve. After the AGM, we had a private meeting with Mr Mittal; this allowed us to provide context to what we are asking the company to do, and for us to build a common understanding.

Mr Mittal told the senior executives in the meeting to work with us more closely and give us the information we were asking for. It has led to a considerable change in the tone of the engagement. We have had numerous meetings with the company since and we are encouraged by the commitments that ArcelorMittal has recently made, including for its European operations to be carbon neutral by 2050, requiring the development of new production processes.

greenhouse gas emissions: their actions will have a meaningful effect on whether the goals of the Paris Agreement are met. As part of Climate Action 100+, Ruffer is in specific working groups and has committed to engaging with a number of European and American companies, including ArcelorMittal and ExxonMobil (see box on page 25 and 26).

On fossil fuels, we take the environmental concerns seriously, while also recognising that fossil fuels will continue to provide a significant proportion of global energy for the foreseeable future. They will therefore need to be part of the transition to a low-carbon economy. Renewables are growing at a considerably faster rate than fossil fuels, but even in the most ambitious scenarios that reach the goals of the Paris Agreement, oil and gas will still provide a significant proportion of our energy in 2050. What's more, there are some areas in which the practicalities make it incredibly difficult to substitute fossil fuels for renewables: aircraft fuels, and heat generation for manufacturing processes, are two good examples.

This is why we think that engagement is so important. We want to encourage these companies to adapt their business models to enable them to be a positive force for change.

LOOKING AHEAD

The actions taken in the next decade will determine whether or not the world manages to limit the increase in global average temperatures to 1.5°C or even 2°C above pre-industrial levels.

2020 is an important year as each country has to submit its updated pledge to reduce its greenhouse gas emissions, its NDC, for the first time since the Paris Agreement was signed five years ago. The pledges to reduce greenhouse gas emissions made in the first NDCs are not sufficient to limit the increase in global average temperatures to well below 2°C, let alone achieve the more stretching target of 1.5°C. While there may not be widespread policy change in the next year or so, the Paris Agreement's global stocktake in 2023, and the third submission of each country's NDC in 2025, will be significant. By the mid-2020s, it is prudent to assume that we may see "forceful, abrupt, and disorderly" policy changes, to use the phrase of the Principles for Responsible Investment again.

For investors seeking to influence the behaviour of companies, it is not necessary to choose either divestment or engagement. It is possible to combine both approaches, in ways that can be tailored to specific concerns. And the decision of whether to divest or engage doesn't have to be applied to the whole industry. On climate change, there is wide dispersion in both the achievement and commitment of companies, and so it's unsurprising that engagement is more likely to be successful with some firms than with others.

The pace of change in this area is energising, and there is considerable momentum that has already led to some significant commitments by companies. There is still much work to be done but we think that engagement, often through collaborative initiatives, is the best way to encourage companies that emit significant quantities of greenhouse gases to adapt their business models to help achieve the goals of the Paris Agreement. ●

Buy AND HOLD

IS IT REALLY THAT SIMPLE?

DUNCAN MACINNES

Investment Director

BUY GOOD COMPANIES. AND OWN THEM FOREVER.

As investment approaches go, it is seductively simple. In a financial world that often looks confused, and in places absurd, buying and holding a portfolio of high-quality companies has evident appeal. Ten years into a bull market, the approach is back in vogue. Owning high-quality equities has worked well over the past 20 years. However, from today's starting point – with high valuations, and a cosy consensus around the business fundamentals – these high-quality stocks look unappealing. Are these supposedly 'safe' stocks now, counterintuitively, one of the least attractive parts of the market?

EQUITIES ARE VENERATED AS THE MOST ATTRACTIVE ASSET CLASS FOR LONG-TERM INVESTORS – and for good reason.

The stock market and corporate entities are the best mechanism for savers to invest in the creativity and dynamism of the ideas of entrepreneurs seeking to change the world. Without the creation of equities as an investable asset, the march of human progress would have been much slower.

Equities are arguably the only financial asset capable of creating transformational wealth. Over the long haul, equities have far outperformed the rest. After adjusting for inflation, £1 invested in the UK stock market in 1899 would be worth £354 today. The same £1 invested in government bonds would be worth just £5; cash, £2.50.

A bond is, in essence, a simple loan with agreed terms. A good equity, by contrast, gives a stake in a business managed (ideally) by competent, well-incentivised human beings, who can react dynamically to changing tastes, industry trends, and economic environments. At its best, we think an equity – part-ownership of a real business, run by real people, trying to solve real customer problems, with real assets – is a beautiful thing. Responsiveness matters. Levi Strauss was a young immigrant peddler in New York who moved 3,000 miles across the country to chase the opportunity offered by the California Gold Rush in 1853. He struck upon the idea of putting rivets on the seams to toughen work overalls – blue jeans were born. Levi Strauss & Co survived near destruction in the great earthquake and fires of San Francisco in 1906. From there the business and its product literally rose from the ashes to become a symbol of rebellion, romance, freedom and the American Dream.

To call on another example, in the seventeenth century Finnish company Stora Enso mined 60% of the world's copper.[1] Over the following 250 years, the company transitioned into iron ore and then steel. By the 1970's, the company had evolved into renewable packaging solutions. From ancient beginnings (the company was founded in 1288), Stora Enso now has €11 billion of sales annually. Or Amazon: an investor with great imagination might have conceived that Amazon, two decades on from its initial public offering, would generate revenues of $250 billion.[2] What they could not have imagined is that two-thirds of this online bookseller's profits would come from something not yet in existence: so-called cloud computing, or hardware-as-a-service.[3]

1 Harvard Business Review (1997), The Living Company
2 Stora Enzo (2019), Annual Report
3 Amazon (2019), Annual Report

THE GOSPEL OF QUALITY INVESTING

Every love tends to excess. Equities are no exception.

Over the past decade, devotion has grown for what we'll call here high-quality stocks. Companies with valuable brands, strong balance sheets, recurring revenues, intellectual property, consistently high returns on invested capital with little requirement for additional investment, and a long runway of potential growth before them. We were delighted to own some of these businesses between 2008 and 2015 – Google, Johnson & Johnson, Kraft, Mondelez, Microsoft, and Lockheed Martin, among others.

Practitioners of quality-investing argue that by making a qualitative assessment of the characteristics of a business and its industry, an investor can buy good companies and essentially own them forever. The profits and growth of the underlying companies will accrue to you as a shareholder over time. In the long run, the power of these returns compounded should produce very strong performance.

Devotees of this approach believe they can identify a collection of companies with superior characteristics and enduring competitive advantages – what Warren Buffett calls "economic moats". For this approach to work, quality-investors must believe either that these firms' advantages are persistently underappreciated, or that they are missed entirely by others – otherwise, these superior features would be reflected in the company's share price.

WHERE ARE THE CHINKS IN THE ARMOUR?

At Ruffer, we believe a portfolio of high-quality equities is not a safe place for investors to be today – even those investors with a long time horizon. High-quality equities will not be immune to the vicissitudes of the business cycle, bear markets or inflationary regimes. Below, we offer three points to consider:

1. **THE MACRO ENVIRONMENT MATTERS –** rising risk-free rates and inflation are a threat to all equities
2. **PRICE PAID AND TIME BOTH MATTER –** valuation is as important as business quality
3. **THE PAST IS NOT THE FUTURE –** historic return on equity is at best a rough guide

1. THE MACRO ENVIRONMENT MATTERS

Rising risk-free rates could pose a threat to all equities. High-quality companies are particularly vulnerable, due to their high duration or 'bond-like' characteristics.

Let's briefly step back to Financial Theory 101. Stocks are valued as the present value of all their future cash flows, discounted back to today by a required return. The valuation process requires a discount rate[4] – typically, this is the yield on government bonds plus an equity-risk premium – with the former itself embodying risk premia to capture the inherent uncertainty around future interest rates and inflation.[5] As Figure 1 shows, valuations are very sensitive to discount rates, and to the assumptions investors use about the length of time a cash flow will last. The effect is eye-watering. At a discount rate of 3%, a cash flow which persists for 50 years is worth almost eight times more than one which persists for 10 years – £80.79 versus £10.60.

Today, global real and nominal bond yields are at historic lows. Inflation is at multi-decade lows. Put these two together, and we can be pretty sure investors are plugging historically-low discount rates into their spreadsheets. A lower discount rate will mechanically result in a higher current share price today. What happens when interest rates rise, or inflation risk re-emerges?

With rising interest rates, the consequences are straightforward. Higher interest rates lead to higher discount rates. This – mechanically – translates to a lower present value of future cash flows all other things being equal. If the cash flows are worth less today, then a lower share price will surely follow.

Investors operate in a relative world. Savings need to be deployed somewhere. Every investment is a trade-off between risk, return and opportunity cost. When interest rates rise, all stocks look more expensively valued in a world of increasingly-attractive alternatives.

And rising inflation? Advocates of quality investing say that good businesses will be able to pass on higher costs to their customers while maintaining their strong economics. We agree. The puzzle is how the market will decide to value these businesses in a climate of rising inflation and inflation risk. Which brings us to chocolate.

Alex Grispos, one of our Investment Directors, went into the archives and studied The Hershey Company through the inflationary environment of the 1970s. His findings are summarised in Figure 2.

As one would expect, revenues grew over the period. Net income (profits) was less stable. It fell by 33% in 1973, as there is a natural time lag between Hershey's input costs rising and the company responding by raising prices. However, because Hershey sells products people want to eat, the company could pass-on the inflationary rise in its costs – in other words, the price increases were swallowed by customers in 1974 and 1975. Profits rose sharply in both years.

4 A discount rate is financial jargon for the required return investors are seeking. This allows them to calculate the present value today of a future stream of cash flows.

5 A brief diversion to wave a warning flag. We have seen one advocate of quality-investing argue that, when valuing great companies, an equity-risk premium isn't needed at all, because the business models and balance sheets are so strong. This smacks of new-era thinking.

Figure 1

VALUATIONS ARE SENSITIVE TO DISCOUNT RATES AND THE DURATION OF CASH FLOWS

Assumes a dividend of £1 a year growing at 5% a year

	%	10 years	20 years	50 years	100 years
Discount rate	3	£10.60	£23.45	£80.79	£292.12
	6	£9.04	£17.27	£37.75	£61.24
	10	£7.44	£12.11	£18.05	£19.81
	15	£5.97	£8.38	£9.89	£10.00

Figure 2

FINANCIAL PERFORMANCE OF THE HERSHEY COMPANY IN THE 1970S

Year	Revenue $	Net income $	Net income growth %	Earnings per share $	Price $	Price/earnings
1972	416,000,000	21,000,000	+1	1.5	24	16
1973	442,000,000	14,000,000	-33	1.1	16	15
1974	514,000,000	22,000,000	+54	1.7	8	5
1975	556,000,000	33,000,000	+49	2.5	16	6

Figure 1 source: Ruffer analysis

Figure 2 source: Ruffer calculations, Hershey Company Annual Reports

What we find fascinating is how the market decided to price the stock over this period. In 1972 investors were happy to pay $16 for $1 of Hershey earnings. By 1974, the amount they were willing to pay for a dollar of earnings had fallen to just $5. From peak to trough, the stock fell more than 60%, despite rising sales and profits.

Rising inflation tends to coincide with increasing economic uncertainty and hence rising risk premiums; leading to falling valuation multiples on stocks. As Figure 3 demonstrates, the valuation multiple for equities declines materially when inflation stops being low and stable.

When inflation becomes untethered – as we fear it might do in the years ahead – equity prices can fall sharply, echoing the experience of Hershey, as investors become unwilling to pay high valuations for each dollar of earnings. The reason investors become reticent is the much higher macroeconomic volatility and uncertainty that has always coincided with inflationary episodes. This is particularly threatening for high-quality equities starting today on elevated valuations. For example, Hershey currently trades at 27x earnings, almost double its starting valuation in 1972.

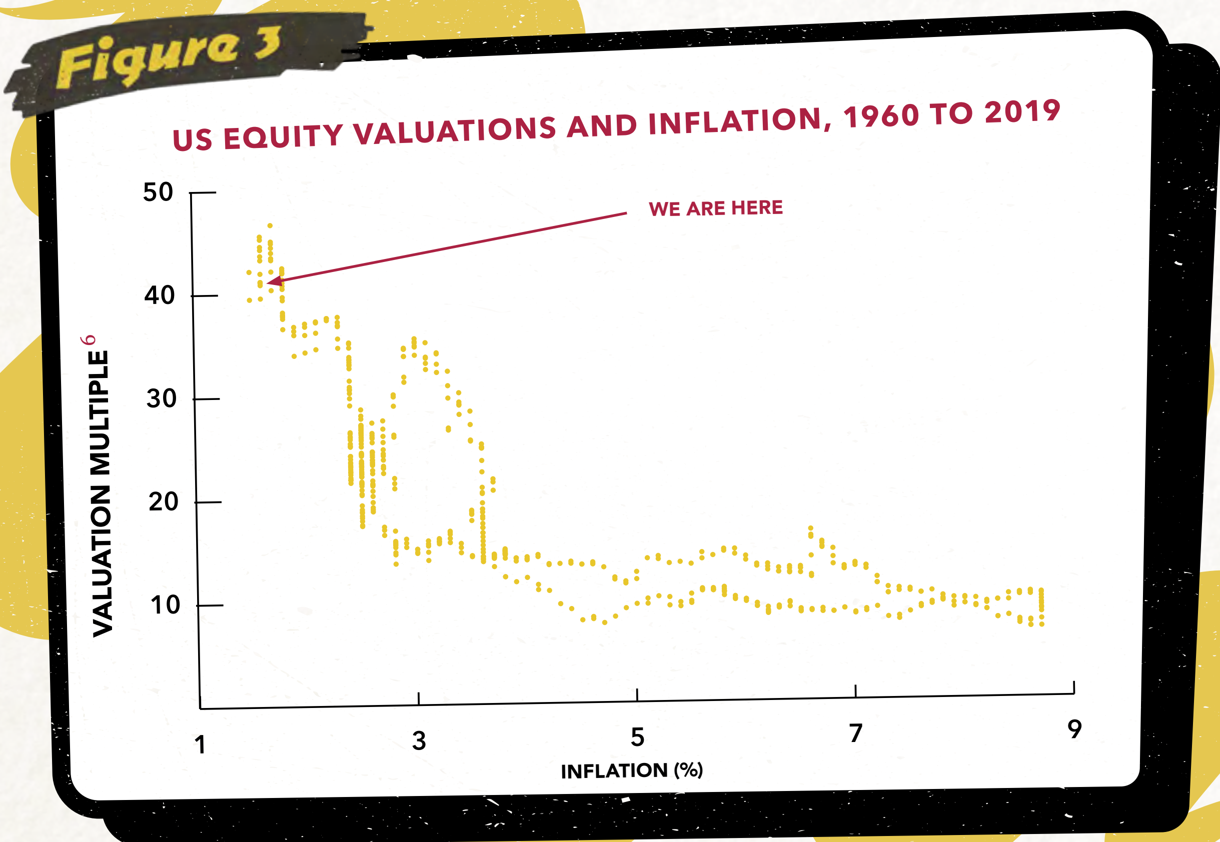


Figure 3 source: Ruffer calculations, Bloomberg, Hussman Advisors

6 The margin-adjusted CAPE is Shiller's CAPE normalised for variation in corporate profit margins, achieved by multiplying Shiller's CAPE by a factor equal to the 10-year average of corporate profits to GDP, divided by its historical average. This adjustment corrects for the tendency of earnings multiples to look low when profit margins are at cyclically-elevated levels, and vice-versa.

THE MARKET MOOD MATTERS – WE HAVE SEEN THIS BEFORE

In the 40 years following the Great Depression, the number of Americans owning stocks rose seven-fold. By the early 1970s, the novice, everyman investor had a view on the markets, and the Nifty Fifty captured the zeitgeist.

The Nifty Fifty were a group of stocks with similar characteristics: high-quality franchises, with strong balance sheets that were benefiting from growth.

The Nifties included household favourites such as Coca-Cola, Gillette, Proctor & Gamble and Walt Disney. They were said to be one-decision stocks – buy and never sell. Many had enjoyed decades of uninterrupted growth in sales, profits and dividends.

As the darlings of the era, they became the bedrock of investor portfolios. Optimism propelled the stocks to trade on very high valuations.

Because these stocks had consistently delivered, questioning the wisdom of buying at high valuations was difficult, perhaps futile. Yet when the market mood changed the Nifties were taken out and shot one by one.

Over the next 30 years, only 10 of the Nifty Fifty outperformed the broader stock market. A number of them turned out to be booby traps: Eastman Kodak, Simplicity Patterns (sewing equipment), JC Penney and Louisiana Land & Exploration Company, amongst others.

Today we see striking parallels between the original Nifties and the so-called FAANG growth stocks (Facebook, Amazon, Apple, Netflix and Google) and as other much-loved stocks with strong brands such as Unilever, Diageo, Starbucks, Visa and Microsoft. The ascendancy of these businesses is hard to challenge; their strong performance has attracted many admirers; those who don't own them may fear they're missing out. As Figure 4 illustrates, these growth stocks have been outperforming unloved value stocks for over a decade.

> “The Nifty Fifty appeared to rise up from the ocean; it was as though all of the U.S. but Nebraska had sunk into the sea. The two-tier market really consisted of one tier and a lot of rubble down below. What held the Nifty Fifty up? The same thing that held up tulip-bulb prices long ago in Holland – popular delusions and the madness of crowds. The delusion was that these companies were so good that it didn't matter what you paid for them; their inexorable growth would bail you out.”
>
> *– Forbes Magazine, 1977, The Nifty Fifty Revisited*

Yet from the Nifties of our generation, perhaps the first few dominoes have started to fall. Kellogg's, Anheuser Busch, General Electric, Netflix, Kraft Heinz, FeverTree, Electronic Arts and Reckitt Benckiser have in the recent past plunged at least 30% from their highs – though some have since recovered – showing that the market consensus on the worth of these businesses can change suddenly.

The lessons? Investor exuberance can swiftly turn sour, and a good business is not necessarily a good investment.

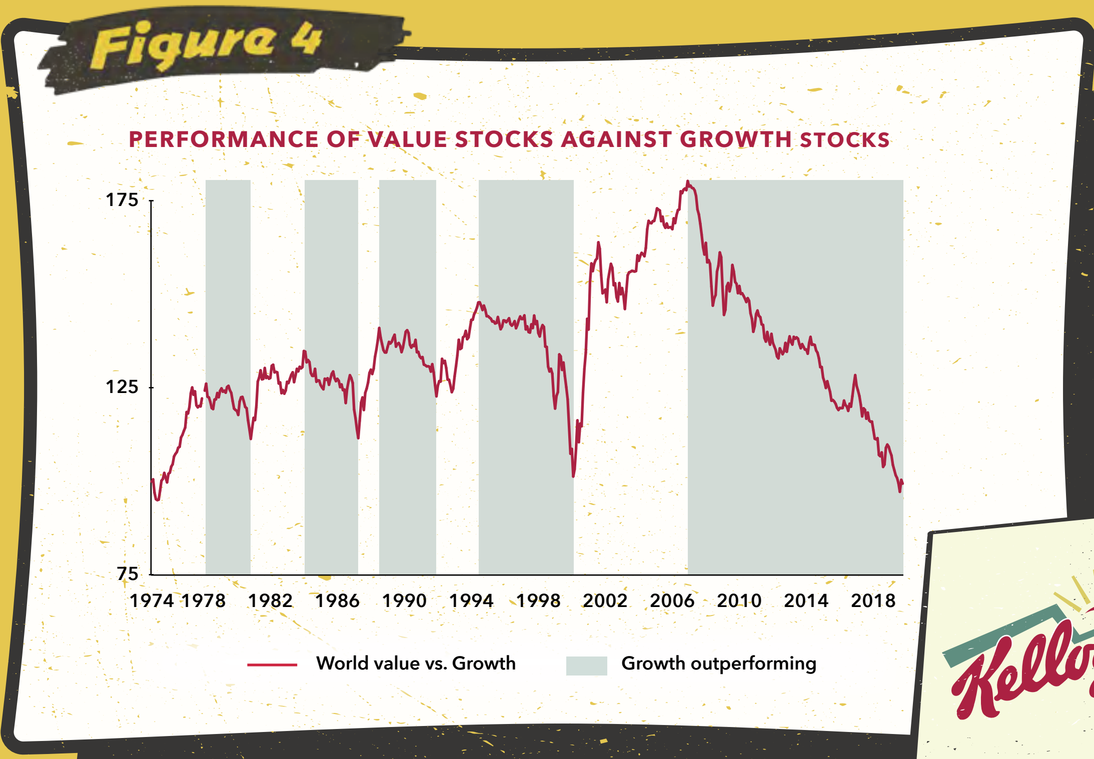
Figure 5

PERFORMANCE OF BLUE CHIP STOCKS IN BEAR MARKETS

	1973-74 %	2000-02 %	2007-09 %
IBM	-59	-59	-35
McDonalds	-72	-74	-18
Ford Motor Company	-65	-87	-80
General Electric	-61	-54	-79
JPMorgan	-11	-77	-69
Pepsi-Co	-67	-28	-30
ExxonMobil*	-60	-25	-35

*1973 was Mobil before merger with Exxon. Source: Hussman Funds, Bloomberg, Ruffer analysis

Figure 4



2.

PRICE PAID AND TIME BOTH MATTER

Figure 4 source: Bloomberg, MSCI data
Figure 5 source: Ruffer calculations, Bloomberg, Hussman Advisors
Figure 6 source: Ruffer calculations

Charlie Munger, Vice Chairman of Berkshire Hathaway, and inspiration for many investors in quality companies, put it like this in his speech in 1995:

"Over the long term it is hard for a stock to earn a much better return than the business which underlies it earns. If the business earns 6% on capital over 40 years, you are not going to make much different than a 6% return – even if you originally buy it at a huge discount. Conversely, if a business earns an 18% return on capital over 20 or 30 years, even if you pay an expensive-looking price, you'll end up with one hell of a result."

Our intention here is not to argue with that statement – it is factually correct – but to examine its real-world application.

Yes, businesses earning a high return will result in better outcomes than businesses earning a low return even if the investor pays a high price for the good business. Figure 6 shows the numbers over a 40-year holding period.

Arithmetically, the numbers add up. Even with a big change in the ending valuation, the high-quality stock still outperforms by a wide margin. So much for the theory. What about the practice?

Time matters. Finding a company that can actually re-invest at 20% a year for such a long period seems close to impossible.

Take a hypothetical firm in today's FTSE 100 index of UK stocks. If it starts with a book value of £10 billion today, and returns 20% per annum for 40 years, the company would be worth £14.7 trillion in 2060. On rough maths, that would be around 10% of the entire world's forecast GDP. Even if a large company could grow at such a high rate for so long, it is highly likely to hit regulatory restrictions and competition issues, which would dent profitability.

Figure 6

VALUATION AND RETURNS WITH A 40-YEAR HOLDING PERIOD

	Return on equity %	Starting valuation	Ending valuation	Compound annual return %
High-quality company	20	4x price/book	2x price/book	18
Low-quality company	10	2x price/book	2x price/book	10

If we assume that a company's return on equity drops from 20% to 10% after five years due to emerging competition or dwindling re-investment opportunities then an investor needs to pay 25% less on day one to achieve the same total return.

What's more, few investors have a 40-year holding period in practice. The long run is a theoretical construct; each investor only has one run.

An assumed holding period of 20 to 40 years clearly diminishes the importance of starting valuations when buying a stock. Yet the longer the holding period, the more an investor is exposed to the unpredictable and potentially damaging effects of time.

Rapid technological change means the average lifespan of a company in the S&P 500 index is now less than 20 years and falling, from an average of 30 years in the 1960s (Figure 7).

In Figure 8, we use a more realistic time frame of seven years. The returns change dramatically. Over a seven-year period, the investment in the lower-quality company delivers better performance. This is because, for the high-quality company, the impact of the fall in its valuation (de-rating) dwarfs the superior compounding of its higher return on equity. Even if the lower-quality company de-rated by 10%, the returns between the stocks would be equivalent.

