ESG AND PERFORMANCE

TRUMP'S LEGACY

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AIQ

ISSUE 007

ETHICS & ALPHA

Can you do well out of doing good?

AVIVA INVESTORS

IMPORTANT INFORMATION

ESG: from fad to phenomenon

There is no such thing as an overnight sensation. The Beatles toiled the club circuit for years on the road to superstardom; vacuum cleaner billionaire Sir James Dyson went through over five thousand prototypes before his eureka moment; while best-selling horror writer Stephen King's first novel *Carrie* was rejected 30 times before he found a publisher.

Responsible investing has gone through its own struggles en route to becoming a mainstream phenomenon, but there can be little doubt it has belatedly achieved that status. The rapid growth in socially-responsible assets under management[1] is concrete proof; as is the prominence with which environmental, social and governance (ESG) issues now feature in the media.

In this issue, we explore some of the most critical themes in the world of ESG. Our cover story focuses on the biggest question for investors: can you do well out of doing good? After wading through academic research and speaking to the experts, we set out to provide a definitive answer.

We also assess the concept of star culture in the corporate world; where chief executives achieve demigod status and enjoy the rewards to match. Steve Waygood, chief responsible investment officer at Aviva Investors, explains why engagement can be a much more powerful driver for change than divestment; we look at what the UK infrastructure industry needs to do to restore trust; and whether GDP is still a relevant measure of growth.

Elsewhere, we take our crystal ball to assess what the legacy of Trumpism will be in the US and globally, including the environmental impact of his presidency. Trump features prominently in two other articles in this issue: in the first, we explore whether the US and rival superpower China are heading towards an all-out currency war; in the second, we consider whether fake news has implications for financial markets beyond short-term movements.

Much has been written on the UK's post-Brexit future; but the European Union has its own issues to address if it is to achieve closer integration among member states. We put the questions to Cambridge University professor Helen Thompson, a respected voice on the topic.

In our final column, we look at stock market concentration.

We welcome your feedback, so please send any comments to me at the email address below.

I hope you enjoy the issue ●

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[1] Socially responsible assets under management globally grew to $23 trillion in 2017, up 27 per cent on 2014, according to the Global Sustainable Investment Alliance

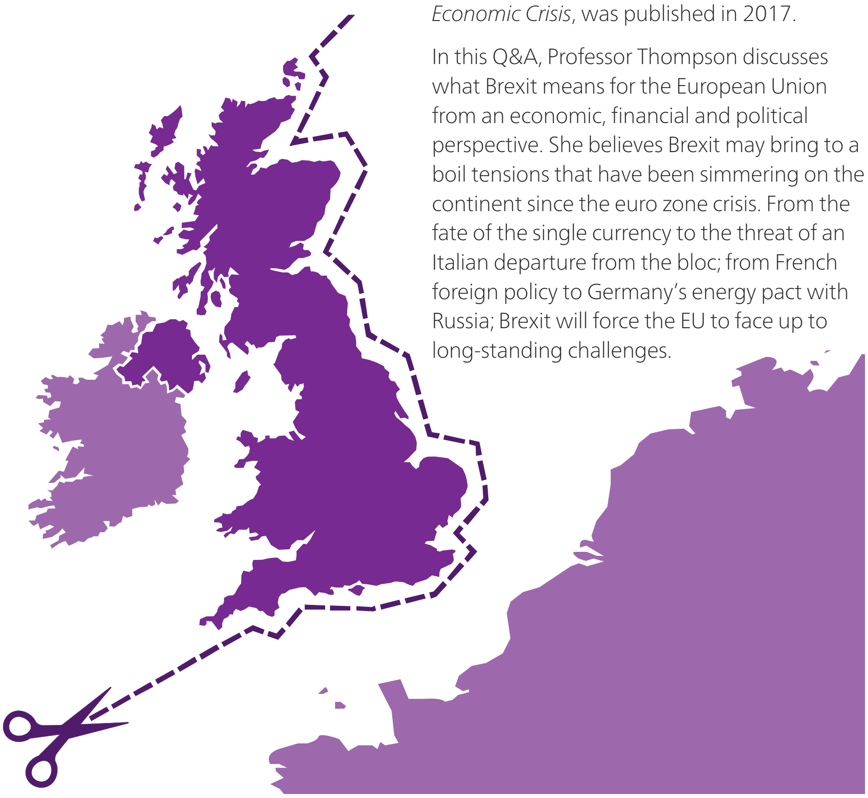
EUROPE AFTER BREXIT

Cambridge University professor Helen Thompson tells *AIQ* why the path to a more integrated EU is unlikely to get easier after Brexit.

As the Brexit deadline looms, the impending rupture between the UK and Europe threatens to become the defining political issue of a generation. On the British side of the Channel, the debate has understandably focused on the consequences for the UK economy, Westminster politics and the peace process in Northern Ireland. But Brexit could have big implications for Europe too.

Helen Thompson is professor of political economy at the University of Cambridge and a regular commentator on geopolitics. Her research focuses on the historical origins of the post-2008 economic and political world; specifically, her recent work covers the political economy of oil, Brexit and the euro zone crisis. Her most recent book, *Oil and the Western Economic Crisis*, was published in 2017.

In this Q&A, Professor Thompson discusses what Brexit means for the European Union from an economic, financial and political perspective. She believes Brexit may bring to a boil tensions that have been simmering on the continent since the euro zone crisis. From the fate of the single currency to the threat of an Italian departure from the bloc; from French foreign policy to Germany's energy pact with Russia; Brexit will force the EU to face up to long-standing challenges.



In a global climate of rising national interests, what purpose does the EU serve?

It's about trying to find, through a shared legal and political framework, mechanisms for dealing with the collective problems Europe faces. But there's a second level to it, which is the idea of creating, almost for its own sake, an ever-closer union. Some people in the EU share this idea, some don't. Sometimes those objectives pull in very different directions, and sometimes the people who are pursuing the pragmatic purposes of the first use the language of the second to justify what they are doing. Sometimes those who want ever-closer union for its own sake get frustrated that pragmatism takes over. One of the issues facing the EU is the conflict between those two positions, which are often in serious tension with each other.

How does Brexit fit into that tension?

In principle, Brexit is a good thing from the perspective of those people in the EU who want to move towards an ever-closer union and reform the euro zone, because it makes those things easier. If there was going to be a new treaty and Britain was still in the EU, there would still have to be a referendum in Britain on it and it's difficult to see how that would have been won. Britain leaving was an opportunity for the EU to say to those states that are not in the euro: "Are you in or are you out?" But since the Brexit vote, the opportunity that Emmanuel Macron identified – to engage in euro zone reform and clarify the relationship between EU states that are in and out of the euro zone – seems to have gone. It looks like this muddle the EU has got into, whereby it has a legal and political/constitutional order that is supposed to govern both euro and non-euro states, will continue.

You have described Britain as an "employer of last resort for the EU", as well as its main financial centre. What will be the consequences for the EU of losing those things?

For the time being it is not particularly consequential. But at the point when the euro zone crisis returns in a deep way – which I think it will – it will become consequential. Because once you have rising unemployment in parts of the euro zone, particularly southern Europe, those countries are going to struggle without the possibility of relatively high levels of emigration to the UK. Germany has also acted as an employer of last resort, but it doesn't have the language advantage Britain has: most people looking for jobs in Germany will need to learn German first. So that will play out in time, but it would need euro zone economies to go into recession again for that to have big consequences.

The financial centre question is harder to assess. People in Paris and Frankfurt who think Brexit is great because it will change London's position as the financial centre of Europe are going to be disappointed. Paris and Frankfurt are not equipped to take over. They don't have the infrastructure – and I mean that broadly, not having things like common law – to pose a threat to the City's dominance as an international financial centre.

How do you expect the Brexit negotiations to pan out?

While there is a genuine risk there will not be an agreement, and the Irish border question is central to that risk, I'm still inclined to think that an agreement will be made. It'll be unsatisfactory from everyone's point of view but it'll be a starting point.

The difficulty for the EU is that unless it believes the British government is going to U-turn and stay in, or leave the EU temporarily and re-enter at a later stage, it will need to have some way of working out the economic, security and political relationship with Britain. It hasn't had to deal with another European country that is in the position as a non-member that Britain is going to be in when it leaves.