Figure 7

AVERAGE COMPANY LIFESPAN IN THE S&P 500 INDEX

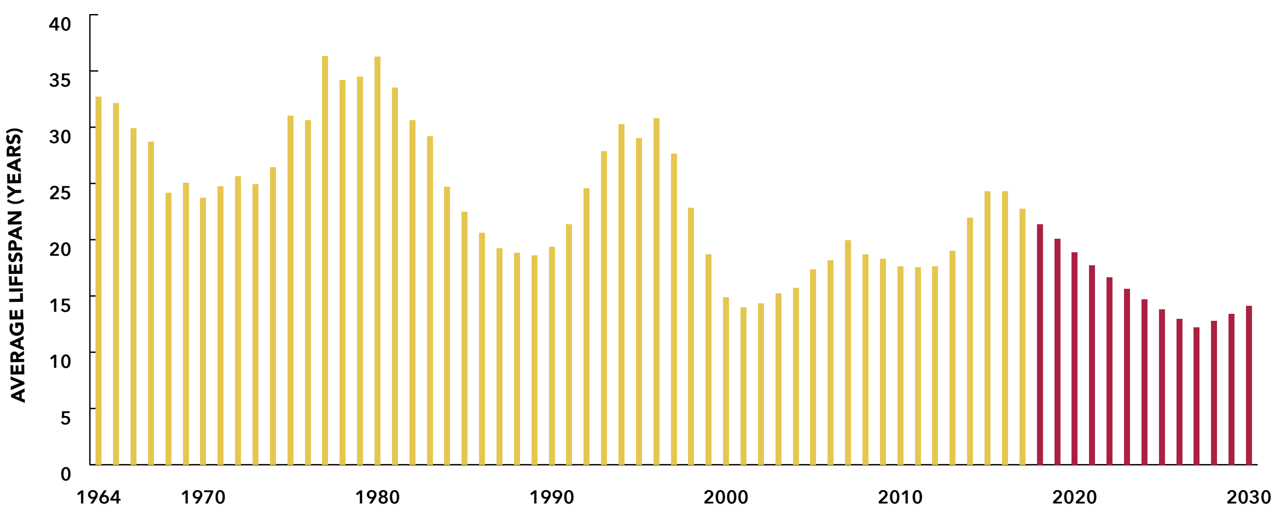


Figure 8

VALUATION AND RETURNS WITH A SEVEN-YEAR HOLDING PERIOD

	Return on equity %	Starting valuation	Ending valuation	Compound annual return %
High-quality company	20	4x price/book	2x price/book	9
Low-quality company	10	2x price/book	2x price/book	10

Our key point here is that valuation – the price you pay – is as important as business quality. This is a point we think demands more attention.

Coca-Cola provides a good example. It is undoubtedly one of the world's greatest brands and businesses. Say you bought the shares in 1998, when the stock traded on 50x earnings, or a 2% earnings yield. The share price fully reflected a lot of future growth. From 1998 the stock fell over 40%, and even including dividends it would have taken until 2010 for you to make money from your investment. Fast forward to 2019. After two decades as a Coca-Cola shareholder, your total return, including dividends, is only 3% a year, far less than the equivalent 7% return from the (qualitatively inferior) broad stock market and that is before inflation is considered.

The price you pay IS AS IMPORTANT as business quality

Figure 7 source: Standard & Poor, Innosight

Figure 8 source: Ruffer calculations

3.

WHAT IF THE FUTURE IS NOT LIKE THE PAST?

We now come to the challenge of consistent return on equity, foretelling the future, and the persistency of greatness.

There is a wonderful heuristic known as the Lindy effect which predicts the longer something has been going on, the longer it is likely to continue. As Nassim Nicholas Taleb put it: "Every year that passes without extinction doubles the additional life expectancy. This is an indicator of some robustness." This applies to Broadway shows, marriages, the relevance of books, films or music and to the lifespans of companies.

This is important because today, high valuations are implicitly taking corporate longevity for granted. All other things being equal, it seems reasonable that longevity is an excellent predictor of future relevance but all other things are not equal.

Consider LVMH (owner of luxury brands including Louis Vuitton, Christian Dior, and Veuve Clicquot) and Diageo (Johnnie Walker, Guinness and Smirnoff, amongst others). Both LVMH and Diageo are signature high-quality stocks with brand histories often measured in centuries. Both have harnessed their intellectual property to deliver excellent returns for shareholders. A buyer of LVMH shares in 2001, re-investing their dividends, would have netted more than 14 times their initial investment (16% annualised). Similarly, buying Diageo shares in 2003 would have produced 14% annualised returns, eight times the initial investment.

Notably, throughout this period, an investor would never have been losing money on their original investment. These stocks have been a one-way ticket to investment success.

> Today HIGH VALUATIONS are implicitly taking corporate longevity FOR GRANTED

In behavioural psychology, there is a phenomenon known as the endowment effect. People become attached to things they own, and thus overvalue them. To our mind, there is a huge amount of accumulated goodwill in today's markets – an endowment effect writ large. A generation of investors has seen a cohort of high-quality stocks deliver consistently and handsomely, regardless of the economic or market climate. At least some of this, we think a lot, must be attributable to the 30-year secular decline in interest rates rather than business fundamentals.

To us, it seems implausible that there is a quantifiable universe of stocks offering the dream combination of lower risk than the market and higher returns. For investors in LVMH and Diageo, to pick on two examples from the parish, the future may not be as bright as the past couple of decades.

A true believer might argue that these businesses possess a durability of economics and so can sustain supernormal returns – returns which under normal circumstances would be eroded by the emergence of competition. The logic being these firms have sustained a high return on equity for many years. They have some sustainable competitive advantage – an economic moat – that should allow the high returns to continue.

TWO COUNTERPOINTS

First, companies with seemingly unassailable advantages can be rendered redundant in a short time. Previously entrenched companies – Blockbuster Video, Thomas Cook and Yellow Pages – can become obsolete. Incumbents can be profoundly disrupted by changes, often unforeseeable, in society or technology. And brands can be tarnished, from Facebook to Boeing to Volkswagen.

Second, historic return on equity is at best a rough guide. For the future investment case, what matters is the return on the marginal new investment. Imagine that a widget factory makes a 20% return for its investors. The company then builds a second factory. To keep the company's economics as strong, this factory also needs to produce a 20% return. It is a big leap to assume that each additional factory can continue to earn high returns without attracting competition or running up against the limits to growth.

Or consider this challenge, from a hypothetical corporate financier. If these companies can re-invest their capital at sustainable supernormal returns, why would they ever pay dividends? If you could re-invest in the business and achieve a 20% return, giving money back to shareholders would be a gross misallocation of capital!

From widgets back to Diageo. The drinks company made a 29% return on equity in 2018, down from a peak of 48% in 2009. Earnings per share appear to be growing at a far less spectacular rate: 7% a year over the past five years. This suggests dwindling re-investment opportunities. This is to be expected – Diageo has spent several decades expanding into emerging markets. Looking ahead, there are no populous continents left to conquer. Even in this halcyon era since 2001, sales have grown at just 3% a year.[7] Just as trees do not grow to the sky, there are limits to the sales of premium whisky and luxury handbags.

7 Bloomberg (2019)

HAVE INVESTORS JUST GONE WITH THE FLOW?

There is a significant body of academic evidence suggesting fund inflows follow recent strong performance. And during a 10-year bull market, quality-investing has boomed.

Ruffer's analysis of public filings showed that some high-profile practitioners of this quality-equity approach have increased their assets under management by multiples ranging from five-fold to 36-fold since 2011.

There is a reflexive process at work. The best-performing fund managers or strategies are rewarded with greater inflows. This acts as buying support on the stocks those managers already own.

All else being equal, this will lower the volatility of the stock, pushing the manager to further outperformance. The Sharpe ratio – measuring risk-adjusted returns – will look highly attractive, drawing more investors to look at these investments.

This can sound insignificant. But while the precise impact cannot be quantified, we believe the numbers involved are considerable.

The rise of passive and factor investing has disproportionately benefitted the sort of stocks under examination here. Using data gathered by Bernstein, we estimate flows in the last few years in the region of $300 billion into factor strategies representing themes broadly defined as quality. Even these figures would be dwarfed by the huge flows into passive which are then allocated blindly to quality stocks given their considerable weightings in the relevant benchmarks. These amounts are not large in comparison to the market capitalisations of world indices, but market prices are set at the margin, and funds are flowing into a fairly narrow universe of quality and franchise stocks.

Hershey is a good example. A non-exhaustive look at Bloomberg shows this $30 billion company is owned by 161 ETFs focused on themes such as the S&P 500, dividend aristocrats, quality, brands, consumer discretionary, low-volatility, buybacks, momentum, low carbon and sustainability.

The rise of passive investing has acted as a huge tailwind to large, liquid stocks that are perceived as safe.

INVESTING THROUGH REGIMES

In conclusion, when the current benign period for financial assets comes to an end or the secular trend in interest rates reverses, the boom in quality-investing may give way to a bust. This could happen despite the underlying business fundamentals remaining solid. Great companies do not necessarily make great investments.

From today's starting point of high valuations, and a high level of conviction that their excellence will be sustained, the forward-looking returns from these stocks look unappealing.

At Ruffer, our focus is on delivering good all-weather returns – through investment regimes, and across periods when regimes change. In our equity investments we are looking elsewhere, to industries and regions where we believe taking risk should be rewarded with attractive returns. ●

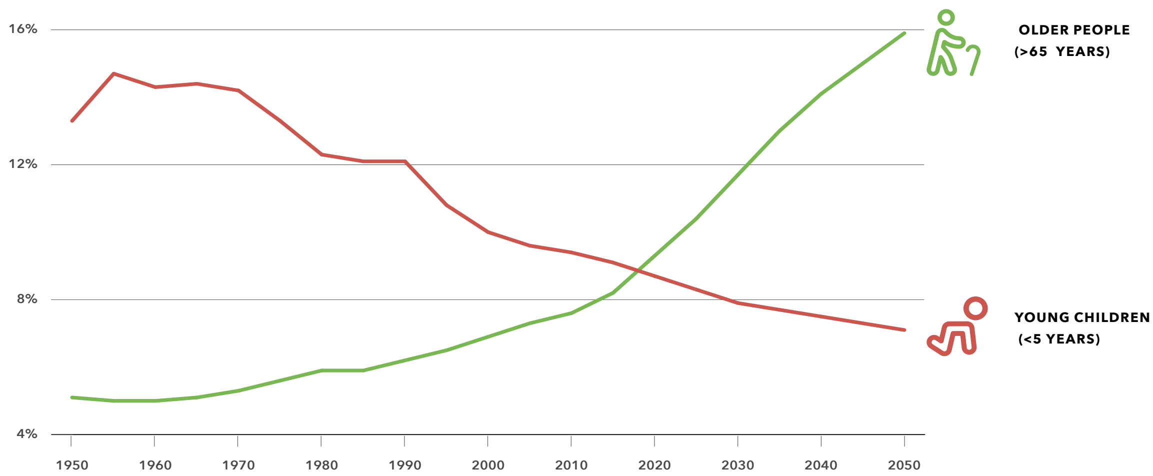
A market miscellany

CHARALEE HOELZL
Senior Investment Associate

INDIA LYONS
Investment Associate

The longevity revolution

AGE GROUPS AS A % OF GLOBAL POPULATION: 1950-2050



2020 MAY BE THE YEAR THAT THERE ARE MORE PEOPLE AGED OVER 65 than there are aged under five. And by 2050, one in six people in the world will be over the age of 65, up from one in 11 in 2019.

In most respects, this global phenomenon is a human success story. In the words of the UN, it reflects the triumph of "public health, medical advancements, and economic and social developments".[1]

For investors, the implications will be profound and long-lasting. Consider the following:

GOVERNMENT DEFICITS. Increases in government spending linked to rising demand for healthcare and pension payments. This could divert spending away from more productive areas of the economy.

PUBLIC AND PRIVATE ASSET MARKETS. A higher old-age dependency ratio (the number of people aged over 65 as a percentage of the working age population) means a larger cohort that may need to sell the assets they have amassed to finance their retirement; this could see large, disruptive flows in asset markets. Income-seeking behaviour may also spur demand for different asset classes.

ECONOMIC GROWTH. This could be expected to stagnate, if falls in the labour participation rate and productivity are not offset by advances in technology.

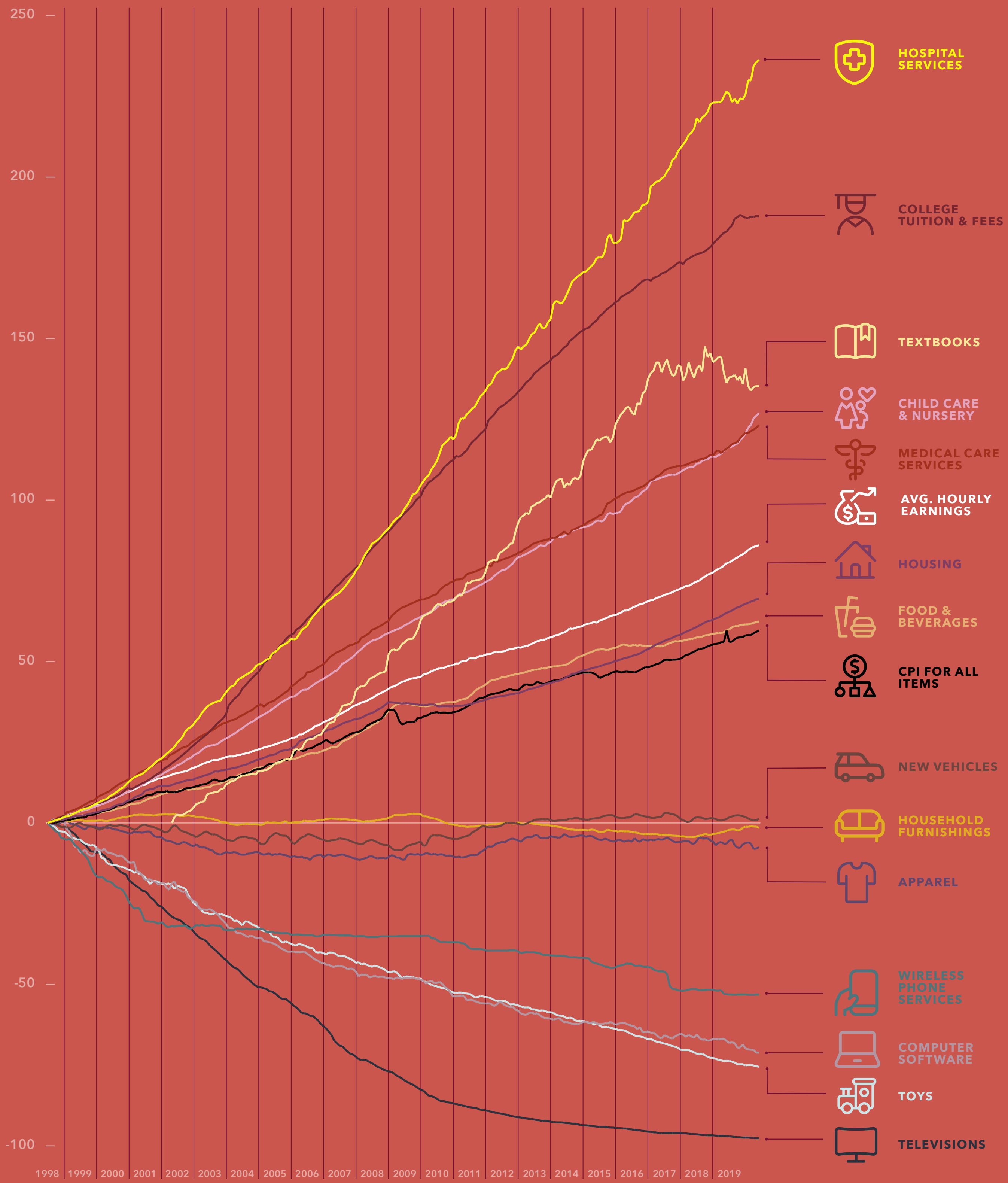
INEQUALITY. This may rise if the transfer of intergenerational wealth takes place much later in life, or not at all.

1 United Nations, Department of Economic and Social Affairs: Population Division, World Population Ageing 2019

Source: United Nations Department of Economic and Social Affairs: Population Division, Ruffer analysis

For more detail on the data and charts in this Market Miscellany, see ruffer.co.uk/references2020

22 YEARS OF PRICE CHANGES IN THE US



The price of everything

> "Things that contribute to long-term quality of life – such as healthcare and education – have become significantly more expensive."

THIS SNAPSHOT OF THE US ECONOMY SHOWS THE DIVERGENCE in the price of selected consumer goods and services.

Mass consumer products such as TVs, toys and mobile phone services have become both cheaper and of much higher quality, thanks to improvements in technology. Cars have also improved vastly, without becoming less affordable.

By contrast, things that contribute to long-term quality of life – such as healthcare and education – have become significantly more expensive. Here, the rate of increase in prices has far surpassed the wage growth of the average American consumer. Healthcare costs have risen by more than 236% while a college education costs 187% more than it did in 1998.

There is no neat simple answer to explain the divergence. Is the technology required to improve healthcare and education more challenging? Are consumers imposing greater downward pressure on the prices of these mass consumer products through demand? Is a premium being placed on services over products? Or is the government responsible, given its spending and oversight in the health and education sectors?

Source: Mark J. Perry (American Enterprise Institute), US Bureau of Labour Statistics, Ruffer analysis

> "Put another way, executives have enjoyed a 940% increase in their compensation, while average pay has stagnated"

To the bosses, the spoils

THE CHART PLOTS THE RATIO OF CEO-TO-WORKER PAY against the performance of the US stock market.

In 1978, the typical American CEO made less than 30 times the salary of the average worker in their industry (based on options realised). By 2018, this ratio had soared to 278-to-1. Put another way, executives have enjoyed a 940% increase in their compensation, while average pay has stagnated, rising only 12% after adjusting for inflation.[1]

Over the same period, the US equity market has also reached new highs. Yet in the real economy business investment remains in a 40-year downtrend – little capital expenditure today means future growth will be lower. Shareholders are exhibiting a strong time preference – for rewards today – and companies are responding by increasing share buybacks, which are near all-time highs. When companies buy back their own shares, financial measures such as earnings-per-share also improve – boosting the very metrics on which executive compensation is often based.

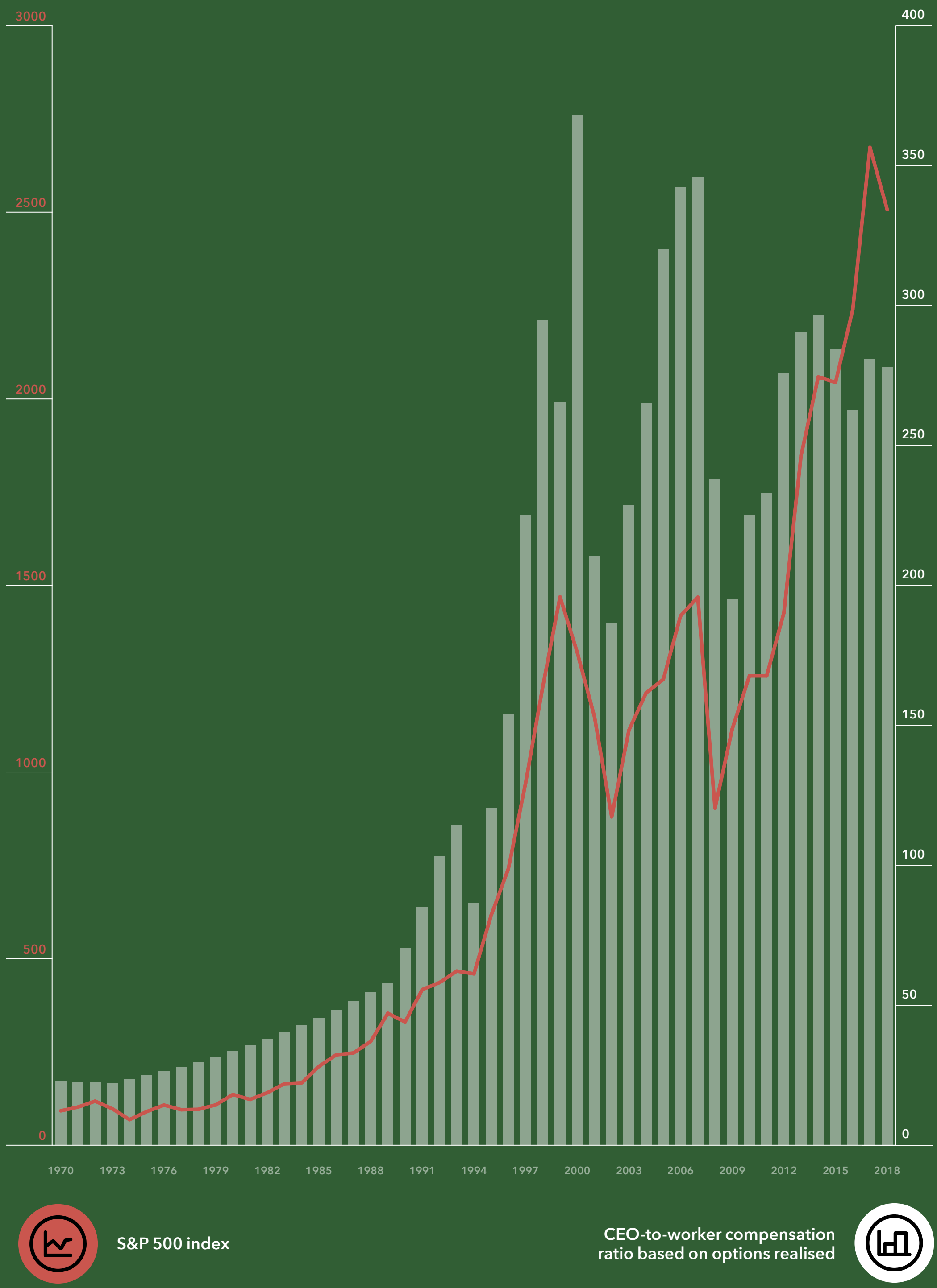
This is a self-reinforcing mechanism. If viewed through the prism of shareholder returns, high executive pay may be justified. But what of the broader impact – on the economy and society?