If there is no agreement, there would be a lot of turbulence in British politics generated by the economic fallout. But it seems far from clear that there would be lots of pressure for Britain to go back into the EU in that scenario, even presuming the most powerful states in the EU want Britain to stay in. Unless those states think there is a possibility of a domestic U-turn in Britain – and that they actually want Britain in the EU, which I have my doubts about – they are going to have to reach some kind of compromise that recognises the bespoke position of Britain as a European country outside the EU. I find it hard to believe Angela Merkel isn't aware of the distinction between the short-term advantages to the EU of telling Britain to accommodate itself to European laws, and trying to find something that works over the long term. On that basis, I still have some optimism there will be a constructive way forward.

Aside from France, the EU has little military capability. What will that mean post-Brexit?

It's a problem whether Britain is in the EU or not. But I think France may get caught out, as it has become used to a close relationship on military matters with Britain and the US, particularly in its defence industry, and it's at risk of becoming isolated post-Brexit. Things might be different if there was a real possibility that Germany was going to change its position on military matters, and take on a more prominent geopolitical role. Merkel has talked a bit about this but there has been little real political action.

This raises a bigger question. Europe has lots of problems that are generated beyond its borders, and obviously the migrant and refugee crisis is exhibit A. And yet it has no geopolitical capacity to formulate a strategic response to what goes on in Africa or the Middle East. So it ends up dealing with problems that come over its borders but it is not a geopolitical player in shaping the future of the Middle East in particular. The EU is just kind of irrelevant there. That can't last. Then you have a situation with Russia. The member states are deeply divided about what kind of geopolitical relationship European states should have with Russia.

> *"The EU has lots of problems generated beyond its borders, but no geopolitical capacity to respond"*

You've argued Germany is in a strong position within the EU but weak in its engagement with the rest of the world. How will that paradox be resolved?

In some sense Donald Trump is imposing that decision upon them, because he has been disruptive to Germany's position on several issues. The conjunction of trying to deal with the protectionist threat from Trump; the issue of Nord Stream; the domestic political legacy of the migrant/refugee crisis; the growing influence of Austria within the EU and its ability to make alliances with states like Italy, in ways that the German government has found difficult because of how it managed the refugee crisis. All these are difficulties that German governments haven't had to deal with in a long time and are not set up to deal with.

EUROPE AFTER BREXIT

continued

Merkel's government understands these challenges, but I don't think it knows how to change the predicament Germany finds itself in: it is a prosperous country at the centre of a less prosperous continent and a country that, in part because of its history, has no geopolitical capacity. Germany has been quite parasitic on the US for a long time, and to some extent in military matters it has been parasitic on France and Britain as well. The period where Germany has not had to take geopolitical responsibility but still benefited from the international political and economic order is coming to an end. I don't have a clear sense what will be the trigger for reforms, but those reforms will come.

How does Russia figure in this dynamic, given German reliance on Russian energy?

If you look at what Merkel has said, and this is unlikely to change whoever takes over from her, Germany is not going to give up on Russian oil and gas. If that is the case, the relationship with the US is going to be different. It's quite a sensible judgement on Germany's part that it can't escape Russian oil and gas dependency. The American position, which has become more confrontational because of the rise of the shale industry, will unravel over time because shale is a temporary phenomenon. The question is: how long does shale last, and is the US really going to try to use its position as a gas supplier to 'break' Russia and move countries such as Germany away from its energy supplies? Or is it going to recognise there is not enough gas globally to keep Russia out of the picture?

Could any existing fragilities or divisions within Europe be exposed by the end of QE?

A lot rests on what happens when the European Central Bank (ECB) cuts in half its monthly bond purchases. It has the potential to push Italian bonds up quite some way, to the point where the Italians are at risk of being shut out of the bond markets. Then the question would be: will the ECB U-turn and go back to bond buying?

That would be difficult in terms of German consent. The German constitutional court has not yet given a final verdict on QE and its constitutionality; it has delayed the ruling to 2019. The idea was: "Ok, we will kick it into touch, and then by the time we have to get around to dealing with this QE will be over." But what happens if QE is not over? Germany has effectively sucked up QE – although Schäuble moaned about it quite a lot – but it has not done anything to stop it. The court would effectively have the ability to do that. And can some of these southern European countries, starting with Italy, really cope without QE? That is an immediate faultline that could play out in significant ways.

How much of a problem is Italy for the EU?

French banks have a lot of exposure to Italy. So you'd have problems in France if there was an Italian crisis; and if you had contagion elsewhere in southern Europe, you'd have problems with German banks, which have a lot of exposure to Spain. That is without even getting to the question of the conflict between the Italian government and the European Commission – and indeed some other member state governments – about migrant issues. Matteo Salvini looks like he wants a confrontation with the EU and there are many ways in which that could develop.

You have written that Europe is struggling to define itself politically and looking for a "civilizational inheritance". Is there a risk that in looking to history for a unifying narrative, Europe risks stoking greater divisions?

It's understandable people who want to legitimise the project of the EU would look back into history for a civilizational or political discourse that shows this is a genuine political community and being European means something. But the EU doesn't have the fiscal capacity to do anything that costs a lot of money, certainly not a European-wide welfare state. Neither can it use foreign policy, because there is no EU foreign policy in the collective sense. Macron is keen on looking to history. But the problem is that there is not very much that's unifying about European history. The best you can do is to say that being European is to inherit conflicting traditions, and living with the tension between them is what makes the European identity distinctive.

Is Brexit likely to have any effect on the rise of populist/ nationalist politics?

There are distinctive British reasons for Brexit that go back a long way into British history. The importance of a parliament in Britain's constitutional history; the fact Britain didn't join the European Economic Community when it first started with the Treaty of Rome; Britain staying out of the euro; before that, staying out of the European Exchange Rate Mechanism for so long. Not being in the euro became quite destabilising for Britain's position in the EU once the sovereign debt crisis started. That doesn't necessarily mean Britain was inevitably going to leave the EU, but that underlying tension became more difficult to manage.

Elsewhere, there has clearly been a rise in Euroscepticism. Even five years ago, no one would have said Euroscepticism in Italy would be as high as it is now. There is clearly something going on that cannot just be explained by the singularities of recent British history. But while it is one thing for Britain to leave the EU when it never joined the euro – and that process is extremely difficult – it can be done without precipitating a huge debt problem. Whereas if Italy was to leave the EU, that's a whole other level of difficulty. The immediate problem is that Italy's debt would no longer be serviceable, once it has been redenominated back into the lira and devalued against the euro. So despite the rise of Euroscepticism, translating that into an Italian exit is much harder to imagine. It just means the EU has ongoing problems with Italy and Italy has ongoing problems with the EU ●

FOR FAKE

False stories published online have disrupted politics and stoked market volatility, causing headaches for investors. But the fightback against fake news has begun.

F FOR FAKE
continued

> *A technological arms race between truth and fakery is gathering pace*

Aliens invaded America on October 30, 1938. Radio announcers feverishly described the progress of Martian war machines across the country. Giant robots stalked the streets, firing heat-rays and releasing clouds of noxious smoke.

Orson Welles' radio dramatisation of *The War of the Worlds* was so realistic that it was famously mistaken for a genuine news broadcast. Although stories of a mass panic were exaggerated, many listeners were genuinely frightened. One attempted to sue the Columbia Broadcasting System radio network for $500,000, citing nervous shock brought on by fears of an alien attack. Another claimed for the more modest expense of a train ticket bought to escape the Martian invasion.

The War of the Worlds served as an early warning of the chaos 'fake news' can cause. Welles' intentions were to entertain, but today's fakers have more nefarious ends – and the financial consequences can be far more expensive than the cost of a train ticket. State-sponsored social media accounts are interfering with democratic elections, while armies of Internet trolls are waging corporate warfare. The lines between genuine news and opinion are becoming blurred, hurting the reputation of technology firms and eroding trust in legitimate media sources.

However, experts are fighting back. Academics are building digital platforms to teach citizens how to recognise fake news, while innovative start-up companies are developing software to stem the flow of false headlines. As the technological arms race between truth and fakery gathers pace, we consider the implications for financial markets.

Fake news and propaganda

There are several reasons why fake news has become a hot-button issue in recent years. The most obvious is the advent of smartphones and social media. Advances in communications technology have always tended to be accompanied by worries that people might be exposed to the wrong messages.

In the 1930s, Adolf Hitler claimed *The War of the Worlds* broadcast revealed the "decadence and corrupt condition of Western democracy".[1] But he was well aware of the power of radio to shock and manipulate listeners, and radio broadcasts became a key tool in Nazi propaganda efforts during the Second World War. This prompted the Allies to work on methods to 'inoculate' their citizens against enemy messages, techniques that are being revived today in the battle against fake news (see p13).