For more detail on the data and charts in this Market Miscellany, see ruffer.co.uk/references2020

Source: Lawrence Mishel and Julia Wolfe (Economic Policy Institute), Bloomberg

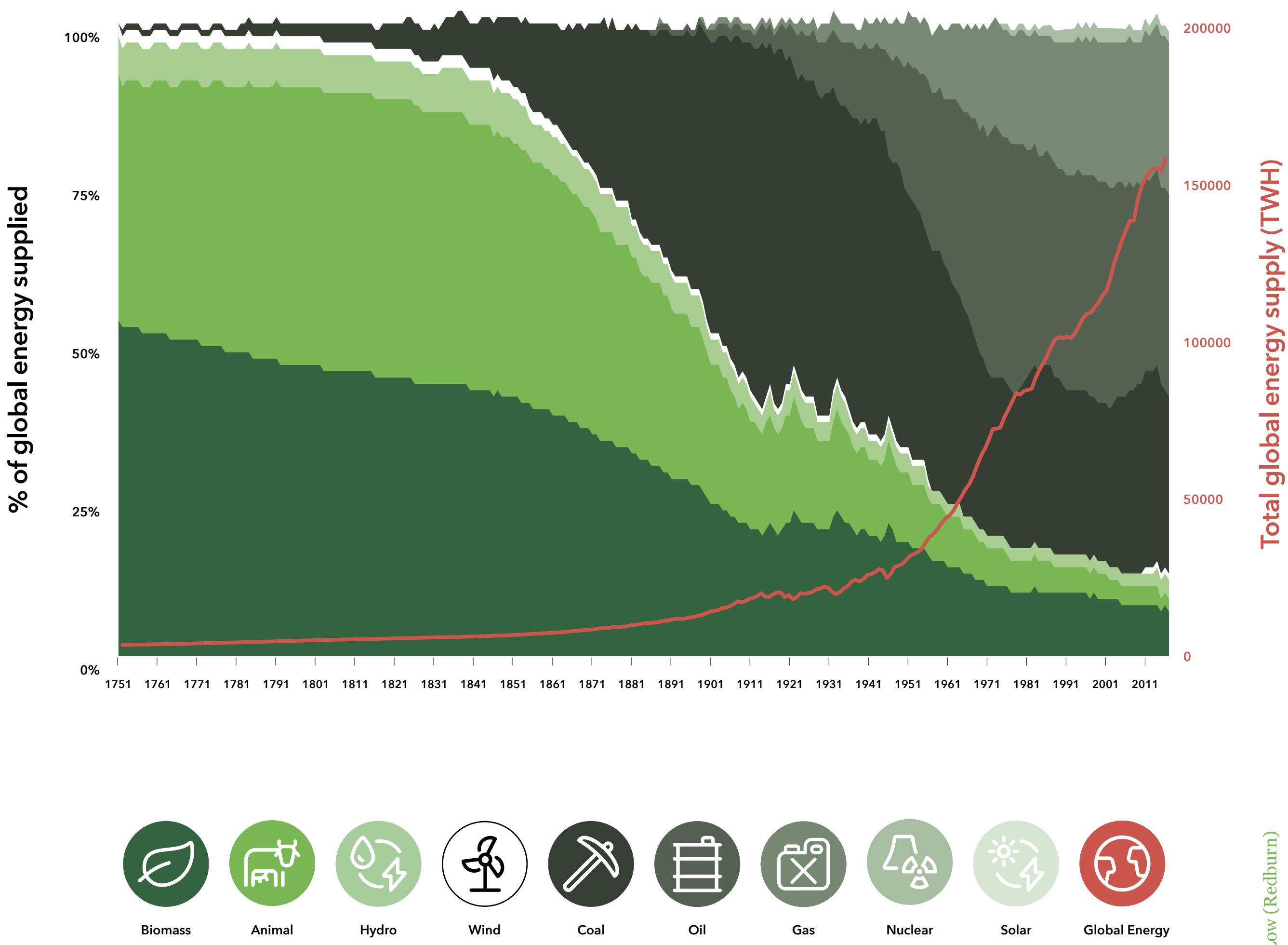
1 Lawrence Mishel and Julia Wolfe (2019), CEO compensation has grown 940% since 1978

CEO-TO-WORKER COMPENSATION RATE AND STOCK MARKET PERFORMANCE



Energy disruption – the long view

GLOBAL ENERGY SUPPLIED BY SOURCE: 1750-2017



Source: Peter Low (Redburn)

IT IS WIDELY ACCEPTED THAT THE WORLD IS UNDERGOING AN ENERGY TRANSITION. What exactly this means, and how long it will take, is the subject of much debate.

While the rise of the renewable energy industry is both exciting and essential for the health of our planet, historically, transitions in the energy system have not occurred quickly. For example, it took over 70 years for oil to grow from 1% to 40% of the energy mix and wind energy accounted for a greater proportion of total energy supply 250 years ago than it does today.

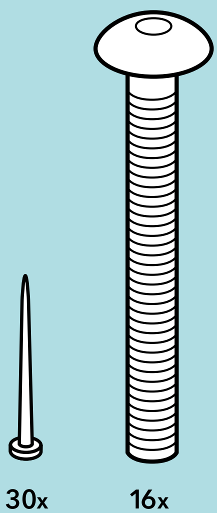
With new energy technology comes increased efficiency. With that comes increased energy demand, supported by population growth and a rising middle class in emerging markets. As energy becomes easier and cheaper to produce, we find more ways to use it. And when the size of the market continues to grow, the precedent has been that new forms of energy add to, rather than replace, the incumbents.

There are reasons, however, why this time may be different. Climate change is increasingly a social priority, but we are currently not on track to meet the goals of the Paris Agreement. Changes that could accelerate and influence the energy transition include more stringent commitments to reduce global warming, increased regulation, the development of new technologies such as carbon capture and storage, improved cost competitiveness for renewables, and a global energy recession.

> “Wind energy accounted for a greater proportion of total energy supply 250 years ago than it does today.”

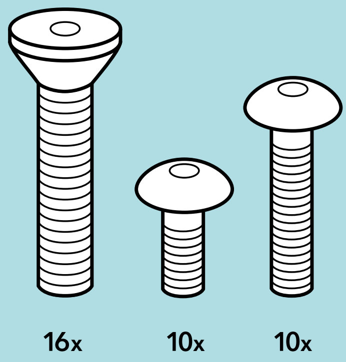
Blowing up the Box

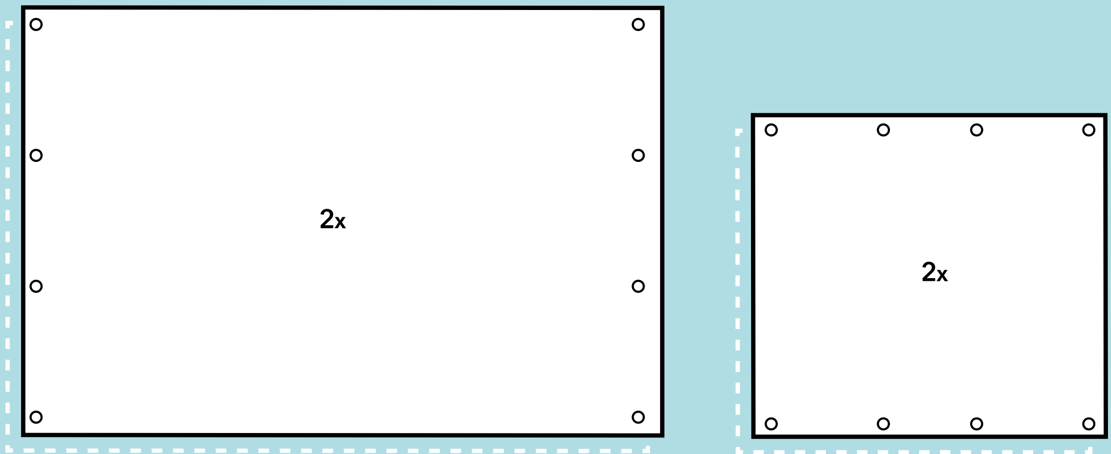
ACROSS MANY DEVELOPED ECONOMIES, THE PREVAILING ECONOMIC AND FINANCIAL POLICY FRAMEWORK – what we'll call the Box – is failing to deliver for much of the adult population. The mood is ripe for a policy revolution, a new monetary settlement. When the Box is blown up, inflation objectives will lose their privileged position. Fiscal orthodoxy will be abandoned. This will demolish the pillars on which so many investment strategies are built.



PETER WARBURTON

Economist





IN 1965, US PRESIDENT LYNDON B JOHNSON, imagining himself as the heir to Franklin Roosevelt, embarked on his Great Society.

It embraced Medicare and Medicaid – government health insurance for the elderly and poor – a war on poverty, urban regeneration, upgraded transport systems and much more. However, there was a problem: the war in Vietnam flared up, threatening Johnson's ambitions. The US troop count rose from 23,000 at the end of 1964 to more than 500,000 by early 1968.[1] Escalating war spending competed with Johnson's domestic ambitions.

Fifty years on, the tension between peacetime and wartime spending priorities has resurfaced, not only in the US, but in the UK and other developed economies, tempting a new generation of politicians to play poker with inflation.

For the past decade, most of these countries have been battling to repair their public finances after the devastation of the global financial crisis. As well as the automatic stabilisers – such as higher welfare spending – that kicked in as the global economy slumped, governments supported imperilled financial institutions and loss-making strategic industries, and

1 Samuelson (2010), The Great Inflation and Its Aftermath

provided regional aid. This drove budget deficits towards 10% of GDP. To all intents and purposes, governments and central banks were on a war footing after September 2008. While the word austerity has been over-used – for the most part, government spending programmes have been frozen rather than shrunk – a groundswell of opposition to austerity has developed.

Electorates in the US, UK and southern Europe are now fed up with being told there is no extra money available for hospitals, schools, social care, policing, prisons and so on. Most mature economies suffer from creaking infrastructure and under-funded public services. Their provision has not kept pace with additional demand, nor with technology driven expectations. To make matters worse, domestic security services are struggling to combat the evolving threat of lone-wolf terrorism. The armed forces are stretched. And climate change has vaulted up the policy agenda.

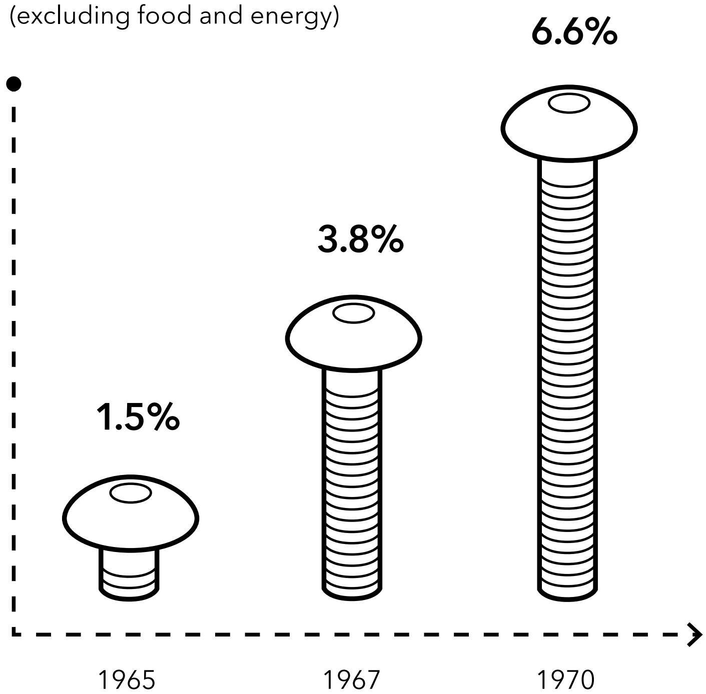
CONDITIONING MINDS

Now, as in Lyndon Johnson's day, the prevailing economic and financial policy framework – what we'll call the Box – is failing to deliver positive outcomes for a large majority of the adult population.

If we cast our minds back to the early 1960s, the policy framework consisted of: the Bretton Woods system of fixed exchange rates; the convertibility of US dollars into gold at a fixed price; the virtue of balanced government budgets; and post-war controls on the free movement of labour, goods and capital. Armed with the newly-minted Phillips curve, economists such as Paul Samuelson and Robert Solow claimed the US unemployment rate could be halved, from 6% to 3%, if only the authorities would accept

> "If I left the woman I really loved – the Great Society – in order to get involved with that bitch of war on the other side of the world, then I would lose everything at home. All my programs. All my hopes…all my dreams."
>
> Lyndon B Johnson

US CONSUMER PRICE INFLATION
(excluding food and energy)



a moderately higher annual inflation rate of around 4% to 5%, rather than 1% to 2%.[2]

Walter Heller, the chair of John F Kennedy's Council of Economic Advisors, summed up the frustration with the prevailing economic orthodoxy: "Men's minds had to be conditioned to accept new thinking, new symbols, and new and broader concepts of the public interest."

Kennedy was sceptical of this way of thinking and it was not until Johnson replaced him that the policy revolution started to take hold. US consumer price inflation (excluding food and energy) rose from 1.5% in December 1965, to 3.8% in December 1967, to 6.6% in December 1970.[3] America's reflationary splurge blew apart Bretton Woods and the gold standard. A decade of monetary instability and even higher inflation ensued.

Could this, or something eerily similar, happen again?

The Box that was designed to lock-in low inflation, uphold fiscal discipline and rebuff political interference is in mortal danger, not only, but not least, in the US. We stand at the threshold of a policy revolution that will blow up the Box, over-riding the primacy of the inflation objective and abandoning fiscal orthodoxy into the bargain.

A PLAY IN TWO ACTS

In 2019, a *volte face* by the US Federal Reserve helped shape the dominant market narrative. In a sudden policy shift, the Fed curtailed its quantitative tightening programme and, in a neat twist, deployed the proceeds of its sales of mortgage-backed securities to purchase additional US Treasuries.

We should see this as a retrograde lurch towards the policies of financial repression – policies still pursued in various guises by the European Central Bank and the Bank of Japan.

During both world wars, successful financial repression caused a great deal of discomfort for European bondholders. There is now a clear risk of a World War III for bondholders, given the similarity between the coordinated expansion of central bank balance sheets in recent years with that during World War II.

Suppressing interest rates (and controlling yield curves) artificially lowers the cost of servicing debt for households, non-financial companies and, of course, governments. By contrast, a normalisation of interest rates – which can be led by policymakers or credit markets – implies rising debt service costs and painful debt dynamics for those who have grown used to bargain-basement borrowing. Moreover, rising debt service ratios in the private sector put downward pressure on the government's tax take – lower disposable income for households leads to lower spending and therefore lower revenues from consumption and other indirect taxes.

There is dual fiscal stress, arising from rising public sector debt service costs and lessened scope for tax collection. This creates the potential for an explosion in the budget deficit.

Financial repression is a two-act play. Act One is interest rate suppression, but this is not – and can never become – a settled state. What some have called a "new normal" is nothing of the sort. Rather, it describes an interim state of disequilibrium. When Act One ends, perhaps there is an intermission – enough time for a quick gin and tonic and a trip to the facilities – but Act Two soon begins.

2 Samuelson (2010), The Great Inflation and Its Aftermath

3 Ibid

And Act Two is unanticipated inflation. Unanticipated inflation, by definition, is an unpriced risk.

THE BOX EMERGES

Out of the chaos of the post-Bretton-Woods world, the Box emerged.

After a decade of high inflation, high unemployment and poor growth in the 1970s, there eventually came an effective response. This involved an increasing commitment to liberal economic policies: freer trade, abolition of capital controls, floating exchange rates and freedom of movement across national borders. In time, this developed into a coherent – but never watertight – policy framework. This is the Box represented in Figure 1.

Before the financial crisis in 2008, the Box had four supporting columns: budgetary discipline in the public sector, over a defined time horizon; a neutral funding policy; a defined inflation objective, delegated to a central bank; and adherence to the principle of free and open markets for goods and services, labour, capital and money.

For the most part, macro policy was delegated to technocrats. Deprived of the traditional tools to manipulate the economic cycle for electoral gain – spending increases, tax reductions and cuts in interest rates. Politicians evolved alternative strategies to win votes, while still declaring their allegiance to fiscal rules and to the monetary independence of the central bank. These alternative strategies included promoting financial liberalisations that would widen and deepen access to credit in the private sector; moving the cost of financing infrastructure investment off the public sector balance sheet; not addressing mounting demographic pressures on the provision of public services; and multiplying public pension entitlements and other financial promises stretching far into the future.

When private sector debt exploded in 2007-08, politicians endorsed rescue packages that caused the budget deficit to soar. They also gave their approval for central banks to embark on large scale purchases of government bonds and other assets, while maintaining near-zero short-term interest rates. While tighter bank regulation disabled many traditional lending channels, cheap credit was supplied to the private sector through unregulated shadow banks. The private sector debt bomb has been re-engineered and repositioned in the corporate sector.

POLITICAL ECONOMY BECOMES TOXIC

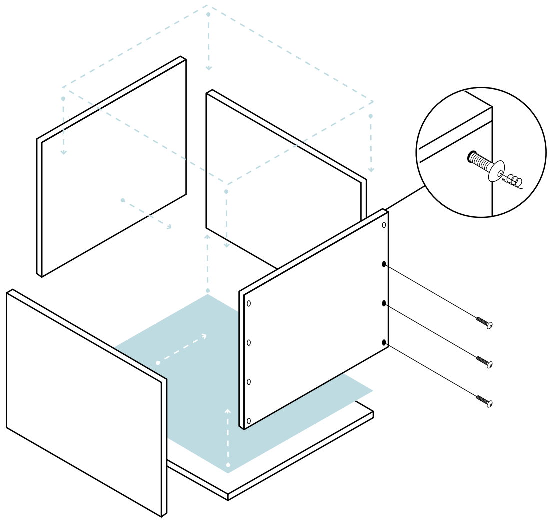
Plainly, the design of the Box was not perfect. If it was, there would not have been a financial crisis. However, the crisis brought about the arbitrary redesign of the policy framework, skewing monetary policy easier and fiscal policy tighter, and blurring the boundaries between the two.

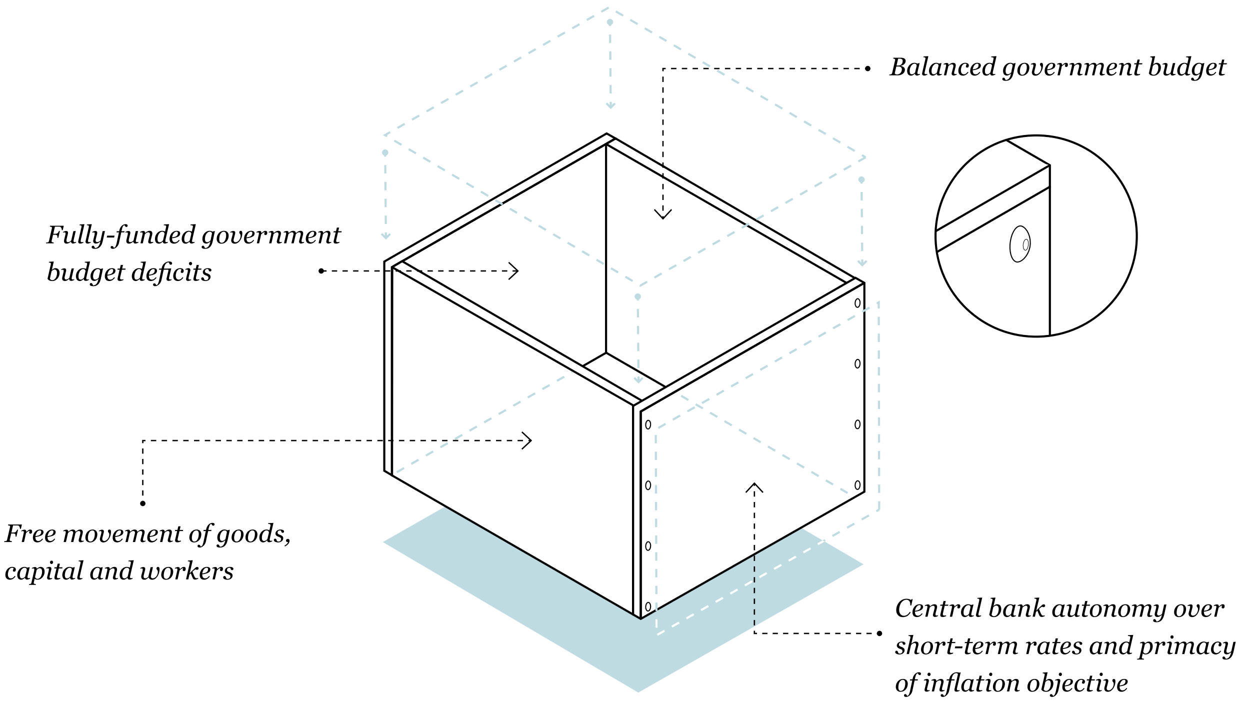
This hastily redesigned Box, shown in Figure 2, retains a commitment to capping inflation. But it turns out to have some very different properties from the original, including serious flaws, such as locking in gains and losses between different age segments of the population.

Over the past decade, the political economy of this skewed Box has become toxic. Fiscal constraints frustrate infrastructure and environmental plans. Funding constraints frustrate reflation plans, including healthcare reform, 'living wage' aspirations and job guarantees.

Figure 1

THE POLICY BOX BEFORE THE 2008 FINANCIAL CRISIS





Inflation targets carry a permanent background threat of policy tightening. Free trade allows a national stimulus to leak; an open capital account permits capital flight.

Increasingly, is it becoming clear that national policy agendas – of the political right and left – cannot be reconciled with the Box.

Consider the scope for fiscal redistribution. If new spending priorities are to be afforded within existing budgetary constraints, then significant new taxes must be raised. The incomes of the compliant rich – especially in the US – are already heavily taxed. And wealth taxes are difficult to assess and collect. It could take three years to bring in the revenues from a new wealth tax, a long time in the context of, say, a four-year presidential term.

END OF CONSENSUS

The bi-partisan political consensus that has upheld the Box since the financial crisis is dead.

Our destination? An exploded Box. The 2020 US presidential election is the key context.

President Trump has already unleashed waves of chaotic dislocation in the policy arena, shaking the columns of the Box. Trump has been seeking more quantitative easing, unbalancing the budget, undermining both the independence and legitimacy of the US Federal Reserve, erecting tariff barriers to levels last seen in the 1970s and discouraging economic migration, mostly notably with plans for a Mexican wall.

Trump resembles a modern-day Samson in his final show of strength – shackled, blind and a source of public entertainment, yet strong enough to dislodge the pillars of the house and bring the roof down on the Philistines. If Trump is re-elected in 2020, it is reasonable to assume that he would seek to demolish what remains of the Box – a structure on which so many investment strategies depend.

What of the Democrats, should their candidate be successful in 2020? The policy messages are every bit as revolutionary as those of the president. Modern Monetary Theory is covered elsewhere in this Review, from the perspective of Stephanie Kelton, an economic adviser to Bernie Sanders.

Across the US political spectrum, the voices of fiscal conservatism are mute. And the voices of economic nationalism are growing louder.

FOUR CRITICAL TRENDS

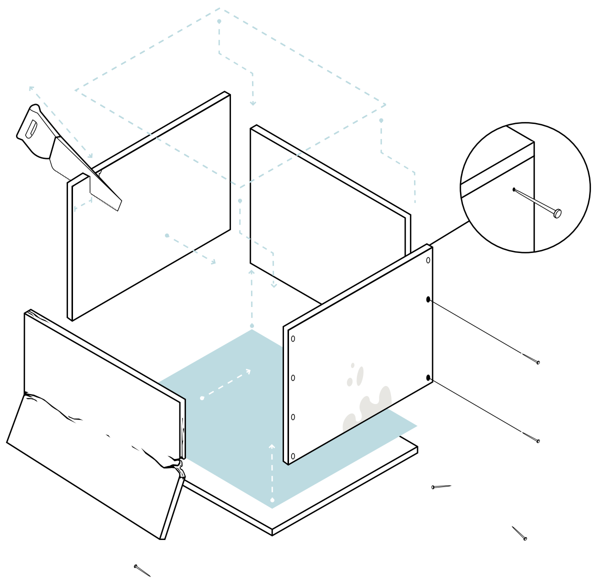
Jack Goldstone, in his book *Revolution and Rebellion in the Early Modern World,* analysed periodic breakdowns of governance in Europe, China and the Middle East from 1500 to 1850. He concluded that "population growth, in the context of relatively inflexible economic and social structures, led to changes in prices, shifts in resources, and increasing social demands with which agrarian-bureaucratic states could not successfully cope".