As with wartime propaganda crackling over the wireless, the ubiquity of social media means false stories can now reach millions of people before they are debunked. Automated algorithms, or 'bots', inundate Twitter and Facebook users with information, potentially influencing the way they think and behave. The governments of Venezuela, Turkey and Ecuador have used bots to amplify partisan messaging in domestic election campaigns.[2]

Such tactics can have an outsized effect in emerging markets, due to a lack of established independent news sources and widespread distrust of politicians. In Brazil, for example, 66 per cent of citizens use social media as a news source, compared with less than 50 per cent in most Western countries (see figure 1). Far right presidential candidate Jair Bolsonaro reportedly made use of bots to garner support during the run up to the general election in October 2018.[3]

The Russian state, meanwhile, is known to run 'bot-farms' that disseminate cyber-propaganda abroad. According to the US Senate report on the issue, it may have used these methods in an attempt to interfere with two momentous Western votes in 2016: the US presidential election and the UK referendum on EU membership.[4]

Whether or not Russia affected the results of these polls, the relationship between fake news and populism appears to cut both ways: fake news can influence political choices, but political upheaval also makes people more susceptible to fake news.

"During periods of political and economic instability, people are more liable to accept information that's false," explains Sander van der Linden, assistant professor in social psychology at the University of Cambridge, who has studied the effects of fake news on human behaviour. "When we are under cognitive stress, we are more likely to accept information without thinking deeply about it. That is why, whenever society is undergoing changes or is under some sort of threat, there is generally more traction for propaganda."

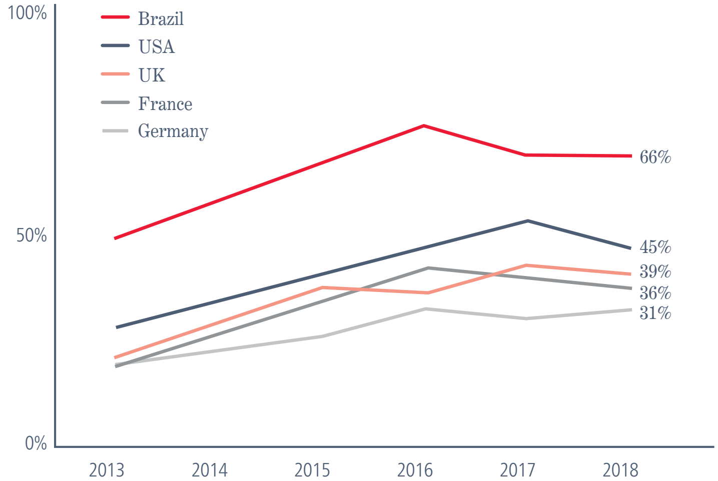
Social media and market volatility

Widespread political and economic disruption over the last decade, along with the rise of social media and the promise of clickbait-fuelled advertising revenues, created fertile ground for fake news to flourish. Fake stories also began to impact financial markets during this time.

Take the 'hack crash' of April 23, 2013. Gaining access to the Twitter account of the Associated Press, hackers posted a tweet suggesting then-US president Barack Obama had been injured in a bomb attack on the White House. The story was quickly discredited, but not before the S&P 500 had fallen sharply, temporarily wiping $136.5 billion off the value of the index.[5]

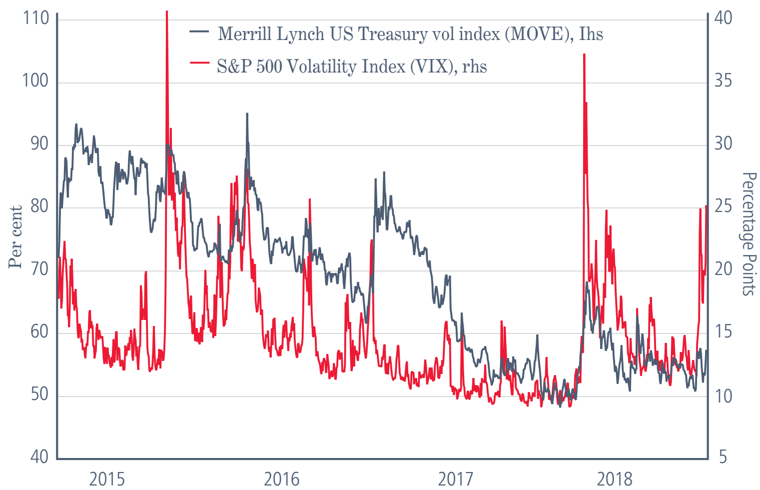
A few months earlier, Bloomberg had started incorporating Twitter into its software platform, and the fake tweet appeared on its terminals. The AP hack is also thought to have triggered automated trading algorithms designed to scrape text from websites and adjust portfolios in

Figure 1: Respondents who used social media as a source of news in the last week, selected markets



Source: Reuters Institute Digital News Report 2018. Base: Total 2013-2018 sample in each market.

Figure 2: Rising equity and rates volatility



Source: Macrobond, October 2018.

> *During periods of political and economic instability, people are more liable to accept false information*

reaction to major news events. US equities quickly recovered after the tweet was deleted, but the incident raised questions over the potential of social media to stoke market volatility.

"The vast majority of the financial world uses Bloomberg as its trading backbone and research platform, so tweets that appear on Bloomberg terminals can have a big influence on markets," says Jason Bohnet, equities portfolio manager at Aviva Investors in Chicago. "This is not just affecting individual day traders; institutional investors see these messages – and this means fake news on Twitter can be market moving. It is a growing problem that has gone underappreciated in recent years."

Shifts in market structure could further exacerbate the problem. In the post-crisis period, central banks implemented massive bond-buying programmes and held interest rates low, which tended to dampen volatility. As monetary support is removed, however, equity and fixed income markets are likely to be subject to more-frequent volatility spikes, if not 'mini-crashes', as investors begin to respond more dynamically to news flow – especially the kind of headlines that are subject to political spin.

F FOR FAKE
continued

Lockheed Martin's share price fell **$4bn** following a Trump tweet

Signal and noise

Not everything posted on social media platforms is fake news, in the commonly-accepted sense of stories made up for financial gain. But unlike mainstream media outlets, true stories on social media tend to sit alongside rumours and speculation, which can make it difficult to distinguish fact from fiction. Tweeters with millions of followers can sway debate, influence asset prices and even shift impressions of what qualifies as 'truth'.

The US president is an inveterate tweeter. Donald Trump uses his Twitter account to deliver policy announcements to his 55 million followers, as well as his personal opinions on the activities of countries, individuals and companies (which may or may not tally with the official government line). Adding to the confusion, some of the stories Trump brands as "fake" are legitimate reports from mainstream news organisations.

Trump's tweets – initially at least – had significant market repercussions. On December 12, 2016, the president criticised the cost of Lockheed Martin's contract to make fighter jets for the US government, which wiped two per cent, or $4 billion, off the company's value;[6] on April 2, his tweeted attacks on technology giant Amazon knocked its stock price by 5.2 per cent.[7]

However, the market has started to react less dramatically to Trump's tweets in recent months, suggesting investors are beginning to discount their influence. On January 28, 2017, the president's comment that drug makers were "getting away with murder" caused the Nasdaq Biotechnology Index to fall almost three per cent due to fears of a regulatory crackdown; a year later, Trump's tweeted pledge to bring drug prices down barely dented the index.[8]

"This shows how important it is to sort signal from noise," says Giles Parkinson, global equities fund manager at Aviva Investors. "It used to be said that you couldn't be in finance without following Trump on Twitter. But investors have realised that most of what Trump tweets is irrelevant."

Parkinson says it is becoming ever more important for investors to filter out irrelevant or misleading information, and redouble their focus on the true drivers of long-term returns.

"As sources of market information become more diffuse – and potentially unreliable – you need to carefully curate your news sources so that you keep up with the developments that are really important. For example, while I no longer follow Trump on Twitter I do keep an eye on Scott Gottlieb, head of the Food and Drug Administration (FDA), whose tweets on regulation are likely to be more consequential for my portfolio holdings than anything Trump says."