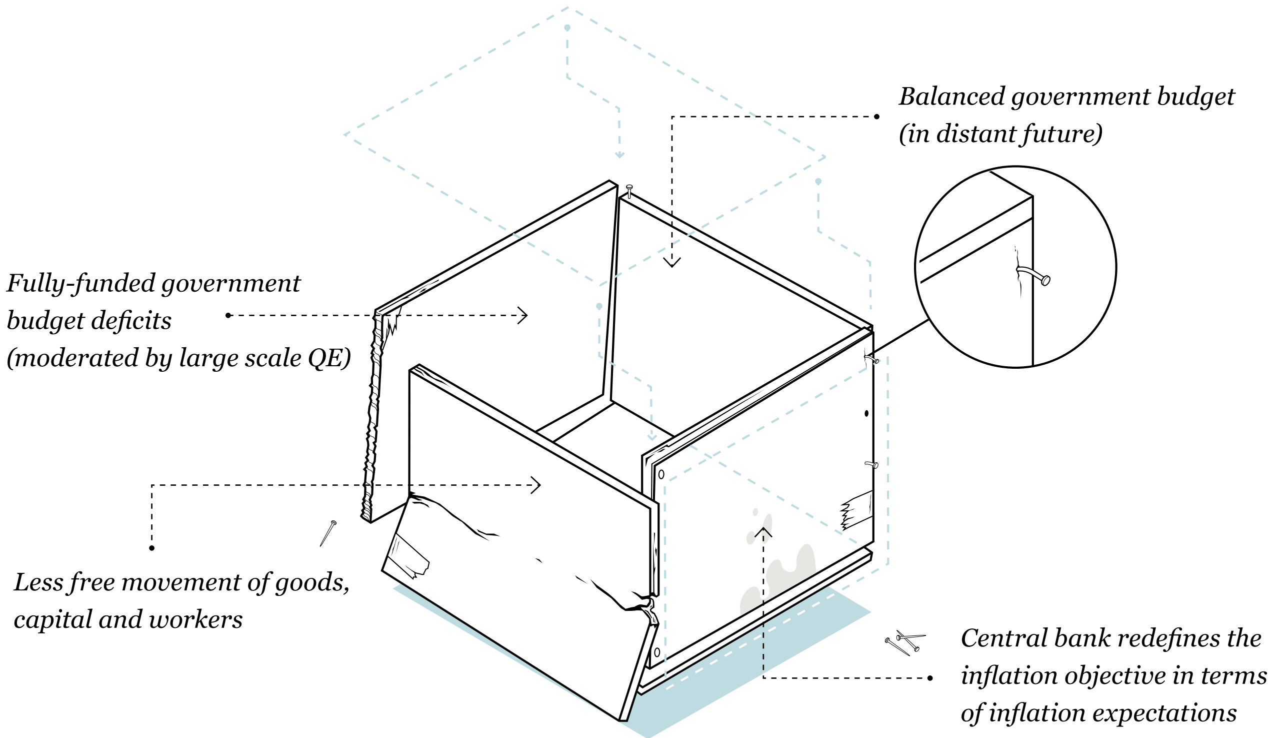
Goldstone discovered four critical trends at work in every episode of breakdown. First, government fiscal distress. Second, intra-elite conflicts. Third, a heightened potential for mass mobilisation. Fourth, the increased salience of utopian ideologies of rectification and social organisation.

Significantly, population growth is associated with price inflation, while the demands of an ageing population are linked to fiscal distress. Revolution and rebellion, Goldstone finds, were not caused

Figure 2

THE POLICY BOX SINCE THE 2008 FINANCIAL CRISIS





by "excessively high taxation by rulers, or a simple lack of social mobility, or chiefly by class conflict, or general impoverishment of society".

For fiscal crises, his consistent finding is that these were caused by under-taxation, as elites systematically evaded taxes. This meant government revenues struggled to keep pace with inflation and so lagged increases in the real wealth of society.

High social mobility – high rates of turnover and displacement – preceded crises, while low social mobility was associated with times of stability. Finally, elites were effective at shifting the burden of taxation onto the middle classes. As Goldstone writes, "the conditions of the working classes and peasants declined while elites and commercial classes grew richer". In the generation preceding a crisis, the polarisation of wealth was a consistent theme.

Today, Goldstone's four conditions for revolution and rebellion seem amply satisfied in the US.

Despite a trend of falling unemployment, the US budget deficit, as a proportion of national income, has worsened over the past two years and the tax proportion is falling. Political polarisation has increased and bipartisan compromise has become rare. For Goldstone's 'mass mobilisation', see campaigns organised on social media, in support of Medicare for All or a Green New Deal, for example. For utopian ideologies, see Modern Monetary Theory, with its clear repudiation of fiscal norms.

TOWARDS THE TRIGGERS

The explosion of the Box could be triggered by a pronounced global economic downturn. This would overlay cyclical and structural fiscal burdens on the existing unsustainable fiscal path. In this scenario, what happens to the cost of servicing debt is a wild card.

Other triggers include another financial crisis, or an old-fashioned fiscal splurge.

A global financial crisis that deflates the equity and credit markets would prompt calls for another massive rescue package. More likely is an attempt to deliver 'people's quantitative easing', whereby private investors are compensated for their losses, or private borrowers are given the means to settle their debts. This could be presented in a framework of Modern Monetary Theory.

An old-fashioned fiscal boost, accompanied by loose monetary policy, would have a powerful liquidity impact. It could be presented as a pre-emptive strike against growing disinflationary pressures and an associated concern that the public's inflation expectations had drifted unacceptably lower.

MOVING THE FULCRUM

Central bank independence, and the primacy of the inflation objective, represent plum targets for the new revolutionaries.

Without relaxing the inflation constraint, it will be hard to reduce income inequality significantly. While inflation-targeting regimes are ubiquitous – covering over 90 countries worldwide – they have failed on numerous occasions. Turkey, Vietnam and Russia offer recent examples.

Back in the 1970s, the surge of US inflation was not associated with rising income inequality. The stagnation of real incomes in the bottom quintile of the income distribution, and the surging prosperity of the top decile, have occurred while the inflation rate was low. Inflation, long viewed as an ancient peril to be eradicated, has been re-cast as the agent, probably the only viable agent, of income and wealth redistribution.

Now, as with Roosevelt in 1933 and the breakdown of Bretton Woods in 1971, the mood is ripe for a policy revolution.

In *Money: The Unauthorised Biography* Felix Martin, argues there is nothing intrinsically wrong with "moving the fulcrum of the scales of justice". The purpose of these scales "is not to achieve accuracy – a notion without meaning in the social world – but fairness and prosperity. On the alternative view of money, keeping the fulcrum fixed while shifting weight from one scale to the other via fiscal redistribution is certainly one way of doing things – and quite rightly the usual way in normal times. But the nature of monetary society is such that unsustainable inequalities that cannot easily be corrected in this way will inevitably occur from time to time. When that happens, it is time to move the fulcrum to restore balance."[4]

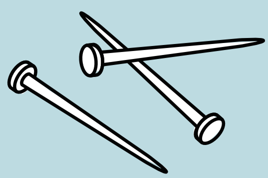
TOWARDS ACT TWO

Bond markets are anticipating the next global economic downturn, and a move by policymakers to extreme settings in the search for effective remedies.

Yet the next downturn bears an existential risk for the Box, and for the economic and financial policies on which so many investment strategies rest.

As political economy overrides the 'New Normal', the Box will explode and priorities will be reordered. To meet new objectives, central banks will likely be reassigned to the defence of sovereign credit in the context of ambitious public spending programmes and the continued repression of nominal interest rates. It will be the end of central bank independence as we have come to know it. The inflation objective will be disregarded. The inflation rate will find a new level, opening the door to a new monetary settlement, as Act One gives way to Act Two. ●

Peter Warburton is director of Economic Perspectives, an independent economic research consultancy. He retired as a partner at Ruffer in 2017.



4 Felix Martin (2014), Money: The unauthorised biography

Dismantling the deflation machine

SEEKING TO ESCAPE THE INFLATION OF THE 1970S, policymakers have inadvertently engineered an equally powerful deflation machine. Over the past 30 years, this has been mightily reinforced by the transformation of China's economy and the impact of technology. Today, a financial system that is structurally intolerant of inflation faces a changing political-economy regime that makes inflation inevitable. The markets have wired themselves to the wrong inevitabilities. Asset and wealth managers – and their clients – need to be prepared for some of the most important changes for a generation.

HENRY MAXEY
Chief Investment Officer

HAS MONETARY POLICY RUN OUT OF ROAD? That sounds like the sort of question economists debate over digestive biscuits and tea.

So let's put it differently. Are we on the cusp of economic regime change and wealth destruction on a scale not seen since the early 1970s?

Figure 1 should rattle the teacups. It shows how a classic balanced portfolio – 60% equities, 40% bonds – would have performed in the 1970s. From its peak in 1972, this portfolio lost around 60% of its nominal value by 1974. In real, inflation-adjusted terms, the loss over the same period was 70%.

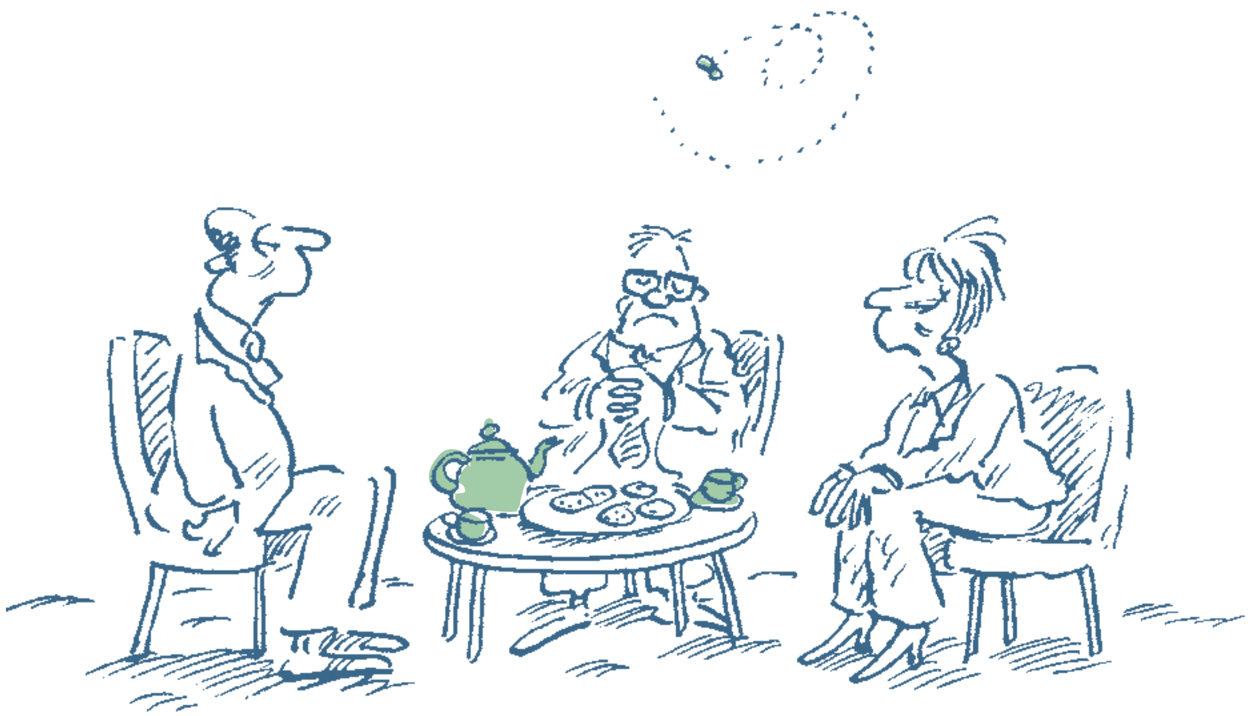
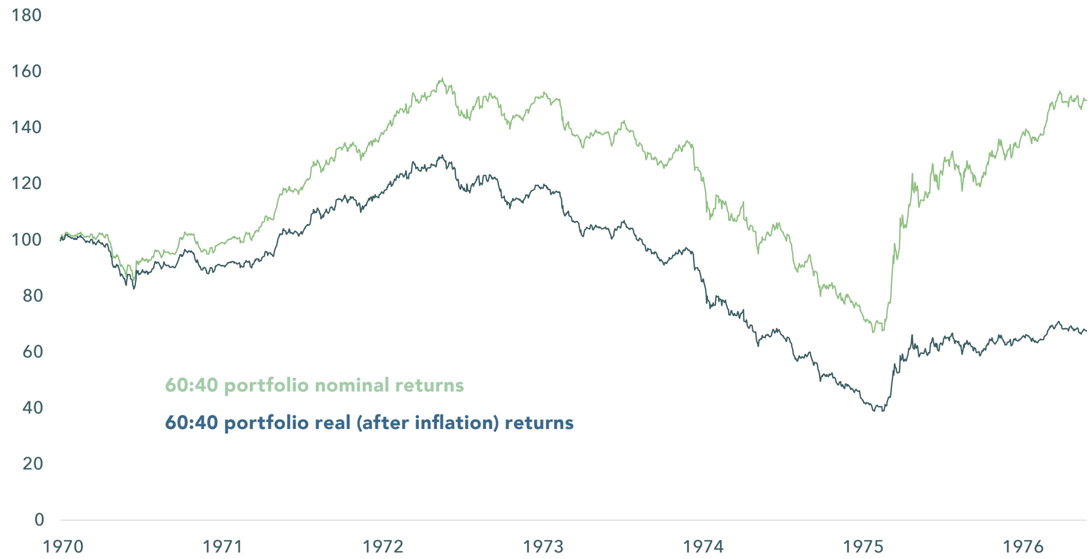


Figure 1
PERFORMANCE OF A 60:40 PORTFOLIO IN THE UK IN THE 1970S



Of course, that was an inflationary era. OPEC's oil price hikes delivered a major structural supply-side shock to the economy, with a real impact on productivity.

Today, the climate is deflationary – isn't the idea of inflation fanciful? The answer, we believe, is no, because the instability inherent in one extremity can easily swing to the opposite. At Ruffer, we see this swing as not merely possible, or even likely, but inevitable.

It doesn't take a wild imagination to see where it would come from: a material change in the global political-economy regime. From a regime where central banks are the key players, influencing the economy through monetary policy, to a regime where governments play a determining role through fiscal policy. In this new regime, government spending is directly financed by the central bank, an activity with multiple names: monetary financing, helicopter money, money-financed fiscal transfers, or People's QE, all subsumed within Modern Monetary Theory.

Again, no wild imagination is needed to see that this regime change will come about in an era of populist politics. To a politician, monetary financing can look very appealing – a seemingly painless antidote to the pressures of extreme income and wealth inequality, climate change, rising government deficits, soaring healthcare costs and unfunded pension obligations.

Beyond national politics, we can add in the rumblings of a new Cold War

Figure 1 source: Global Financial Data

between the US and China. One investment implication: Cold War II will be bad news for global supply chains, with profoundly negative supply-side implications.

These factors can seem rather theoretical in a world where the active players think of inflation in developed markets as an extinct volcano. Yet the laws of economics are as implacable as those of the natural world. Recreate the pressures which have, in the past, set off volcanos or inflation, and they will erupt again.

Back to our economists' tea-time discussion: has monetary policy run out of road? Or are we on the wrong road in the first place?

My answers to these policy questions are long ones. They travel via Knut Wicksell, a St Bernard, the Greek debt crisis and Ernest Hemingway, before eventually coming in to land with a statement on the inevitability of inflation and an old advert for beer.

MONETARY POLICY IS A CULPRIT, NOT AN INNOCENT BYSTANDER

To understand the road we've been travelling, we turn to Claudio Borio, Head of the Monetary and Economic Department at the Bank for International Settlements, the central bank for central banks.

Heroes of economics fall into two categories – those who find fame immediately through the exposition of their ideas (Keynes, Friedman), and those whose insights are only fully grasped when events have confirmed them (Minsky being a leading example). Borio will be remembered for his commitment to unearthing the truth behind how monetary policy – principally inflation targeting – actually operates.

Borio has established why the conventional models used by central banks for setting interest rates are like financial weapons of mass destruction. In his own words:[1]

> "Conventional models used by central banks are like financial weapons of mass destruction"

"The failure to adjust domestic policy regimes and their international interaction raises a number of risks: entrenching instability in the global system; returning to the modern-day equivalent of the divisive competitive devaluations of the interwar years; and, ultimately, triggering an epoch-defining seismic rupture in policy regimes, back to an era of trade and financial protectionism and, possibly, stagnation combined with inflation."

Borio has developed an integrated theory of how monetary policy operates in the international financial system. It's hard going for the casual reader. My summary of the intuition behind his theory runs like this...

Central banks rely heavily on models to set interest rates. These models are based on the assumption that money and monetary policy don't affect real economic variables – things like productivity – in the long run. Money is seen as akin to oil in an engine: it helps the parts move, but it doesn't change the engine's structure.

Implicit in these central bank models is the notion that there's a "natural rate"

1 BIS Working Paper No. 456 (2014)

of interest – an invisible equilibrium real interest rate consistent with full employment, so that the actual output of the economy equals the potential output of the economy. In this state, the economy is neither held back nor overstimulated by the availability of capital.

The actual interest rate set by central banks is decided by reference to this natural or equilibrium interest rate. If interest rates are set above the natural rate, monetary policy is deemed tight; if below, then policy is loose.

Within this framework, the aim of monetary policy is to keep inflation and inflation expectations stable, so that the economy tends towards its natural equilibrium and operates around full employment.

The central bank models assume the two mischiefs – mischiefs that will make the interest rate invalid – are inflation, and (separately) inflation expectations. This is their preoccupation, but it isn't Borio's. For him, money is not so much a result of what's going on, but rather a cause. Money is not neutral, but a driver – the amount of oil influences the cylinder-count in the engine.

If Borio is right, and I'm certain he is, then the implications for monetary policy are profound. His model explains why monetary policy, over the past 30 years, has propagated a sequence of financial crises, each of which was 'cured' by a lower interest rate, which in turn sowed the seeds of a subsequent crisis.

Central bankers are not operatives who monitor and tweak a factory's output when the assembly-line needs attention. Their response to things going wrong ensures that, down the road, they will go wrong – and, crucially, more wrong – again. Furthermore there comes a time when that 'more wrongness' is sufficiently egregious or unstable to bring other factors into play.

Our contention is that the present factory cannot take another crisis.

THE CURRENT MONETARY SYSTEM HAS NO ANCHOR

What makes me so sure Borio is right and most of the central banking community is wrong?

Ben Bernanke, Chairman of the US Federal Reserve from 2006 to 2014, said "it takes a model to beat a model". This is how academic economists think. But sometimes common sense and intuition do a better job than a model, and here, it's the nature and role of commercial banks that need the common-sense test.

When commercial banks lend money, they grant nominal purchasing power to one agent without reducing it for other agents in

> "To Wicksell, a pure credit economy was a largely fictitious, futuristic concept"

the economy. In the language of newspaper headlines, they 'create' money.

If I want a loan, it does not require existing savings to provide the ammunition to provide me with it. The loan creates the deposit, not the other way around.[2] The amount of bank lending is therefore not constrained by the quantity of deposits in the banking system at any point in time. The quantity of bank lending adjusts to accommodate the demand for it at the prevailing interest rate; the quantity of deposits follows.

This means the banking system can expand and allocate purchasing power – at terms, and in quantities, which differ from those implied by the full employment equilibrium in central bank models. This purchasing power is a 'real life' event: it cuts the real world adrift from the theory implicit in the central bank models. This is, of course, a dangerous state of affairs. It would not perhaps matter if such disequilibrium is able to right itself. But will it?

In our view, central banks ensure it doesn't. Their singular focus on maintaining low and stable inflation ignores even greater misalignment in other parts of the system – namely, debt within and between countries.

THE KNUT CRACKER

The original idea behind the central bank equilibrium models comes from the nineteenth-century economist Knut Wicksell. Wicksell, and those economists who developed his thinking, saw the necessity of the financial system's need to right itself. In his day, the working of the gold standard ensured disequilibrium was corrected; bullion sloshed backwards and forwards from the weak (who thus needed to mend their ways) to the strong. The profligate become poorer, the virtuous richer – until the incentive to grow stronger becomes paramount.

But that was in 1898, when the gold standard operated. Today, there is no gold standard. US President Nixon suspended it in 1971 and it collapsed completely in 1973.

Then what anchors the system today? Not a lot. In theory, it is the capital and liquidity requirements of the banks. Yet these are rarely binding constraints during economic upswings: constraints actually tend to loosen in booms, making finance pro-cyclical, with booms getting bigger and busts more damaging.

Now we are much closer to an unanchored world – to what Wicksell described as a 'pure credit economy'.[3] In this world, there is no return to equilibrium.

To quote Borio again:[4]

"For a pure credit economy, with no external gold backing but with only inside money (credit-backed deposits), [Wicksell] had no answer. He could identify no forces that would take the system towards equilibrium. To Wicksell, a pure credit economy was largely a fictitious, futuristic concept."

The bottom line? Central banks have models which implicitly assume there is an anchor on the financial system, ensuring the financial sector cannot drag the economy away from its natural equilibrium for long. But we now live much closer to Wicksell's fictitious, futuristic, pure credit economy. One in which he, patriarch of equilibrium models, would question the usefulness of these models as a basis for setting monetary policy.

In this world, central banks can 'cure' an immediate crisis by suppressing the system, but they ultimately cause the disequilibrium to grow bigger over the long term.

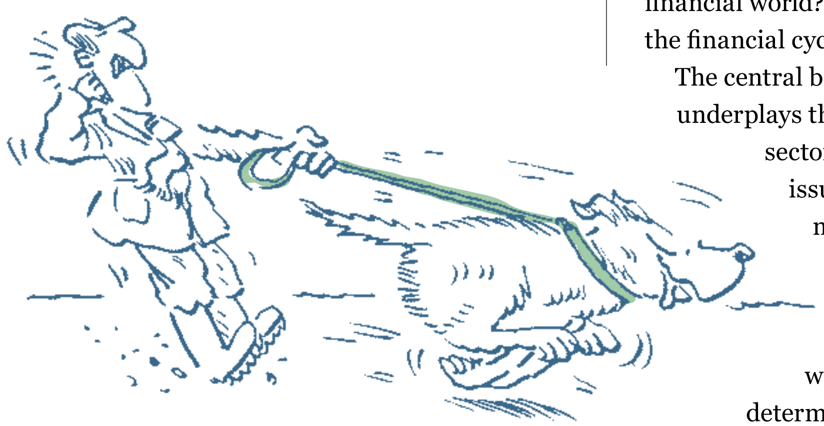
2 See Michael McLeay, Amar Radia and Ryland Thomas (2014), Money creation in the Modern Economy, Bank of England Quarterly Bulletin
3 See, for example, Andre Lara Resende (2018), Towards a Wicksellian Pure Credit Economy
4 BIS Working Paper No. 346 (2011)

MONETARY POLICY MISUNDERSTANDS THE ROLE OF THE FINANCIAL SECTOR

Think of monetary policy as being like the flexible leash between a dog owner and a dog. The dog owner is the real economy; the dog is the financial sector. The looser the leash, the more out-of-control the dog can get.

Our current central bank models – dynamic, stochastic, general equilibrium (DSGE) models – proclaim that the path the real economy takes is not materially influenced by the financial sector, or the length of the flexible monetary policy leash. If you believe in these models, you only need to rein the dog in if it is causing the owner to overheat. And, what's more, the dog will always eventually return to the path set by its owner.

Today, this is how monetary policy is primarily set – for the dog owner, with merely a sideways glance at the St Bernard. It is generally a variant of inflation targeting, with a financial stability add-on. Interest rates are set based on the dynamics of inflation, and on where inflation sits relative to the central bank's target (typically around 2%).



In the central bank models, the behaviour of inflation should give us information about whether interest rates are above or below the invisible/theoretical natural rate. If inflation and inflation expectations are rising, it must mean the economy is operating above potential – it needs to be cooled with higher interest rates. In this world, a price-stability objective gives the real economy the best chance of reaching its potential output at full employment.

Because of how the financial sector behaves in practice, the reality is more like a giant St Bernard attached to a faulty flexi-leash. The owner struggles with the play in the leash while the St Bernard dashes after a rabbit. Cue whiplash, being dragged through a bush backwards, perhaps a trip into a ditch and on to the local hospital.

The effect, in technical terms, is that the system as a whole is much more path-dependent, and can end up in an undesirable place. Put differently, the mood of the financial sector, influenced as it is by monetary policy, can often set the path and destination of the real economy, rather than the other way around.[5] In this world, monetary policy should be set with an eye on both the leash and the St Bernard. It needs to consider – how excited is the financial world? And how overextended is the financial cycle?[6]

The central banks' current theology underplays the crucial role of the financial sector. As Borio writes:[7] "The issue is not so much whether monetary policy should lean against the wind; rather, monetary policy is the wind – for better or worse, the policy regime is a determinant of long-run outcomes."

5 See for example, the work of John Lewis and Fergus Cummings at the Bank of England on lower interest rates driving up the cost of housing, or Fergus Cummings and Lisa Dettling (2019), Monetary Policy and Birth Rates: the effect of mortgage rate pass-through on fertility

CHINA AND TECHNOLOGY HAVE BEEN PART OF THE DEFLATION MACHINE

Monetary policy has changed the financial conditions over the past 30 years, but these changes have been amplified by two other major forces of deflation: China and technology. (Ageing societies are often added to the list of deflationary influences, but the empirical evidence is questionable.)