Investors also need to keep track of the social media posts of corporate executives. In August 2018, for example, Tesla CEO Elon Musk tweeted that he had "funding secured" to take the electric car firm private. The Securities and Exchange Commission deemed this statement misleading. On September 27, the SEC announced it was taking action against Musk over the tweet. Shares in the company fell sharply on the news, although they recovered on October 1 after a settlement was announced. The US regulator ordered Musk and Tesla to pay a fine of $20 million each; Musk was also instructed to step down as Tesla's chairman for three years (he will continue as CEO), and clear any future tweets about the company's prospects before posting them.

Cyber hoaxes and market manipulation

The idea made-up stories might influence financial markets isn't new. In the early days of global trade, London-based investors found out how shipping companies were faring by sending scouts to the Cornish coast to catch an early sight of their vessels' cargo. Some of these investors soon realised they could make more money by dispensing with the due diligence altogether – and started inventing reports that inflated the value of their equity holdings.

Social media has brought more sophisticated versions of this method. A recent academic study found messages posted by Twitter bots increased volatility and influenced pricing among companies listed on the FTSE 100, indicating efforts to manipulate the market. Although the effects of this activity are, for the most part, limited to intraday trading, it could potentially threaten market stability if it becomes more prevalent.[9]

"If you want to spread negative news about a company, what would be your strategy? You'd find a blogger or Twitter user to write a post and then use automated accounts to add wood to the fire," says Oleksandr Talavera, professor of finance at Swansea University and one of the authors of the report. "It is currently difficult to build a trading strategy based on social media manipulation, but regulators should keep an eye on this area."

Most cases of online market manipulation are discovered relatively quickly. Take French construction company Vinci, whose share price dropped by 19 per cent on November 22, 2016, after a fake press release that alleged accounting irregularities at the firm appeared online. The claim was disproved and Vinci's stock recovered most of its value before the market closed.

Other examples of fake news have longer-lasting effects. In January 2012, a US pharmaceutical firm called ImmunoCellular Therapeutics indirectly paid the author of a story on the website *Seeking Alpha* that claimed a "revival could be in store" for the company thanks to its development of an

> *Big technology companies are keenly aware of the reputational risk they face due to fake news*

experimental cancer treatment. ImmunoCellular Therapeutics' share price gained 263 per cent over a period of six months after the article was published, before falling sharply thereafter following a disappointing clinical trial.[10]

The SEC revealed last year it had undertaken enforcement actions against 27 individuals and companies, including ImmunoCellular Therapeutics, for involvement in stock promotion schemes. In each case, investors were misled into thinking they were reading independent analysis on investment websites, while in fact companies were secretly paying writers to promote their services.[11]

A study conducted by experts at the Yale School of Management following the SEC's action found deceptive 'paid-for' articles tended to boost share prices of smaller firms by an average of seven per cent over a period of months (stories about larger companies tended not to sway markets; probably because many more analysts keep a closer eye on those firms). Individual investors, who lack large risk management and due diligence departments, were likely to be more adversely affected than asset managers and institutional investors; the study found exposure to fake news may even cause individual investors to lose trust in legitimate sources of financial analysis.[12]

Bohnet believes the SEC will have to go further to ensure both professional and non-professional investors are protected against the dangers of fake news in the future. He expects the regulator will eventually update and expand its Regulation Fair Disclosure (or 'Reg FD') rules to provide more guidance on online messaging, for example.

"The hard-copy prospectuses we get from companies are bulky, strictly-templated items, and that's because the rules require them to be. By contrast, social media is a free for all – but it is still used as a source of market news and information. I think there will have to be more of a uniform process that tells us what is acceptable going forward," Bohnet adds.

Reputational risk

The problem of fake news may get worse before it gets better. Distinguishing truth from falsehood is likely to become even more difficult in an era of artificial intelligence and machine learning. Adobe recently debuted a piece of software, dubbed 'Photoshop for audio', that enables users to fabricate sentences by feeding in audio clips of a person's voice. Researchers at the University of Washington went a step further in 2017, creating an AI-driven programme that can manipulate images and audio to create seamless fakes. They made a video in which President Obama delivers an entirely invented speech.[13]

There are ways for experts to debunk these inventions by examining the underlying digital code, but such methods take time – and a video of a politician or corporate leader saying something inflammatory could go viral on social media in a matter of minutes. Take the AP hack: the fallout might have been far more dramatic if the hoax tweet had been accompanied by photorealistic footage of Obama 'confirming' the fictional bombing at the White House.