China, here, is shorthand for three things.

First, a material positive supply shock for traded goods. Globalisation gave businesses access to the cheap labour and subsidised capital of China (and other emerging markets). This put a disinflationary force on consumer prices. The breakdown of the USSR and the liberation of Eastern Europe is also part of this trend.

Second, mercantilist policies designed to maximise exports. Emerging markets running trade surpluses suppressed their currencies. The aims were to protect their traded goods sectors and export competitiveness, and – following the Asian financial crisis in 1997 – to build foreign exchange reserves as insurance against sudden capital outflows.

Third, intellectual property theft. This is particularly important in the technology sector. It forced domestic industries to become very competitive very quickly, keeping significant downward pressure on pricing.

After China's admission to the World Trade Organisation in 2001, trade with China, and concomitant foreign exchange intervention, accelerated. By resisting the tendency for its currency to appreciate, China was able to prevent the natural equilibrating forces of international economics from operating. Price inflation of Chinese traded goods was suppressed. This

> "The mood of the financial sector can often set the path and destination of the real economy"

put downward pressure on consumer price inflation in developed economies like the US.

China's intervention in foreign exchange markets to keep its currency low led to a rapid build-up of its foreign-exchange reserves, from $0.17 trillion in 2000 to $3.84 trillion in 2014 (see figure 2). The mechanics of this intervention equate to China acting as a superbank, creating money, buying dollars and investing those dollars in US assets, mainly US bonds.

In short, China provided a deflationary feedback mechanism which added to the dynamic of keeping US interest rates low, credit expansion rapid, and trade imbalances high. The poster child? Walmart's supply chain.

Rapid development of information technology has added to the disinflationary pressure. It has boosted labour productivity, given greater price transparency, opened up supply chains and disrupted traditional businesses, often involving firms focused on growth over profits. The poster child? Amazon.

WIRING UP THE MACHINE

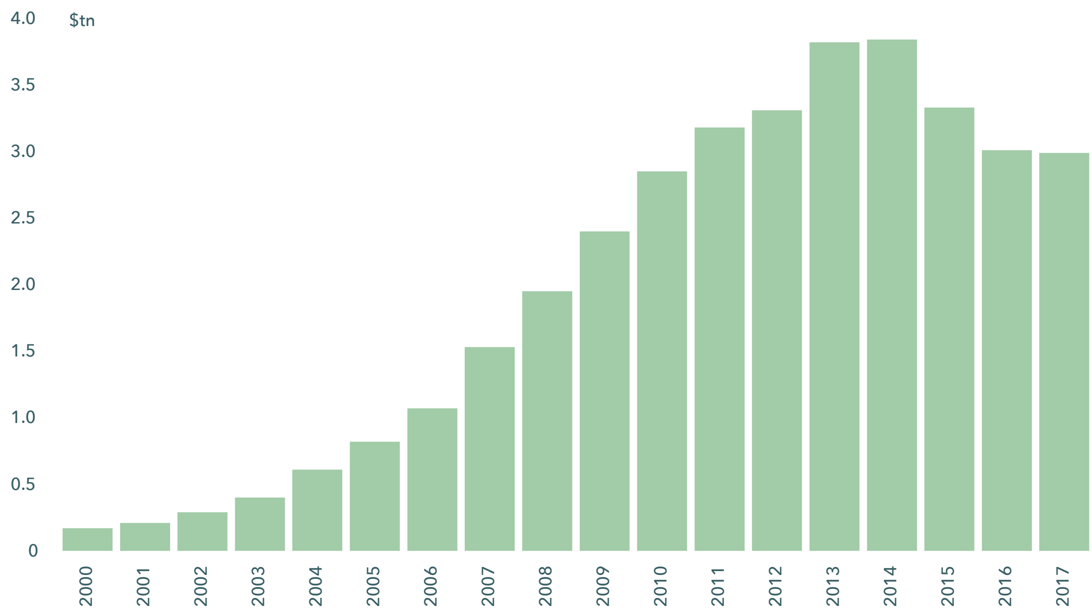
The interlocking gears of China and technology – combined, a positive and long-lasting supply shock – were impressive. Allied to inflation-targeting monetary policy with its DSGE models, in an era of globalising supply chains and global finance,

6 Financial cycles are defined as long swings found in aggregate measures of financial conditions – essentially credit and housing prices. Note the financial cycle does not coincide with NBER-dated business cycles. Swings in the financial cycle are generally longer in duration (or, in other words, of a lower frequency) than those in business cycles

7 BIS Working Paper No 817 (2019)

Figure 2

CHINESE GOVERNMENT FOREIGN EXCHANGE RESERVES ($TN)



it set the world on an inevitable path to zero interest rates – via successive financial crises and incrementally higher debt.

Monetary policy was biased to being too loose, because central bankers – misunderstanding the structural forces at work – feared persistently lower inflation. Domestic and international financial cycles interacted and amplified each other. We experienced a succession of financial crises (Asia in 1997, dotcom in 2000, credit crisis in 2008) which resulted in interest rates ratcheting down. Why the ratcheting? Because the reaction to each unwinding of financial excess was to cut interest rates further. The aim was to bring forward tomorrow's demand to today, to ward off the underlying disinflationary forces revealed and exacerbated by the crisis – deflation creates a shortage of demand.

As a result, aggregate debt in the financial system has increased, both absolutely and as a percentage of GDP.

One man's debt is another man's asset – why, then, are debt and balance sheets so important? Because debt creates asymmetric behaviour between borrower and lender. When the system is under stress, borrowers are forced to mend their ways; lenders, by contrast, have a choice whether to fill the void left by the adjustment that borrowers have to make. And since the borrowers repairing their balance sheets weakens the economy overall, and increases the danger of an especially bad outcome, it makes sense for asset owners to wait-and-see. The debtors' retrenchment is not offset by the increased spending of wealth holders.

Higher levels of debt in an economy mean it is both more susceptible to

Figure 2 source: State Administration of Foreign Exchange, China catastrophic failure and less amenable to stimulative policies. So central bankers have to work harder when debt levels are high. But by working harder, they slow the necessary adjustments in places where balance sheets are unsustainable; this incentivises leveraging-up in places where balance sheets are strong. In a global financial system, these dynamics spill across borders. Good in the short-term, of course; but down the line it means the financial system is more crisis-prone and monetary policy less likely to work. In each downturn, policymakers have to step on the accelerator even more than they did in the previous one.

This reaction function to crisis has become known as the central bank 'put' – central banks are now expected always to step in to underwrite the system by loosening monetary policy, as a safety net to markets. Unsurprisingly, this adds punch to the punch bowl, encouraging risk-taking behaviour by investors.

In the 1930s, it seemed that depression was a permanent feature of the landscape. How they would have yearned for the problems of inflation which beset the lives of their children! Our fathers, in turn, yearned to overcome the intractable, irreversible, irresistible problem of inflation that dominated the 1970s.

To escape that inflationary disruption, policymakers a generation ago inadvertently wired up an equally disruptive deflation machine, with monetary policy as the key propagating influence. In this system, the natural rate of interest, per Wicksell, is not stable. Instead, it follows the policy rate lower through successive financial crises. Lower rates – natural, nominal and real – beget lower rates.

The key intellectual error is to believe interest rates are at their natural level when inflation is at its target. Following in the footsteps of Keynes, Hayek and Minsky, Borio argues, rightly, that this can only be true if the financial system is also in balance – that the distribution of assets and debts, generated by a given level of economic activity, is sustainable.

Yet, as evidence of imbalance, consider the successive financial crises in the 1990s and 2000s. Interest rates could not possibly have been at a true natural level. If we could have observed what the natural level really was, my bet would be that it tracked the policy interest rate in its journey to 0% in 2009. From there, unconventional monetary policy, in the form of quantitative easing, has become the norm.[8] Later, in Europe and Japan, interest rates turned negative.

Despite enormous monetary stimulus, the economy and financial system have been unable to normalise. Ten years on from the crisis, we've had an anaemic economic recovery in western economies but a prolific rise in asset prices. When the US tried to tighten monetary policy in 2018, equity markets fell sharply. Having only raised rates from 0% to 2.5%, the US

> "In each downturn, policymakers have to step on the accelerator even more than they did in the previous one"

8 For an account of "why monetary policy had to be changed aggressively" during the financial crisis, see Glenn Stevens, former Governor of the Reserve Bank of Australia (2015), The changing landscape of central banking, address to the Official Monetary and Financial Institutions Forum

Federal Reserve was forced to reverse course aggressively in 2019. Inflation, and inflation expectations, remain subdued and below central bank targets, having undershot forecasts throughout the recovery.

It's as if the doctor upped the dosage of a favourite drug, to as strong a dose as dared. The patient did not fully recover, and relapsed as soon as treatment started to be withdrawn.

A NEGATIVE DISCURSION INTO BELOW ZERO INTEREST RATES

Now, even the doctor is beginning to doubt the drugs. Central bankers are no longer dismissing heterodox ideas out of hand – Mario Draghi, for example, at the end of his term as president of the ECB, said the ideas of Modern Monetary Theory should be considered.[9]

Questions about the efficacy of monetary policy, its limits and, importantly, its distributive effects loom large.

What is the lower limit for interest rates? Are we in a low interest rate trap like Japan? How effective is the transmission of monetary policy at low interest rates? Have low interest rates and quantitative easing made wealth and income inequality worse? Will policymakers be impotent when the next recession strikes? Are low interest rates causing financial imbalances to build up?

There are both theoretical and practical answers to all these questions.

For example, in theory, the effective lower bound of interest rates (the point beyond which further monetary policy in the same direction is counterproductive) is below 0%. This is because of the costs that come when moving out of bank deposits to holding money in physical currency – think insurance and storage. So depositors will only shift to storing physical cash when negative interest rates exceed the related costs and charges. Of course, to get around this problem, a country could do away with physical cash and move entirely to digital money.[10] Depositors would then have no alternative: either accept a negative interest rate, or do something with the money. That's in theory.

"It's as if the doctor upped the dosage of a favourite drug, to as strong a dose as dared"

9 Hearing at the Committee on Economic and Monetary Affairs of the European Parliament, Brussels, 23 September 2019

10 See Ken Rogoff (2016), The Curse of Cash: How Large-Denomination Bills Aid Crime and Tax Evasion and Constrain Monetary Policy

In practice, negative interest rates on retail deposits have unexpected consequences. Human behaviour rarely follows the rational logic of economic theory. In my article for the 2019 Ruffer Review – with a micro focus, to this year's macro – I included a chart on investor behaviour. It showed how investors allocate increasing amounts to risky assets as nominal interest rates tend toward zero. The allocations are much higher than they should be on a pure risk-reward basis. Is it such a stretch to think that negative nominal interest rates on retail deposits would cause retail depositors to do extreme things?

And then there's the reversal rate, with its impact on the behaviour of commercial banks (see box 1).

The problem with these discussions of negative rates is that they start in the wrong place. They focus on the economists' tea-time question – has monetary policy run out of road? – which implies that monetary policy was on the right road in the first place.

With Borio's lens, it is clear that wrongly-configured monetary policy has built the wrong road, and sped us along it.

The longer we stay on this road, the harder it is to change course without disrupting markets. And the more seismic the rupture.

TWO OPPOSING FORCES

Two powerful and opposing forces are developing. First, the financial system is wiring itself as if it is inevitable that we are staying on the current road – a road where monetary policy is the primary policy, pushed to its absolute limits, and where inflation is a more dormant threat than deflation. This force leads to secular stagnation (many years of slow growth),

Box 1

THE REVERSAL RATE

The reversal interest rate is the rate at which accommodative monetary policy reverses its intended effect and becomes contractionary for the economy. At some point, negative rates begin to hurt banks and constrain their willingness to expand lending.

This occurs when the capital gains that banks make from mismatches in duration are more than offset by decreases in their net interest margins. This lowers a bank's net worth and tightens its capital constraints.

The determinants of the reversal interest rate are 1) banks' holdings in assets with fixed (non-floating) interest payments, 2) the strength of the constraints they face, 3) the degree to which interest rates can be passed through to deposit rates, 4) the initial capitalisation of the banks.

Quantitative easing increases the reversal interest rate and hence should only be employed after interest rate cuts are exhausted.

Over time, the reversal interest rate creeps up, as the capital gains effect fades out (holdings in long-term bonds mature) while the net interest margin effect does not.

accompanied by very low interest rates, as far as the eye can see.

The second force is the political-economy. This is bending, in part to the social consequences of having been on the current road for too long.

Now, financial markets have a growing intolerance to policy regime change, while the political shifts create an imperative for change. This has the makings of an unstoppable force meeting an immovable object.

Let us look at this tension through the eyes of the market.

MARKETS – INTOLERANT OF CHANGE

Markets are vulnerable to changing liquidity conditions (see box 2) and the market's unstable behaviour at the end of 2018 provided a glimpse of the frailties; the economy was in fine shape, but liquidity conditions were not. The resulting sharp falls in equity and credit in December 2018 forced the US Federal Reserve to U-turn the following month. As I write this in December 2019, the Fed has now cut rates three times, and is again expanding its balance sheet to restore order in funding markets.

The financial system that prevails today presumes the deflationary forces are structural and permanent and that any cyclically-induced monetary tightening will burn itself out, as it did in 2018. Markets have wired themselves to the secular stagnation narrative. To adapt Irving Fisher's infamous phrase: we've reached a permanently low plateau for interest rates and inflation.

This is echoed by the IMF's former Chief Economist, Olivier Blanchard:

"What is clear is that the low rates reflect more than the lasting effects of the financial

Box 2

BEYOND THE ILLUSION OF STABILITY

SUMMARY OF KEY POINTS FROM MY ARTICLE IN THE 2019 RUFFER REVIEW

1. **NOMINAL RETURNS DRIVE BEHAVIOUR.** Savers and investors tend to think in nominal terms as opposed to real (after inflation) returns. The cause is both contractual and behavioural. Contractual, because many institutional investors, such as pension funds, have nominal return targets for their portfolios. Behavioural, because of psychological biases such as reference dependence (we get used to a particular level of income from our savings, and we try to preserve the level when interest rates fall), and salience (nominal returns are visible, while real returns are not, and we tend to work off what we can see). This means the risk-taking behaviour of investors and savers increases non-linearly as nominal interest rates tend to zero. The more extreme monetary policy becomes, and the longer it remains in that state, the more people move up the risk spectrum and down the liquidity spectrum. We see this through the increased allocations of institutional investors to illiquid alternative assets such as private equity and private debt.

2. **ROLE OF BONDS IN PORTFOLIOS.** The effect of a deflation-biased system has been to make bonds a very effective offset in portfolios, because bond and equity prices become negatively correlated. In effect, bonds have behaved like positive-carry equity put options. This

> “The more extreme monetary policy becomes, the more people move up the risk spectrum and down the liquidity spectrum”

encourages leverage, as we see in investment strategies such as risk parity. If the regime were to cease to be biased to deflation, bonds would become a less attractive portfolio asset. The measured risk – i.e. the volatility – of portfolios would increase, encouraging investors to de-risk and/or deleverage.

3. **REGULATION AND LIQUIDITY.** Capital and liquidity regulations have been designed to make sure banks can withstand stressed markets. This has reduced their capacity as market makers, leaving asset management as the key marginal actor. Because asset managers don’t have the same degree of flexibility as banks – they are constrained by the investment mandate, which is increasingly a passive one – the ability of the system as a whole to accommodate material changes in asset allocation shrinks. Liquidity mismatches between a fund’s terms and its underlying assets exacerbate this problem.

4. **RISE OF QUANT-BASED INVESTING.** Simply put, our enhanced ability to analyse data (which is, necessarily, only the past and the present) inspire investing strategies which assume past patterns and correlations will be repeated. Regime changes confound past patterns, and a new regime takes time to be incorporated into trading models.

5. **RISING SHARE OF PASSIVE INVESTING.** As all asset prices have risen, the shift to low-fee passive vehicles has accelerated. The effect of this shift is that beyond a certain threshold – circa 50%, it seems – investment flows matter more than fundamentals in determining price.

6. **RISK PREMIA INVESTING AND VOLATILITY.** When expected nominal returns are low, small but persistent risk premia become very attractive. Consider investors seeking to harvest the volatility risk premium. My view? It is dangerous for volatility to be an asset class and, simultaneously, a measure of risk for most of the asset management industry.

7. **EMBEDDED LEVERAGE.** The current regime has encouraged financial engineering, from debt-financed share buybacks to ratings-optimised Collateralised Loan Obligations. This raises the sensitivity of asset prices to changes in the operating environment.

8. **GAP RISK.** Many of the features mentioned above combine to increase the vulnerability of the system to gap risk – a large and immediate fall in asset prices. Gap risks arise because the market is unable to intermediate flows of assets with continuous pricing.

crisis. Their decline is a long-standing trend, starting in the mid-1980s. It is fair to say that, while many factors have been identified as potential causes, ranging from an ageing population to precautionary saving, to lower growth, to a higher demand for safe assets, we are still uncertain as to the role of each one. What can be said, however, with more confidence, is that none of these factors appears likely to reverse any time soon."[11]

The net effect is that we now have a financial system unable to comprehend a view of the future which is anything other than that described by this narrative based on the past. There is no sense that policy regime change is inevitable, or that it could be successful in moving us off the path of secular stagnation. Nor is there a sense that what might be good for the economy is bad for markets.

One view of financial assets is that the limits of monetary policy matter little, especially if the baton for stimulating aggregate demand is passed to fiscal policy. We hold a different view, and expect a shift in the policy regime to undermine many of the pillars holding up the current market environment: from the mathematics of debt-financed share buybacks, to the emphasis on hoped-for future profits, so much financial behaviour is dictated by low interest rates.

IT'S THE POLITICAL-ECONOMY, STUPID

Brett Gillespie, a macro fund manager in Australia, recently observed that the past two centuries suggest a simple rule: a monetary policy regime lasts about 30 years before it gets thrown out. In Gillespie's summary, a brief history of the US gold standard shows that when a simple rule is adopted, inflation can be avoided – but strict adherence to the rule can create economic instability and political unrest. "We have had an inflation standard now for the best part of 30 years," Gillespie writes. "I would argue this simple rule is now creating economic instability, if not political unrest."[12]

> "China used more concrete between 2011 and 2013 than the US used in the entire twentieth century"

Consider the rise of populist politics and climate change protests.

Populism has become synonymous with inequality. The trickle-down effect is not working – money at the top is not trickling-down to workers and others to improve their earnings. Inequality, of both income and wealth, has been directly attributed to a combination of extreme monetary policy settings, immigration and globalisation. The very things that have provided the interlocking gears of the deflation machine.

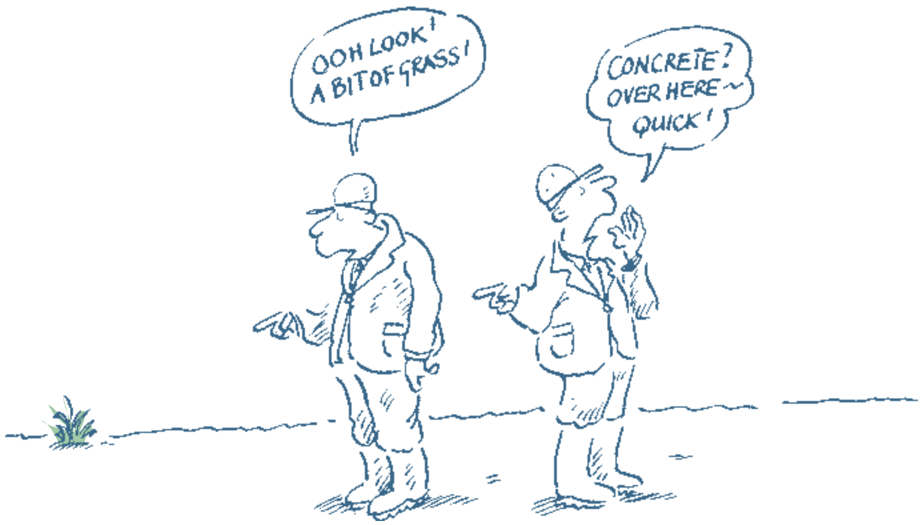
Monetary policy can be linked to populism in a number of ways. A partial list might include: out-of-reach house prices; pension and insurance systems in funding crises; gains for Wall Street that don't transmit to Main Street; and people getting rich in ways that are both provocative and absurd.

WHAT ABOUT CLIMATE CHANGE?

It might seem a stretch to link climate change to monetary policy, but there is a connection. The international monetary and

11 Olivier Blanchard (2019), Re-examining the Economic Costs of Debt, Prepared remarks submitted to the US House of Representatives Committee on the Budget

12 Brett Gillespie (2019), The end game approaches for monetary policy



financial system, wired as I've described, facilitated an accelerated development of infrastructure in China and other emerging markets. In the wake of the 2008 financial crisis there was a huge Chinese fiscal stimulus which gave rise to massive infrastructure development (as well as corruption).

To give a sense of the scale: According to the USGS' cement statistics, China used more concrete between 2011 and 2013 than the US used in the entire twentieth century.

When an economy as large as China's can engineer an unproductive infrastructure boom through abuse of a pure credit system, we should not be surprised to see global carbon dioxide emissions rising. Clearly, China alone is not responsible for the climate emergency. My point is that monetary policy has catalysed activities that have accelerated the problem.

Wrapped up in the climate change movement is a belief that free market capitalism has let us down because it failed to properly price environmental externalities. And governments are seen to have failed on two fronts: to fix this market failure; and to confront the crisis with relevant investment, at a time of historically-low borrowing costs.

Policymakers, sensing these trends as inexorable, know that if they don't act, they risk being forced out of office. (But if they mix up their causes, as French President Emmanuel Macron did, you get civil unrest: Macron's fuel surcharge was good for the environment, but not for the poor. Bonjour les gilets jaunes.)

The pressure propels politicians towards greater government spending. Why, you might wonder, has it taken politicians so long to figure this out? The answer is in Greece.

A GREEK TRAGEDY

The eurozone debt crisis in the early 2010s was centred on Greece. Excessive Greek government debt and the political naughtiness associated with it were seen as the culprits; the resulting political and social chaos were seen as a warning sign. The message? If you don't want to become

> "It is inevitable that fiscal policy is going to play a bigger and more systemic role in the policy mix in the future"

Greece, then get control of your government finances. Balanced budgets and austerity became the watchwords.

The assumption behind the message was wrong, and the application was tragically timed.

Wrong because worries about government debt are far more pressing when you are part of a currency union; a true sovereign has its own central bank, which will always honour a cheque written by the government. Greek debt had credit risk because Greece did not have its own central bank and there was a credible threat that the ECB would not accept Greek bonds as collateral. A true sovereign has a great deal more fiscal latitude than Greece had.

Tragically timed, because it injected a fear factor into fiscal policy, among politicians and the electorate, just at the time when policymakers should have been fundamentally rethinking both monetary and fiscal policy in the wake of the financial crisis. As a result, politicians abandoned economic policy to central banks – and therefore to unelected technocrats who are both constrained by their mandates and who do whatever it takes within their mandates to achieve their objectives. Implicitly, this assumes monetary policy does not redistribute wealth or income, and so can be safely enacted by technocrats.

Today, central bank mandates are usually some combination of price stability (not including asset prices) and full employment. But they have only monetary policy at their disposal. If central banks worry that inflation expectations may fall too far, then they act like that doctor who only has one drug, and keeps administering it in bigger doses. Even when the negative side-effects begin to outweigh the benefits, central banks feel they have no choice but to keep trying – because this is what they are mandated to pursue.

This is exactly what has happened. The side-effects of extreme monetary policy are feeding back into the political economy, forcing a reassessment of the role of fiscal policy. But this is largely because governments abdicated responsibility at the crucial moment.

This is now changing. Central banks fear the impotency of monetary policy in the next recession – if inflation expectations fall and nominal interest rates are limited by the effective lower bound, it makes it very hard for central banks to force real interest rates into negative territory. Monetary policy loses its power.

At the same time, politicians are waking up to the need for fiscal policy to address unrest. It is inevitable that fiscal policy is going to play a bigger and more systematic role in the policy mix in future.

As the gold standard came to an end in the 1970s, so we are now approaching the end of the 'inflation standard' as its successor.

EXPECT A MORE INFLATIONARY COMBINATION OF MONETARY AND FISCAL POLICY

The logical response to the political pressures is for monetary and fiscal policy to work together to raise nominal GDP.

By targeting nominal GDP, policymakers can reduce aggregate debt-to-GDP ratios to reduce worries over government debt levels. By using fiscal policy more actively, they can ensure the policy stimulus transmits into the real economy, without getting stuck in the financial markets, while also addressing directly sources of unrest.

The mechanism for monetary and fiscal policy coordination could come with a new label, or it could just be more active fiscal policy allied to a more tolerant monetary policy regime.

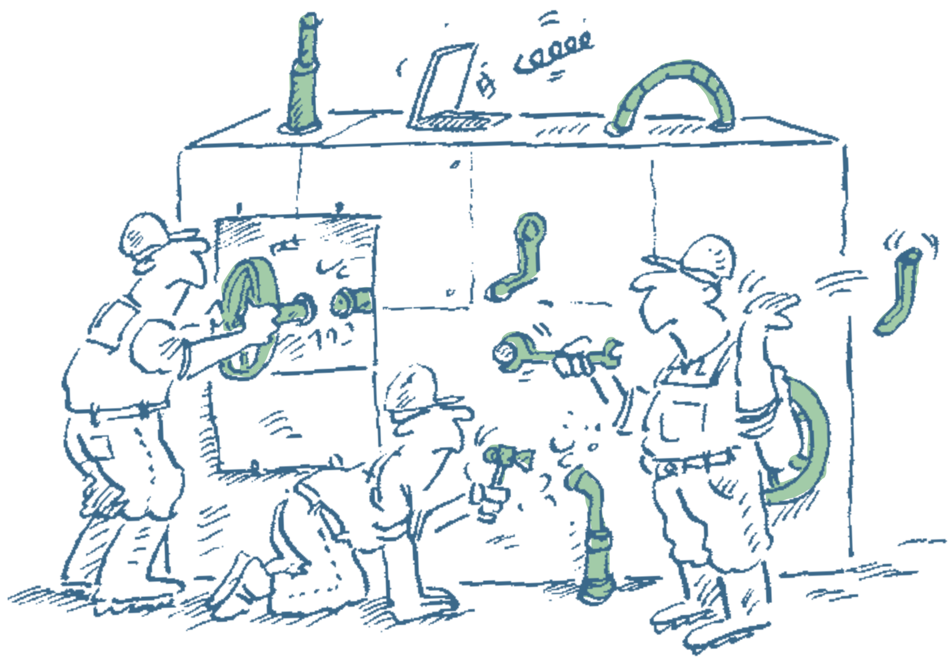
This is not the place to debate relative merits. The important point is that once it is accepted that fiscal policy should play a more systematic role, we will have taken the first step towards a new political-economy regime.

THE DEFLATION MACHINE IS BEING DISMANTLED

Just as the 'inflation standard' is beginning to be replaced, other parts of the deflation machine are being dismantled.

The US under President Trump is becoming less tolerant of trade deficits and foreign-exchange intervention, while taking a much tougher stance on technology transfer and cybersecurity. China, the key cog in the deflation machine, is the main target. Manufacturing supply chains are having to be realigned to an emerging cybersecurity cold war in which China is considered a long-term security threat. Capital, as well as trade flows, are being targeted by US politicians.

This all adds up to a negative supply-side adjustment (the supply of the same quantity of goods costs more) and it impairs the way US monetary policy transmits into China. Capital is more hesitant to flow into China, just as Chinese exports to the US are under pressure. Both these reduce the deflationary



> "For the markets, liquidity is the primary axis of vulnerability; asset managers are the primary venue"

feedback of US monetary policy, at the moment when economic policy is, in its own right, becoming more directly inflationary.

The combined forces will take markets by surprise.

If you believe, as most investors do, in the secular stagnation thesis, then the structural features of the global economy, such as ageing demographics and IT, set the inflationary potential of the system. These structural features, all pointing to deflation, appear immutable. They overwhelm any changes to the policy regime – a re-run of Japan in the 1990s, or the industrial revolution in the late eighteenth and early nineteenth century.

If Japan is your map, then a shift in the policy regime doesn't impact the structural inflation regime; rather, it is an attractive palliative to these structural forces. But Japan is the wrong map; the US in the 1960s and 1970s is a better template for what lies ahead.

THE 'WHEN' QUESTION: PREPARING FOR THE INEVITABLE

It's always easier to identify that an inflection point is on the way, than it is to say either when it will happen, or what precisely will trigger it. This is why Ruffer portfolios – dominated by the need to protect against the mischief we see – are essentially indifferent to the market direction in the period, however long or short, before the inflection point comes. We see inflation protection as an essential component of the all-weather portfolios we seek to build – if inflation is really rising then bonds and equities are likely to fall together, as interest rates pick up.

The path is now shifting to one that makes inflation inevitable. The journey to inflation will not be smooth. It will likely involve another financial crisis, a crisis that creates the collective will that moves us to a new policy regime.

It is impossible to say whether inflation will manifest itself before or after a crisis, so we own the protection now, even though there are few obvious signs of it being required just yet.

For the markets, liquidity is the primary axis of vulnerability; asset managers, rather than the banks, are the primary venue.

The trigger for a liquidity-led crisis could either be monetary policy tightening – we got a glimpse of this in Q4 2018 – or an exogenous shock. The shock – a rapid escalation in US-China trade tensions, or swing to the left in the US election, for example – forces a sudden reassessment of the risk of recession or default, and triggers outflows from credit, leading to a sharp tightening of financial conditions.

In the absence of a shock, it will take the emergence of genuine inflation risk for markets to break.

THE JOURNEY TO HIGHER INFLATION MAY BE GRADUAL, THEN SUDDEN

The inflationary road to ruin is best captured by Ernest Hemingway. In *The Sun Also Rises*, one of the characters is asked, "How did you go bankrupt?" His reply: "Two ways. Gradually, then suddenly."

Gradually – fiscal policy is already being tentatively added to the policy mix in the current cycle. We see this happening in the UK, Europe, Japan, China and likely again in the US after the 2020 election. Allied to extremely loose financial conditions, and central banks becoming more tolerant of inflation overshooting their targets, this is likely to support nominal GDP growth. Growth itself is beginning to benefit from a turn in the global industrial production cycle. Any diminishing of uncertainty around trade and Brexit will reinforce this positive cyclical dynamic.

Policymakers will be emboldened by their fiscal activism. Voters will vote for more of it. Inflation itself will start to surprise on the high side. This gradual inflation eventually triggers a policy tightening, which triggers a liquidity crisis in markets.

Suddenly – the financial crisis will jolt policymakers into monetary-fiscal coordination. This time it will be Main Street's QE rather than Wall Street's QE, allied to fiscal policy. This will complete the transition, allowing a sudden inflation to emerge.

THE CONCLUSION? PREPARE FOR AN INEVITABILITY

It isn't controversial to say monetary policy is almost out of road. Not only because it is theoretically out of road, but also because policymakers are beginning to see that we're on the wrong road.

Central banks are backing away from the idea of deeply negative interest rates. Instead they are calling on governments to use fiscal policy more actively. Governments, for their part, are happy to oblige given the political pressures of populism and climate change.

For most observers, this is a welcome development in the face of secular stagnation's deflationary influence.

To us, it represents the dismantling of a deflationary machine that has, for the past 30 years, engineered lower and lower interest rates. It's important to remember that these deflationary forces have been kept at bay in the real world by unsustainable levels of borrowing, an unsustainable

> "Only a minority believed in the inevitability of global warming in the 1990s, just as only a minority now believes in the inevitability of higher inflation"

structure of global economic activity, and unsustainably low interest rates – and this has led to a massive re-rating of asset values. To predict an end to the deflationary machine is to predict dislocative markets – unseen since the de-rating of equities between 1972 and 1975.

Few people fully appreciate Claudio Borio's insight that inflation-targeting monetary policy has been a propagating force at the core of this machine. The forces of deflation have been as much driven by monetary policy as they have been by structural factors.

If Borio is right, and we believe he is, then changes to the monetary and fiscal policy regime – the end of the inflation standard – will have a profound impact on the characteristics of the system as a whole. The structural forces of deflation suddenly appear less immutable.

A shift to fiscal activism, particularly if it is decisively signalled, will move us into a regime with much higher inflation potential. Given the political-economy pressures faced by governments, we believe this shift is inevitable. As my colleague Peter Warburton puts it in his article in this Review "Inflation, long viewed as an ancient peril to be eradicated, has been re-cast as the agent, probably the only viable agent, of income and wealth redistribution."

If this is accompanied by a negative supply side shock – caused by, say, protectionism and disruption to supply-chains – then inflation will emerge more easily.

By contrast, financial markets, capitulating to the secular stagnation narrative, have wired themselves – both actively and passively – to the wrong inevitabilities. To low interest rates forever. To asymmetric central bank reaction functions. To a negative bond-equity correlation.

A financial system which is now structurally intolerant of inflation faces a political-economy regime change which makes inflation an imperative. There are two opposing inevitabilities. And inflation is the only winner.

Here is how Ben Bernanke put it in November 2002:[13] "Under a fiat (that is, paper) money system, a government (in practice, the central bank in cooperation with other agencies) should always be able to generate increased nominal spending and inflation, even when the short-term nominal interest rate is at zero."

Once governments and central banks cooperate, inflation will win out. The new political-economy regime will have much

13 Bernanke (2002), Deflation – making sure "it" doesn't happen here

more in common with the 1970s than it does with the financial world of today.

While inevitable, the journey to inflation will be bumpy because it will involve a financial crisis with the asset management industry as the epicentre of stress. The policy response to this crisis will likely be forceful monetary financing under the banner of Modern Monetary Theory, or Helicopter Money, or People's QE. It will mark the beginning of a new, more inflationary regime dominated by fiscal policy; the era of technocrats will be over.

The financial crisis needed to trigger this decisive shift could come from an early inflation surprise. Governments are already losing their aversion to running higher deficits and central banks are more comfortable with the idea of running economies hot. Alternatively, the trigger could be an exogenous shock which jumps the global economy into recession, causing a sudden reassessment of default risk, and stress in credit markets.

As we consider how best to position our clients' portfolios for the journey ahead, I am reminded of an ill-advised commercial for Foster's beer that screened in British cinemas in the 1990s.

It ran something like this: "Concerned about global warming?" the ad's narrator asked. "Then a) make a donation, b) write to your MP, or c) just say bollocks to it and enjoy the sunshine while it lasts with a glass of cool Foster's Ice."

Hoots of laughter at the time; not funny now.

Only a minority believed in the inevitability of global warming in the early 1990s, just as only a minority now believes in the inevitability of higher inflation.

Today, many investors seem happy to sit with a beer by the swimming pool, expecting the good weather to continue.

At Ruffer, our portfolios are positioned to enjoy some of the sunshine, while being protected – and seeking to profit – from the inevitable changes to come. ●

MODERN MONETARY THEORY

STEPHANIE KELTON, GUEST SPEAKER AT RUFFER'S FAMILY OFFICE CONFERENCE IN NOVEMBER 2019, is a leading authority on Modern Monetary Theory. She is Professor of Economics and Public Policy at Stony Brook University, and has been a Senior Economic Advisor to Bernie Sanders' campaigns for US president. Kelton sees Modern Monetary Theory as a disruptive force. It isn't just "changing the answers that economists have been giving for many decades – it's changing the questions". Ed Roe, an Investment Associate at Ruffer, presents some of the highlights from Kelton's address to the conference. Her views are not Ruffer's, but we value the challenge and different perspective they bring.

TO UNDERSTAND MMT, PROFESSOR STEPHANIE KELTON ARGUES, we must address a myth about government financing. Mainstream economic thought runs something like this. To be able to spend money, governments must first raise funds from elsewhere, through taxation or borrowing.

From this comes a familiar call and response. A politician proposes an increase in spending; "who's going to pay for it?" comes the reply. Cue cat-fighting and political mud-slinging.

This back-and-forth assumes that, for a politician to spend another dollar, they must demonstrate a credible plan to take a dollar out of the economy. MMT says this isn't the case. In the MMT view, governments spend money that the central bank creates, then they tax and borrow some of it back.

Before you or I can use dollars, euros or pounds to settle tax obligations, this

MODERN MONETARY THEORY • IN 60 SECONDS •

Modern Monetary Theory (MMT) is a macroeconomic framework that has at its core a simple idea – money is a creation of the state and, as such, a government that issues its own currency never needs to default on its debts. It can simply 'print' more money to repay the debts it owes.

From this base, MMT argues the only real limit to government spending isn't the deficit, but inflation. Additionally, since the government can simply print money to pay for goods and services, it has no need to match spending and taxes.

MMT proposes that full employment, not price stability, should be the primary aim of government economic policy. Unemployment is evidence that the government is overly restricting aggregate demand, and thus underutilising the economy's resources.

To this end, many MMT economists advocate a government job-guarantee scheme. This would offer employment to those unable to find work in the private sector. Advocates believe it would eliminate involuntary unemployment and act as an automatic stabiliser to the economy – expanding when the private sector is weak, and contracting when private hiring is strong.

money has to come from somewhere. The government has to "spend the money into existence". Kelton uses a story from Warren Mosler, another prominent figure in the development of MMT, to illustrate her point.

GIVING VALUE TO BUSINESS CARDS

Mosler wanted his children to help around the house, doing various chores. He decided to 'pay' them, with his business cards, for every job they completed. At first, this flopped. His children had no need for business cards; as a currency, they were worthless.

Then Mosler had a eureka moment. A new rule. If his children wanted to continue living in the house, and to maintain privileges such as seeing their friends at the weekend, they had to give their father 20 business cards at the end of each month.

All of a sudden, the cards, with no intrinsic value, became valuable. Mosler's children started to do chores immediately, without being asked. All Mosler had done was invent a tax. The only way to pay that tax was with business cards. The only source of these cards was Mosler himself – for his children to be able to pay the tax, Mosler first had to spend the cards into existence.

BEYOND PRINTING MONEY

Stories like this have led critics of MMT to see it as simply about 'printing money', shaking the fruit from a Magic Money Tree.

To Kelton, this is a fundamental misunderstanding both of MMT, and of how federal governments currently finance themselves.

Today, the US government is already financing every dollar of its spending with new money creation; taxes and bond issuance are merely secondary operations. Therefore, if you describe MMT as printing money, you should level the same accusation at the federal government. What's more, central bankers agree a currency-issuing government operating a floating exchange rate regime faces no financial constraints – as Mario Draghi has said "the ECB can never run out of money".

Does this mean a government can go out and spend as much as it wants? No. What it does mean is that the limit to such spending is in the real economy, not the financial one: inflation is the only relevant constraint.

As Kelton puts it: "If the economy has the capacity to take on additional demand, and suppliers can match it with higher production, provided you don't get inflationary pressures, increased spending is a perfectly responsible way to proceed." To support her explanation, Kelton notes that nobody has a good model of inflation. In particular, ideas such as the Quantity Theory of Money and the Phillips Curve are not accurate or useful models of the real world.

NEW APPROACH TO TAXATION

The role of tax in macroeconomic policy is thus radically changed. While tax is currently seen as the key funding mechanism for government spending, MMT argues that in reality it simply acts to diminish spending power in the private sector. Taxation should therefore be used as an offset to dampen any inflationary pressures arising from government spending.

Another important result of the MMT framework is that the short-term natural rate of interest is zero. The outcome of the government running a deficit is to increase reserves in the banking system – the bigger the deficit, the larger the reserves. In a world where everyone is flush with reserves, the price paid for them (the overnight lending rate) simply goes to zero. There are two reasons this doesn't currently happen.

> "Today, the US government is already financing every dollar of its spending with new money creation."

First, the government issues bonds, which act to drain reserves and make them scarce. Second, the central bank pays interest on the remaining reserves, using an artificial, arbitrary, positive rate.

A linked conclusion is that larger deficits actually push down interest rates, in direct contrast to conventional thinking. And much like taxation, bonds are not issued to fund expenditure but in order to drain reserves from the financial system.

TRUMP AND TRADE

Trade imbalances are also treated entirely differently as a result of MMT. "What Donald Trump focuses on are cash flows," Kelton notes, "but what about the real flows? We may be sending China hundreds of billions of dollars but we're taking their stuff – their people are working hard to make things that they just send to us. So in real terms, exports are a cost, and imports are a benefit."

What does China get in return for everything they send the US? They receive dollars in an account at the Federal Reserve. But the US government can simply print dollars. It can't print consumer goods.

BACK TO THE BUDGET

Having turned most of what we think we know about how modern economies work upside down, Kelton swoops back to focus on budget deficits.

Under the sectoral balances framework developed by British economist Wynne Godley, a country's economy can be seen as a closed system. In a closed system, the combined deficits and surpluses of the government sector, the private sector and the foreign sector must, by definition, sum to zero.

Since the most important thing for a strong economy is the robustness of the private sector – that the private sector runs a surplus – then it's right for the government to run a budget deficit. This is particularly important in a country with a significant trade deficit, such as the US. In Kelton's words, "government surpluses are built on the back of private-sector deficits. A government deficit should actually be seen as a positive household surplus".

The key factor for whether a country is able to adopt an MMT-like system is whether it issues its own fiat currency. "Currency is the difference between sustainability and crisis," Kelton argues. With any fixed exchange rate regime (such as the Euro), or with foreign currency debt, comes the risk of a government not honouring its formal commitment on convertibility.

Kelton acknowledges that it's here, on monetary sovereignty, where MMT has tended to receive its biggest challenges. The assertion that there are only two types of country – those that issue their own fiat currency and those that don't – isn't correct. In reality, there's a spectrum. Kelton explains that exchange-rate risk has become more and more integrated into the MMT framework. MMT thinkers are highlighting issues such as countries that have full monetary sovereignty yet depend on the rest of the world for critical imports such as food and energy – in a situation like this one, policymakers need to think carefully about domestic choices, with the exchange rate a key consideration.

LESSONS FROM JAPAN

When turning her attention to interest rates, as set by the world's central banks, Kelton argues we have huge belief bound up in their ability to steer economies. MMT is uncomfortable with this. She agrees that raising rates increases the cost of borrowing, but argues it also increases private income, since the government is a net payer of interest. If rates go up, bondholders earn more. "Therefore, there is a sense in which a rising interest-rate environment could be expansionary, since you're creating billions and billions more interest income," Kelton

> "The key factor for whether a country is able to adopt an MMT-like system is whether it issues its own fiat currency."

argues. "But it's pretty hard to believe that there's a strong direct channel between interest rates and inflation rates – just look at Japan!"

Japan, for Kelton, is a source of valuable lessons. "It is a neat example that it's possible to massively increase the size of the monetary base without inflationary consequences," she says. Deficits haven't forced interest rates higher. Debt sustainability hasn't been a problem. All that matters is inflation.

As David Zervos, Chief Market Strategist at Jefferies, put it during a recent visit to Ruffer: Japan has the best bridges, the best trains, the cleanest streets, multi-decade lows in unemployment – all due to deficit-financed fiscal spending – and they don't have any inflation.

A DESCRIPTIVE PROJECT

When taking questions from the room, Kelton was asked whether politicians will really be willing to raise taxes when needed to fight inflation. Her response was two-fold – that central banks don't have the tools to manage inflation effectively anyway; and to reiterate that she isn't advocating endless spending. "What I'm advising is that we need fundamentally to overhaul the federal budgeting process, to integrate the inflationary risks of any legislation." In her view, the primary concern of the Congressional Budget Office in the US (and the equivalent departments in other countries) should be whether the spending will spark inflation, not whether it will add to the deficit.

When asked for investment recommendations in an MMT world, Kelton said for her MMT is not a thing that's going to be implemented or adopted. "It's 95% a descriptive project. It's about helping us get a better appreciation for how government finances and monetary operations work. I'm just describing things as they are." She is calling for a healthier debate, one without myths and misunderstandings.

"Is President Trump intuitively an MMT believer?" Kelton thinks he actually is, noting that in her lifetime, "Donald Trump is the only person I've seen run for President, stand before the American people and say 'if you vote for me the national debt is going to go up'".

MOMENTUM AND ATTENTION

"So, what's changing?" asks Kelton, bringing her session to a close. Well, people have started talking about the end of monetary policy. And not just any people, but central bankers such as Robert Holzmann, the current governor of the Austrian central bank, and Christine Lagarde, the new president of the ECB, as well as influential figures in the financial world.

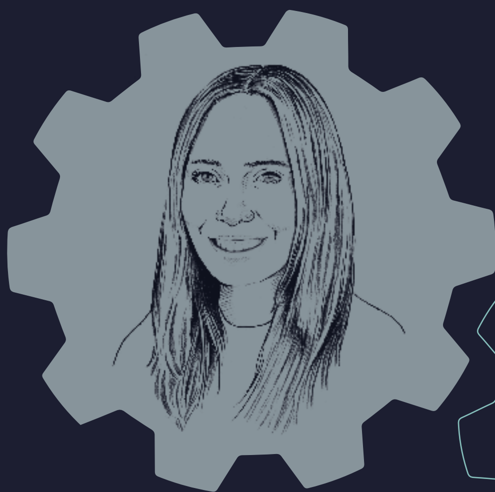
As a school of economic thought, MMT is seeing a surge of interest and attention – where this momentum takes us remains to be seen. ●

Photos: Johnny Green / Photocall Productions

MICROMOBILITY

MICRO-WHAT?

Micromobility is a catch-all label for new(ish) ways of travelling around cities. Think docked and dockless bikes, electric scooters, electric skateboards, even velomobiles (bikes with a shell). The common elements are single-person use, shared equipment for hire, weigh less than 500 kilograms, powered by some combination of the user and electric batteries. Garish colour schemes are common, but optional.



FELICITY HALL
Investment Associate

BETTER THAN DRIVING?

Roughly one in four people worldwide now live in cities of more than a million people. The 'last-mile' speed for commuters driving in many of these cities is often below 10 miles an hour, and is just six miles an hour in Dublin.

Meanwhile, 60% of all passenger trips in the US, Europe and China are less than eight kilometres in distance.[2] In theory, many of these journeys could be made on a shared bike or scooter. As could the first and last legs of longer journeys – say the trip home from a local train station.

Clearly, though, there are practical constraints. E-scooters are less convenient for carrying a week's groceries home from the supermarket. And when the heavens open, most would rather jump in an Uber than pedal through puddles.

GEARING UP

Paris was a pioneer, launching its Vélib' bike-sharing scheme in 2007; London's 'Boris Bikes' followed suit in 2010. Amongst shared scooter and bike startups, leading companies include Lime, Bird, Jump and Mobike. Most of the scooters used globally are supplied by one Chinese company, Segway-Ninebot.

Investment in these companies has soared in recent years, with around $10 billion of inflows since 2011.[1] Such eagerness from investors enabled Bird to achieve a $2 billion valuation just over a year after the company launched.

COMPARING THE COST

£1,404
Transport for London
Annual pass - zones 1 and 2

£90
Santander Cycles
Annual pass

£1 TO START
Jump Bikes (Uber)
12 pence a minute

1 Barclays (2019), Micromobility: Fast, Cheap and Good Solution for 'Smart Cities'
2 Ibid

ECONOMICS OF THE MARKET

Micromobility has a clear appeal for investors. It can take several years for car-sharing companies to turn a profit. But, based on a vehicle acquisition cost of $400 and five rides a day, McKinsey estimates an e-scooter can be economical in less than four months.

At the moment, the micromobility market remains fragmented. Increased M&A is therefore likely as the market matures. Many of these start-ups will also be aiming to go public.

REGULATORY GREY ZONE

Micromobility options have sprung up in cities worldwide, from Chengdu to Copenhagen, Tel Aviv to Los Angeles.

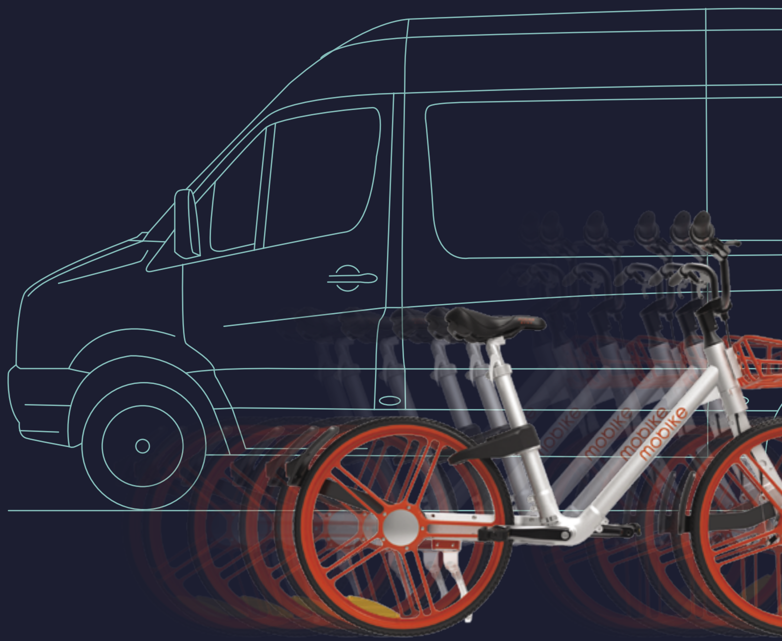
Yet it's not all plain scooting. In the UK, for example, the use of e-scooters sits in a grey area between two laws – one which requires any motorised vehicle used on a public road to be registered with the DVLA, and the 1835 Highways Act which prohibits anyone from riding a 'carriage' on a pavement.

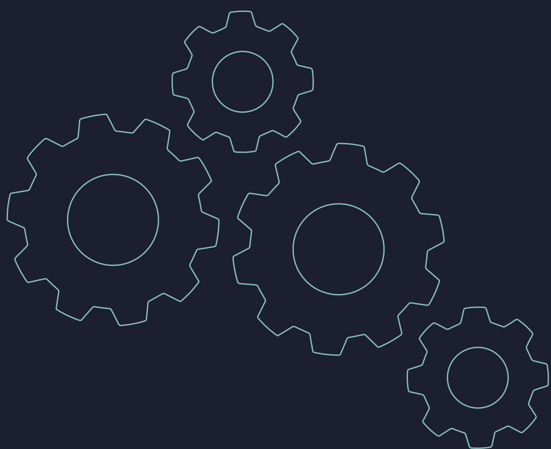
Whilst some countries and cities may loosen their regulations, others are likely to introduce restrictions or bans. These are often due to concerns about safety, and to address complaints that dockless vehicles – left on pavements outside offices, palaces and pubs – can be an eyesore.

THE CARBON FOOTPRINT REVISITED

At the point of use, an electric bike or scooter appears an eco-friendly transport option. But they are far from being completely green.

For one thing, many of the journeys made might otherwise have been walked. Often, conventional vans are used to collect, recharge and redistribute the vehicles. And e-scooters and bikes – subject to frequent and sometimes careless use, as well as harsh weather – can have a short lifespan. Waste is therefore also an issue.



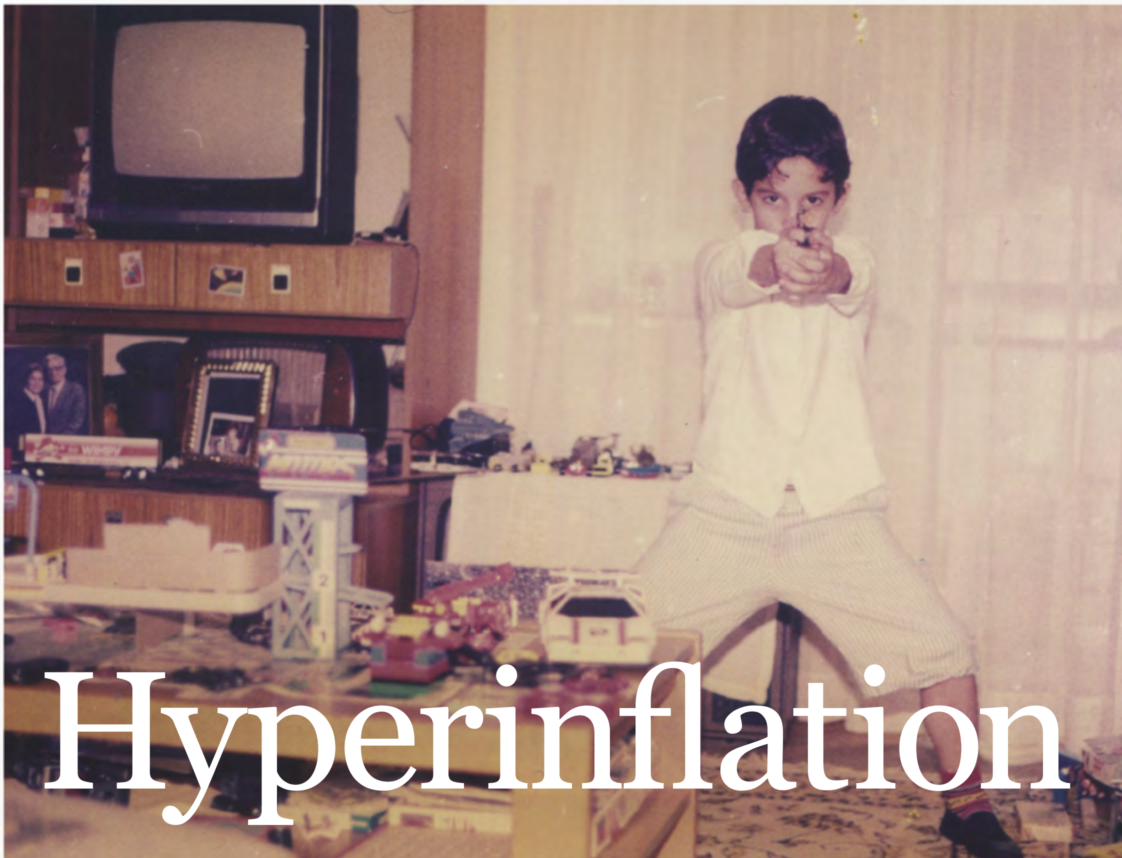


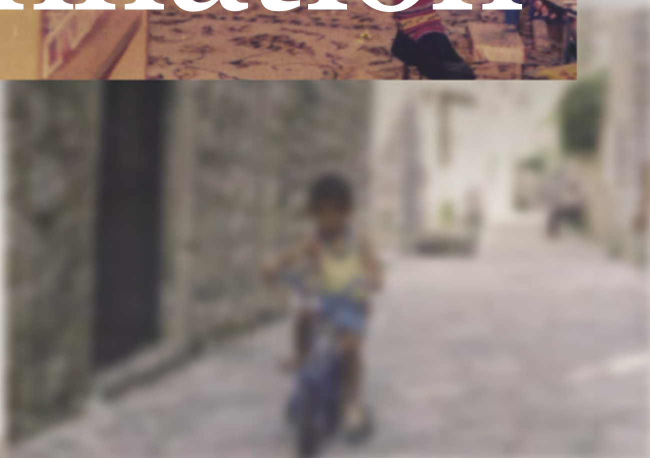
CONCLUSION

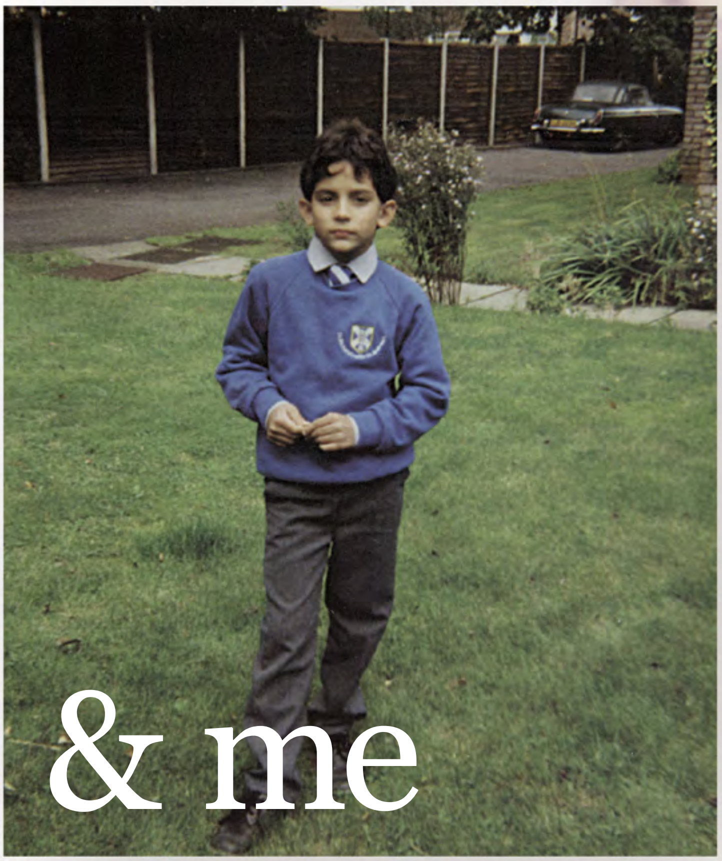
So, is micromobility a winner? It certainly ticks the boxes for speed, enjoyment and affordability. But there remain limitations, with safety, weather and regulation appearing as breaks on growth.

Nevertheless, as populations increase, congestion worsens, and consumers continue to demand convenience and reliability, there seems a natural place for shared electrified transport within our cities. ●

Hyperinflation







& me

LUKA GAKIC

Investment Director

MY MOTHER BROUGHT ME TO LONDON IN 1992, seeking refuge from the nascent civil conflict in our home town of Sarajevo, capital of Bosnia and Herzegovina. She was a refugee with a suitcase, a six-year-old son, and $100 in cash to her name.

This was not how my mother imagined her future self in February 1984 when Sarajevo, at that time a regional capital in the Socialist Federal Republic of Yugoslavia, hosted the XIV Winter Olympic Games. For much of the British public, this Olympics is etched in the memory thanks to the twirling purple chiffon of ice-skaters Torvill and Dean. With my parents perhaps caught up in the post-Olympic glow, I was born the following year.

The glow did not extend to the Yugoslav economy. Through the second half of the 1980s, Yugoslavia struggled. There was wage-price inflation (and related labour strikes), an IMF debt restructuring, a growing external deficit, and the transfer of companies from state to private ownership.

In October 1989, a few weeks before the fall of the Berlin Wall, the well-regarded, Western-oriented prime minister of Yugoslavia, Ante Markovic, went to visit US President George H W Bush. The Americans were willing to continue to provide funding to support the Yugoslav economy in exchange for difficult structural reforms and market access. In US intelligence quarters, there was some concern about the growing internal tensions within Yugoslavia, but for the most part, the talk was of economics. The mood was one of guarded optimism. At the time of Markovic's 1989 trip to the White House, very few educated Yugoslavs – and even fewer informed foreign observers – foresaw the destruction of life, capital and currency in Yugoslavia in the years to follow.

My mother was not alone in being ill-prepared for what was to come.

CURRENCIES AND CABBAGE

The day my mother and I fled Sarajevo in January 1992, a Yugoslavian dinar was worth approximately 280,000 times less than it was on the day of my birth in September 1985. It was our connections, not our savings, which afforded us the car journey to the airport, to join the UNHCR (United Nations' refugee agency) airlift.

In 1993, the year after we left, the simmering civil conflict turned into all-out civil war. The fact that my mother was a Serb and my father a Croat mattered more with every passing day. And what little value there was left in the dinar, and indeed in dinar-priced assets, evaporated.

October 1993 brought the now-infamous 500 billion dinar note. I remember my father reporting this note with 11 zeros was worth "roughly one cabbage" at the time of issue. The data seem to back this up. By 31 December 1993, one US dollar was worth 1,775,998,646,615 Yugoslavian dinars. At that rate, the dinar was no longer useful as a medium of exchange. People resorted to barter – typically expressed in quantities of petrol, cigarettes or cooking oil – and, for those lucky or connected enough to have access to it, Germany's deutschmark.

INFLATIONARY FORCES

In 1990, Yugoslavia was the 24th largest economy in the world, six places above Saudi Arabia and 10 above Norway.[1]

Economists examining the causes of the Yugoslavian hyperinflation of 1991 to 1994 were initially puzzled. The Yugoslavian federal budget was running up only small deficits throughout the 1980s. There also seemed to be little problem with external creditors. In 1990, externally held debt totalled only around $21 billion, in an economy with a gross domestic product (GDP) of around $120 billion.[1]

Hyperinflations are usually associated with profligate governments and external creditors yet, prima facie, Yugoslavia presented neither. On closer inspection, however, three comingled inflationary forces were at play.

First, the central bank was printing dinars. The National Bank of Yugoslavia (NBY) was funding the foreign currency deposits and purchases of state-owned companies, and doing so at fixed exchange rates.

Between 1978 and 1988, the NBY's explicit policy was to underwrite the exchange losses on foreign currency deposits that were redeposited by commercial banks with the NBY. This led to the net worth of the central bank plummeting to -$4.5 billion (the trough was probably a lot lower during the period).[2] So to the extent that a central bank's net worth can be regarded as

1 Central Intelligence Agency (1990), The World Factbook
2 Ashok Lahiri (1991), Yugoslav Inflation and Money
Image source: 500 milliard Dinar banknote, Poet J. Zmaj and National Library, Jugoslavia, 1993 (Contributor: Ivan Vdovin / Alamy Stock Photo)

“I remember my father reporting this note with 11 zeros was worth “roughly one cabbage”

a national debt – and, despite the Yugoslav experience, there are still economists who argue that it shouldn’t be – Yugoslavia’s debt was ballooning. Throughout the 1980s, the NBY was in effect having to print even more money to fund the purchases of foreign goods on which Yugoslav industries and consumers relied.

Second, money was also being issued by regional central banks in a way that was both uncoordinated and illegal. The national central bank was compelled to monetise regional government deficits – the NBY would print money to fund loans that regional central banks had granted to regional government departments.

The third inflationary force involved a form of enterprising ‘carry trade’. As if being milked by companies and regional governments wasn’t bad enough, money was also being created at pace by individuals and businesses engaged in aggressive carry trades out of the Yugoslav dinar.

For example, people would travel to small banks in rural areas at the other end of the country and cash in completely unfunded cheques. They would then exchange the cash for foreign currency, usually deutschmarks, and wait for the cheque to arrive at the bank’s HQ for settlement. This process could take months – as anyone who has ever tried to drive across rural Bosnia will understand.

The carry traders would convert a part of the foreign currency they acquired and repay their debt, greatly reduced by inflation. They would keep the rest of the new money they had created. Companies, struggling to pay their workforces, adopted similar tactics.[3] Expectations of high inflation had become ingrained in the population through the 1970s and 1980s, and a deterioration in the domestic political situation then led households to draw the conclusion that the country and its currency were going to the dogs. This, of course, became a self-fulfilling prophecy.

CREATING A NATION

Why was the NBY so loose with money supply, and bank regulation so lax? To find the answer, one needs to understand the political context.[4] The patriotic socialism pursued by Marshall Tito demanded a healthy economy to prove the worth of the socialist federal state of Yugoslavia, over and above the six rivalrous republics that constituted it. Tito wanted to prove they were better together. To do so, he had to spend spend spend.

During the Cold War, Yugoslavia's strategic relevance to both East and West gave Tito access to funds. Grand, centrally-planned, credit-fuelled, inefficient fixed-asset investment was dominant in the 1960s and especially the 1970s – a time many former Yugoslavs look back on fondly as a golden age. Almost all companies were state-owned. Workers' Councils were put in charge of setting wages, with predictable results.

With Yugoslavia the right side of the Iron Curtain, European holidays were common. My mother often tells the story of a trip she made to London in 1976. In Britain, on a choir tour, she swanned around Selfridges, buying Black Watch kilts and Burberry overcoats – all on the dinar salary of a graduate trainee.

PLAYING WITH MATCHES

The combination of the oil price shock in 1979 and Tito's death in 1980 brought with it a reckoning.

The dinar was devalued by 30% in 1980. The gentle currency printing that had hitherto financed fixed investment, higher salaries and fast economic growth gave way to more aggressive currency printing that financed the economic equivalent of treading water in a fast-moving stream. With the end of the USSR in 1991, Yugoslavia lost its strategic relevance, and with it the patience of its creditors.

The nature of money printing (or 'quantitative easing' as it is now called) is that it can initially fund stability and growth. But, like an addictive drug, you need more and more of it as time passes to have the same effect. As it was in the former Yugoslavia, so it is in today's China; and so it may be in the West.

If a printable currency and a double deficit are the tinder, nationalist politics may be the match. ●

3 P Petrovic, Z Bogetic, Z Vujosevic (1998), The Yugoslav Hyperinflation of 1992-1994: Causes, Dynamics, and Money Supply Process
4 BIS Working Paper No. 15 (1990)

"In (1976) Britain on a choir tour, she swanned around Selfridges, buying Black Watch kilts and Burberry overcoats – all on the dinar salary of a graduate trainee."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Sobering 'soberano'

CHARLES LYNNE
Investment Director

VENEZUELA HAS BECOME A BYWORD FOR ECONOMIC DISASTER IN RECENT YEARS, AND RIGHTLY SO. Hyperinflation, starvation, medicine shortages, power cuts, spiralling murder rates and violent repression by the state, are all now permanent features of life in the South American socialist republic. Millions have fled overseas. Venezuela has the world's largest oil reserves and yet the UN estimates that 94% of Venezuelans live in poverty.

What happened? Vladimir Lenin was said – likely apocryphally – to have observed that "the best way to destroy the capitalist system is to debauch the currency". Sure enough, currency collapse has been central to Venezuela's unfolding tragedy.

The original Venezuelan bolivar, named after Latin American independence hero Simón Bolívar, had been one of the region's most stable currencies from its inception in 1879. Rolling currency crises began in 1983, however, and accelerated under the late president Hugo Chavez. Lavish government spending promises met the reality of falling oil prices amid an over-reliance on the hydrocarbon industry.

Pictured are notes of Venezuela's latest currency, the bolivar soberano or sovereign bolivar. Introduced in August 2018, it replaced the ironically-named strong bolivar (bolivar fuerte), which was introduced in 2008 and entered hyperinflation in late 2016.

Hyperinflation is typically defined as inflation exceeding 50% per month. All told, eight zeros have been knocked off the various Venezuelan currencies since 2008.

At the launch of the bolivar soberano, the highest denomination note was 500. With inflation continuing to accelerate, it was only a matter of months before the authorities issued a new 50,000 note. In pre-2008 bolivars, this is equal to 5,000,000,000,000 – that's 5 trillion.

To get a sense of the destructive power of hyperinflation, simply take your own bank balance and move the decimal point eight places to the left. ●


A51803376
SIMÓN BOLÍVAR
500
BCV

The Bradbury Notes

RORY MCIVOR
Investment Associate

> “It was the most serious systemic financial crisis that has ever overtaken Britain – or indeed the world.”

SO WROTE HISTORIAN RICHARD ROBERTS, of a largely-forgotten episode in financial history: the London Financial Crisis of summer 1914. In revisiting the near-disintegration of the world’s leading financial centre at the outbreak of the First World War – and the unprecedented state intervention which followed – we discover the effects of extraordinary monetary measures at a turning point in history.

A DASH FOR LIQUIDITY

On 28 June 1914, Archduke Franz Ferdinand, heir presumptive to the imperial throne of the Austro-Hungarian Empire, was shot as his motorcade travelled through Sarajevo.

At first, markets took news of the assassination broadly in their stride. After all, the Balkans had long been a hotbed of political ferment. It wasn't until 25 days later, when Austria delivered its belligerent ultimatum to Serbia, that investors' perceptions of risk were transformed. The possibility of a major European war was firmly on the table; greed quickly gave way to fear.

Investors did what they always do when faced with acute danger and uncertainty: rush for the exits, and seek liquidity. Cash gives you options. A holding in Italian or French credit – which might soon be worthless – does not. In a crisis, investors become willing to accept a large markdown to get themselves out of a position. With a simple change in perception and priorities, asset prices can plummet.

At the end of July 1914, the foreign exchange and money markets buckled. On the final day of the month, the London Stock Exchange shut its doors for the first time in its then 117-year history.

In the dash for liquidity, panicked savers rushed to redeem their deposits in gold. Banks rationed the payment of £1 gold sovereigns, paying the balance of withdrawals in Bank of England £5 notes. These were the smallest notes in circulation but were hopeless for everyday purchases: £5 then is worth about £570 now. After withdrawing their funds from the commercial banks, people flocked to the Bank of England directly: under the classical gold standard to which sterling belonged, holders of banknotes were entitled to exchange them for gold.

NINNIES CHATTERING OVER TEACUPS

Initially, managing the crisis fell to the Bank of England in its capacity as lender of last resort.

The Bank's first move was to hike interest rates to 10%, the highest in the world at the time. The aim was to attract deposits, thereby halting capital flight.

Lord Cunliffe, Governor of the Bank of England, also requested the Bank Act be suspended to allow for the printing of more money to alleviate the liquidity shortage. Suspension of the Bank Act, which set a fixed ratio between banknotes in circulation and the Bank of England's gold reserves, would have meant suspension of the gold standard.

The Governor's request met opposition from a young Cambridge don, John Maynard Keynes. Keynes argued that gold would flow back to London as the City regained its status as the lynchpin of the international financial system. He was able to persuade the government to take a different course,

and the Bank relinquished responsibility for managing the crisis to the Treasury.

Prime Minister Herbert Henry Asquith was decidedly unimpressed with the bankers of the Square Mile: "They are the greatest ninnies I ever had to tackle. I found them all in a state of funk like old women chattering over teacups in a cathedral town."

THE BIRTH OF THE BRADBURY

It fell to Asquith's Chancellor of the Exchequer, David Lloyd George, to devise a strategy to stem the tide flowing from London's financial institutions.

For respite, the Bank Holiday on Monday 3 August was extended by three days. During this extension, two major innovations were introduced.

There was a general moratorium – the temporary suspension of contracts, with the aim of protecting debtors until financial conditions improved. And a Treasury currency was issued. The notes of this currency became known as Bradburys, after Secretary to the Treasury Sir John Bradbury, whose signature adorned the notes.

The Bradburys were in small denominations, with values of £1 and 10 shillings, replacing the sovereign and half-sovereign respectively. Issued in haste, they were printed on stamp paper – the only available appropriate supply.

The government was determined to withdraw as much gold as possible from circulation, knowing it would be essential to the war effort. A PR campaign followed

to discredit the hoarding of gold and to encourage the public to come forward with their gold coin in exchange for the new Treasury currency notes.

Much like Lincoln's issue of greenback dollars in 1861, which ultimately helped the North win the American Civil War, the Bradburys fortified the British economy and helped the Allied forces to victory.

While financial history makes clear that monetary creativity is often dangerous, the Bradbury notes show that drastic measures, necessitated by drastic times, need not always end in disaster.

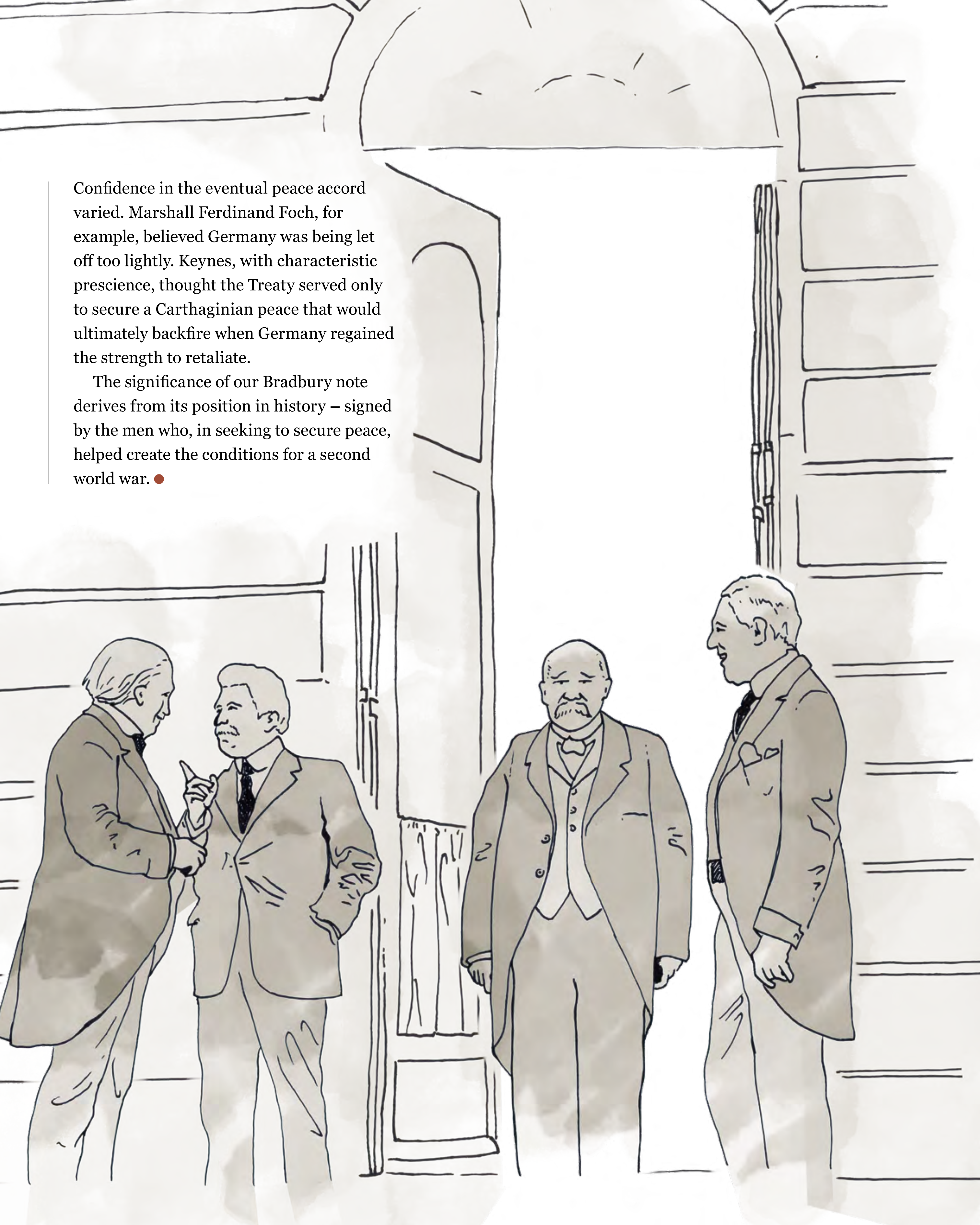
ON TO VERSAILLES

The Bradbury note in our London office – which we acquired at an auction of The Lou Manzi collection in 2019 – is unusual. It travelled to the Palace of Versailles.

Six months after the Armistice of November 1918, the leaders of the Allied nations convened at Versailles to sign a treaty that would set the course for the rest of the century. An enterprising British officer in attendance at Versailles wanted to make his own record of the occasion. And so he collected signatures on a 10 shilling Bradbury note: from President Woodrow Wilson, Prime Minister David Lloyd George, Foreign Secretary Arthur Balfour, Field Marshals Earl Haig and Sir John French, Marshal Ferdinand Foch and Admirals Sir John Jellicoe and Sir David Beatty.

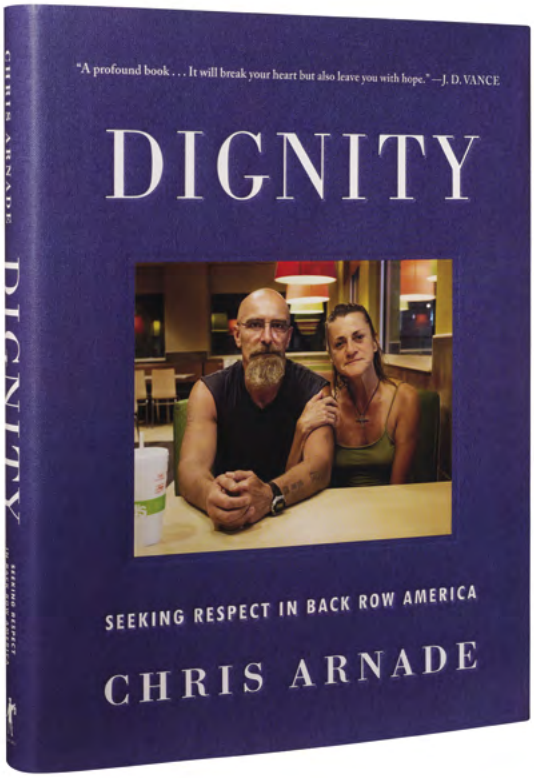
Confidence in the eventual peace accord varied. Marshall Ferdinand Foch, for example, believed Germany was being let off too lightly. Keynes, with characteristic prescience, thought the Treaty served only to secure a Carthaginian peace that would ultimately backfire when Germany regained the strength to retaliate.

The significance of our Bradbury note derives from its position in history – signed by the men who, in seeking to secure peace, helped create the conditions for a second world war. ●



The Book Corner

Takes on three books, by three people at Ruffer. A mix of personal favourites and topical insight, with some utility for investors.



DIGNITY
by Chris Arnade

SENTINEL

America's back row

"AMERICA WAS NEVER GREAT! WE NEED TO OVERTHROW THIS SYSTEM!"
These are the words of a poster held by a young woman in a McDonald's in Cleveland, Ohio. In the conventional narrative, Ohio is Donald Trump's heartland – part of America's Rust Belt, whose blue-collar workers swept him to the presidency.

Since Trump's election, countless books and articles have been written trying to rationalise how someone regularly described as unfit for office could become the leader of the free world. *Dignity*, by Chris Arnade, is not one of those books.

Arnade is a self-proclaimed member of America's front row – the educated metropolitan elite. With a PhD in physics, living in gentrified Brooklyn, Arnade had a successful career as a bond trader on Wall Street. In 2012 he left the world of finance, looking to escape his own alcoholism and dependence on prescription medicine. Arnade wanted to understand addiction and what he calls "back row America" – those neglected and overlooked at the back of the class.

His journey started with long walks through Manhattan to Hunts Point in The Bronx. Well-meaning members of the front row warned Arnade against walking into Hunts Point. What he found was "welcoming, warm and beautiful, not empty, dangerous and ugly".

AN ALTERNATIVE ELEGY

Back to Ohio. The state is the home of JD Vance. In 2016, Vance's 'Hillbilly Elegy' received popular acclaim, in seeking to look deeper than the popularised view that Trump voters are stupid or bigoted. Yet Vance has received as much criticism as acclaim. At worst, he presents America's Rust Belt as homogenous, white, uneducated and lazy, reinforcing the narrative he was trying to dispel.

Dignity does not try to understand or explain Trump or his policies. Instead, it sets out to document, in narrative and photography, the experience of particular communities and people who have been left behind by the front row over the past 50 years.

The front row control the economic, social, political and cultural agenda in the US. Arnade seeks to give a voice to those who have not been able to stay in their slipstream.

WITHOUT JUDGEMENT

Religion, and the judgement-free embrace Arnade watches it offer, plays a central role in *Dignity*. There are daily bible studies over coffee in McDonald's. Worship services in old wooden homes. A homeless couple carrying a picture of the Last Supper.

Family is another source of safety, both real and perceived.

At times, the book is harrowing. Two young children with a supermarket trolley for their home. A woman injecting heroin on the streets.

Arnade presents communities that are stigmatised and excluded – communities that don't fit in the world dominated by the front row. The back row are physically strong, when everyone now values being smart. They care about family, when society tells you to value career. They care about faith in a world of science.

> “The impression left by *Dignity* is of a deeply-divided America.”

HOPE AND DIVISIONS

The impression left by *Dignity* is of a deeply-divided America. The racism of the 1950s and 1960s remains, though is perhaps less overt. People are not sent to the back of the bus, they are left in desolate towns with no industry and are economically exploited. Politicians blame ‘the other’ for the nation’s travails – whether that other is minorities, immigrants or the richest 1%.

To the back row, Donald Trump can seem to offer hope. He demands those who believe him have faith. Trump’s original campaign promise was to Make America Great Again. After reading the stories documented by Arnade, one must ask – great for whom?

Trump continues to measure his own success through data, using statistics that overlook the back row. The level of the Dow Jones Industrial Average. Or the level of unemployment, which neglects the 36% of the working population not currently in the labour force.

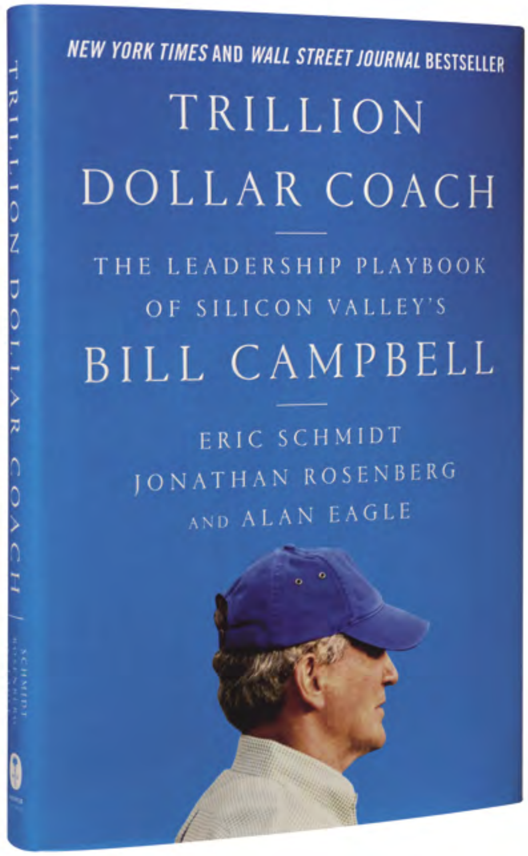
The gap between the front row and the back row remains wide, but Trump’s 2020 campaign promise is to Keep America Great. For those communities left behind, belief in that promise may require a leap of faith.

ALEX LENNARD

Investment Director

TRILLION DOLLAR COACH
by Eric Schmidt, Jonathan Rosenberg and Alan Eagle

HARPER BUSINESS



“Any company that wants to succeed in a time where technology has suffused every industry and most aspects of consumer life, where speed and innovation are paramount, must have team coaching as part of its culture.”

On leading well

THE FUTURE OF INFORMATION TECHNOLOGY IS BEYOND THE COMPREHENSION OF MOST. And competition between the companies who want to shape it is fiercer than ever. Schmidt, Rosenberg and Eagle, previously part of the top team at Google, think they have discovered a secret to success. It's not an algorithm, but a person – Bill Campbell, a middling American football player turned exceptional business coach.

Campbell's work with corporate leaders – including Steve Jobs at Apple, Sheryl Sandberg at Facebook, Bob Iger at Walt Disney and Eric Schmidt at Google – made him a part of a trillion dollars' worth of greatness, or so the authors believe. When Campbell died in 2016, Schmidt, Rosenberg and Eagle set out to document his principles and to capture his playbook.

Campbell navigated life as if it were a series of American football games, with the score determined by whether he got the best out of other people. *Trillion Dollar Coach* is about compassionate leadership. It aims to inspire. To share Campbell's wisdom. To make the workplace better.

The book majors on Campbell's focus on people. Employees of a company are an asset – an asset often overlooked when businesses seek to improve their performance. "It's the people" was a defining mantra.

The book's theme is far from unique. Businesses need good people, managed well. Work the team, then the problem. Culture is key, as is encouraging others.

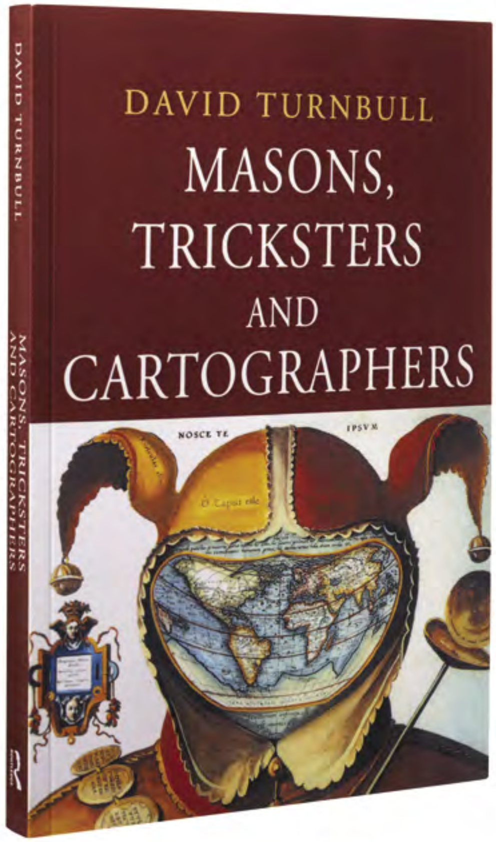
But a familiar theme, and the occasional bear hug and excitable whoop in a meeting, don't diminish this book's value. In a world of political correctness, pressing deadlines and stifling bureaucracy, genuine compassion and humanity too often get squashed.

With *Trillion Dollar Coach*, readers will find the methods of an excellent leader of leaders, and the chance to compare and develop their own leadership style.

JENNY RENTON
Investment Director

MASONS, TRICKSTERS AND CARTOGRAPHERS
by David Turnbull

ROUTLEDGE



Comparing systems of knowledge

THE PACIFIC OCEAN IS ONE OF THE GREAT SPACES IN OUR PLANET: 25,000 islands and 165 million square kilometres – an area larger than all the world's landmass.

Indigenous Pacific Islanders have navigated this immense body of water since at least 1,000 BC, in a way that allowed for the regular flow of goods and people. Western civilisations have been marvelling at this ability for centuries. In 1778, British explorer Captain James Cook considered "how shall we account for this nation spreading itself so far over this vast ocean?".

For 200 years, those seeking to answer Cook's question could produce no good answers. The main stumbling block, David Turnbull argues in *Masons, Tricksters and Cartographers*, was the inability to see past Western methods, to understand alternative frameworks of knowledge.

> “How shall we account for this nation spreading itself so far over this vast ocean?”

A Western analyst working backwards starts with what they see as the keystone of navigation: chart-based computation. In essence, using a map and spotting landmarks. This is a knowledge system grounded in calculation and abstract representations. Without sophisticated tools – sextants, scales and chronometers – how could the Pacific be navigated systematically?

With the etak. This is a mental map of sorts, the basis for the navigation system of the Pacific Islanders. Embedded in oral tradition, the system combines information about clouds, winds, ocean swells, stars and the flight paths of birds. It is an analogue process, not a digital one.

Western analysts were approaching the problem with the wrong framework. Rather than focusing on calculation, those seeking to answer Cook’s question should have considered orientation. These different knowledge systems can sit side by side. Both types of voyager can get across the ocean.

SOURCES OF WISDOM

Masons, Tricksters and Cartographers is about the sociology of science and the ‘unplanned and messy’ nature of knowledge and knowledge systems.

Turnbull explores, in rather turgid prose, differing ways of producing knowledge across cultures. From a diversity of disparate systems, he finds figures that crop up time and again.

His prime example is The Trickster – the spirit of disorder and an enemy of boundaries. Most cultures have one: Loki in Scandinavia, the spider in Africa, the coyote in America, the Jester in Europe. Tricksters are the ones stepping over boundaries. They ask the questions, mock the answers and hold others to account for their folly. The Court Jester is safe when mocking the king.

Beneath the surface, these subversive characters are important sources of wisdom. Turnbull encourages us to remind ourselves of the role of the Jester "in order to avoid taking our knowledge for truth – thus becoming victims of our own folly".

PRECISELY WRONG

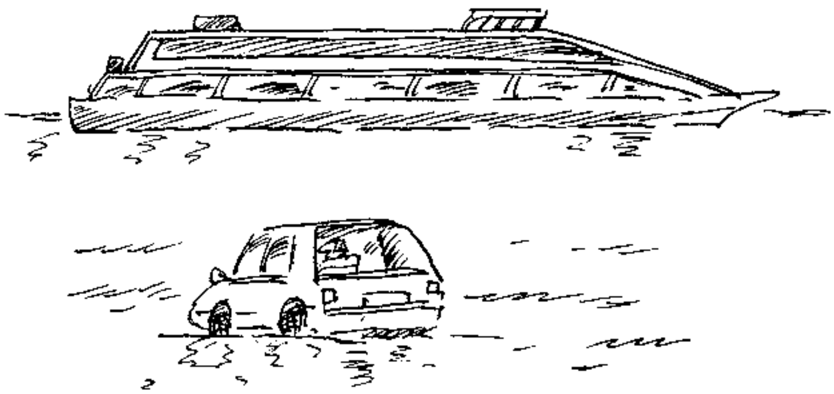
In investing, confusing calculation with orientation is usually dangerous, as is depending on a single map. It can be helpful to shun the spurious accuracy of sextants and navigate the water with eyes open to the ocean swells. As Carveth Read put it in his book on logic, better to be vaguely right than precisely wrong.

The Trickster too, can be a helpful role to adopt when navigating the markets. Novel forces such as negative interest rates, algorithmic trading and passive investing have created new kinds of perverse incentives and distorted behaviours. A good Trickster would rail against the sophists selling volatility for yield and challenge the financial engineers devoted to leveraged buybacks.

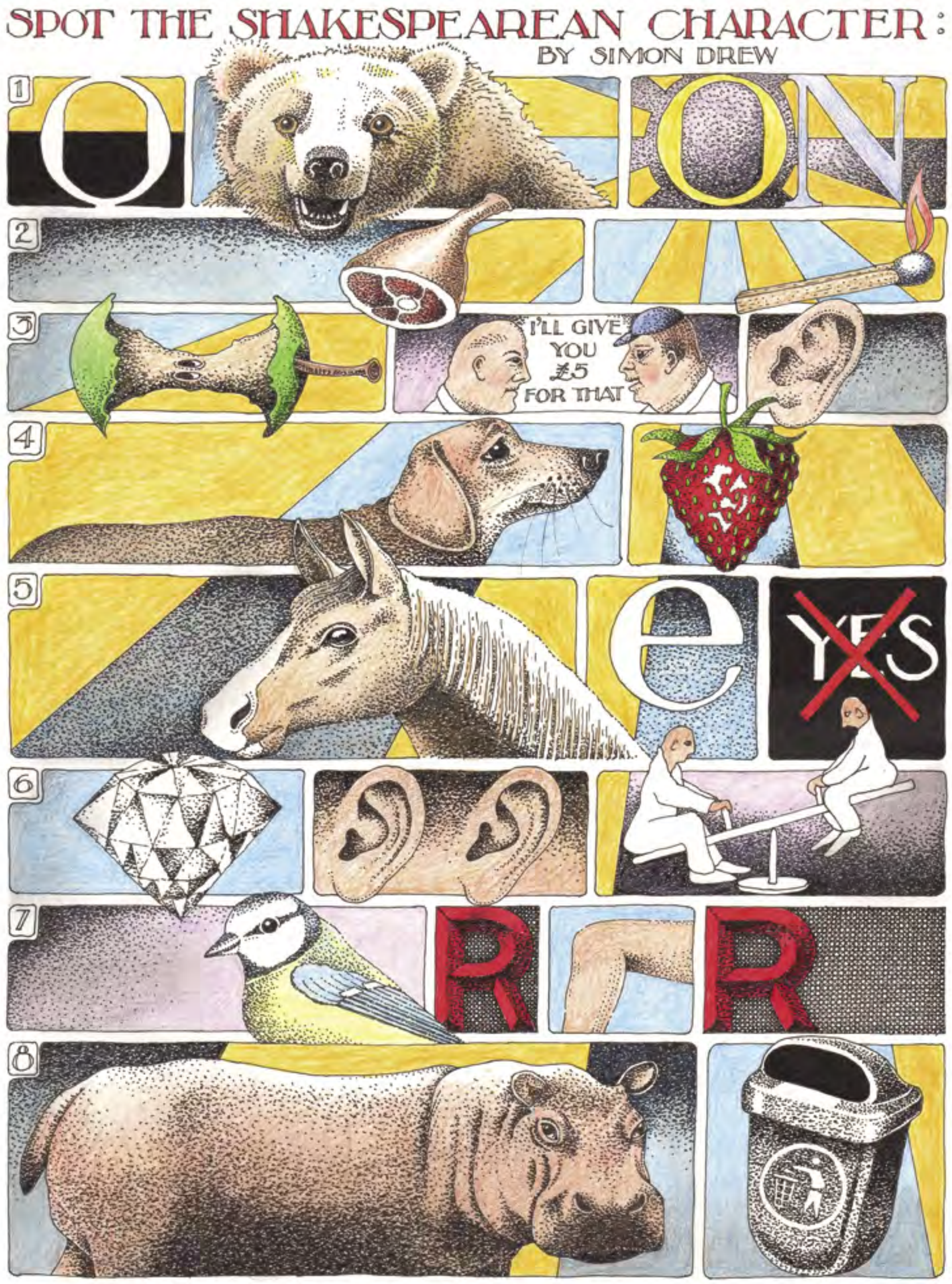
MOTLEY WORKS

Turnbull likens our mapping of the world to the clothing of a Jester: a motley patchwork of colours. Because there are many ways to assemble knowledge, our guiding belief systems are contingent and constructed. Knowledge is shaped by the experimental and local; what constitutes authority is often self-defined.

GEORGE HALLAS
Equity Research Associate



"I don't care that you're wet. Just keep following the sat-nav."



Answers can be found inside the back cover.

Last word

CLEMMIE VAUGHAN
Chief Executive

"I AGREE WITH YOUR OUTLOOK, BUT I NEEDED TO LIE DOWN for a few days to recover after reading one of Ruffer's recent quarterly investment reviews."

That, loosely paraphrased, was the comment one of our clients made to a colleague of mine towards the end of last year. It's entirely fair (though not the reaction we are aiming for!) because, in our recent commentary, and here again in the 2020 Ruffer Review, there is a definite skew to us talking more about the risks than the opportunities.

This is not because we're downbeat glass-half-empty people, or permanent pessimists. In fact, we think we can make good returns both from the opportunities and from the risks (when they materialise). What's more, the real economy is in good health. We're upbeat on the prospects for the UK and Japanese equity markets. And, among the money-making ideas in our clients' portfolios, the content providers (including Activision, Disney, Sony and Vivendi) currently look very attractive.

Why not talk more about this, to balance the tone and lighten the mood? It's entirely a function of the current investment climate. We are not seeking to stoke fears (or offer false hope) but instead to engage with reality as we see it.

At the start of a new decade, safety when investing is hard to find and harder still to achieve. The financial markets are dangerously distorted. Ruffer is prepared for a policy regime-change that will bring a once-in-a-generation threat to investors' wealth. Our priority is to keep our clients safe — and, after that, to make as much money for them as we can.

About Ruffer

Ruffer looks after investments for private clients, financial planners, institutions and charities, in the UK and internationally.

Our aim is to deliver positive returns, whatever happens in the financial markets.

For more on what we do and how we do it, please visit ruffer.co.uk

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If you've found The Ruffer Review at least moderately interesting, or have a suggestion or two for the next edition, please drop us a line review@ruffer.co.uk

Future editions

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DISCLAIMER

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Answers

SPOT THE CHEMICAL ELEMENT – PAGE 3

1 ANTIMONY

2 BARIUM

3 IRON

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SPOT THE SHAKESPEREAN CHARACTER – PAGE 119

1 OBERON

2 HAMLET

3 CORDELIA

4 DOGBERRY

5 ORSINO

6 JULIUS CAESAR

7 TITANIA

8 HIPPOLYTA

RUFFER

"The second step can lead to a march of 1,000 miles"
Jonathan Ruffer PAGE 7