Big technology companies are keenly aware of the reputational risk – and the threat of heavy regulation – they face due to the presence of fake news on their platforms. In the US, executives from Facebook and Twitter have been hauled in front of Congress to explain how Russian bots were able to game their systems and influence voters. In India, WhatsApp is coming under pressure after the messaging service was used to spread fake stories that led to a spate of killings by lynch mobs.[14]

"Facebook, in particular, has been quite cavalier about the content it allowed on its platform and that is now coming back to haunt it," says Parkinson. "The market is putting a question mark over the Facebook

F FOR FAKE
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> *The prospect of new regulation on tech firms is a live one*

platform right now – and fake news may be part of that, with the slow drumbeat of regulation building as a risk in the background – even if investors are still ascribing a lot of value to the company's other assets, such as Instagram."

The prospect of new regulation is a live one. In the US, Internet companies are not currently held legally responsible for content posted on their platforms – under Section 230 of the Communications Decency Act of 1996, they are treated as intermediaries rather than publishers (the European Union's E-Commerce Directive of 2000 offers similar protections). But these laws were designed in the early days of the Internet to shield small start-up companies from expensive legal costs, and there is a growing consensus they are outdated.

In congressional hearings earlier this year, politicians questioned Facebook CEO Mark Zuckerberg as to why his company continued to require legal protections. Both Republican and Democrat lawmakers have called for Internet companies to be held liable for the sale of illegal opioids on their platforms, which would weaken the Section 230 provision.[15]

Arms race

In response to growing scrutiny from politicians and even their own users, the operators of social media platforms and search engines are trying to eradicate fake news. Facebook and Google have moved to oust known fake news sites from their advertising networks, depriving them of their key revenue streams. They have also engaged in a series of acquisitions, or 'acqui-hires', of start-ups developing software to root out fakes, and hired new moderating teams to police their platforms.

In the short term, such investments could eat into big tech firms' profit margins, says Bohnet: tens of thousands of extra content moderators do not come cheap. In July, Facebook's weaker-than-expected quarterly results caused the company's market capitalisation to fall by more than $100 billion. Its disclosure of higher costs associated with security, including the policing of content – operating expenses are set to increase by between 45 and 60 per cent this year – was held partly to blame.[16]

Aware of the damage fake news can cause to their brands, various companies are taking their own steps to defend themselves from false stories. This is creating opportunities for small, specialist firms – for example, UK-based Crisp and Texas-based New Knowledge are working with brands to sift through social media and identify bots spreading negative messages.

Bohnet believes that while there may be the odd 'unicorn' success among these young firms, larger companies with established AI development teams will have a head-start when it comes to creating programmes that can autonomously identify false stories. While fake news is currently causing significant problems for the big tech companies, their AI capabilities could provide them with solutions – and lucrative opportunities – over the longer term.

Some tech firms are already creating anti-fake news products as a sideline. One example is cybersecurity specialist Cisco: its unit Talos is developing technology that can detect the 'stance' of a news article, which could help identify subtle attempts to persuade readers with false information.

This may point to the future of fake news. As technology becomes more sophisticated, it is likely to involve an ever-more insidious erosion of facts, rather than grand deceptions in the style of *War of the Worlds*. Later in his career, Orson Welles made a film called *F for Fake*, a "documentary" about art forgers that gradually leads viewers to question the narrator's reliability. Like that movie, fake news will continue to blur the lines between truth and illusion – and investors need to be vigilant to avoid the pitfalls ●

1 'The War of the Worlds panic was a myth,' *The Telegraph*, May 2016
2 See 'Spheres of Influence,' AIQ 2.
3 'How social media exposed the fractures in Brazilian democracy,' *Financial Times*, September 2018
4 *Putin's asymmetric assault on democracy in Russia and Europe: implications for US national security*, US government publishing office, 2018
5 Reuters
6 'Lockheed Martin shares drop after Trump says F-35 program too expensive,' CNBC, December 2016
7 Reuters
8 Bloomberg
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IS THERE A CURE FOR FAKE NEWS?

The spread of fake news has caused consternation among politicians and investors alike. But experts are fighting back. Sander van der Linden, assistant professor of social psychology and director of the Social Decision-making Laboratory at the University of Cambridge, is working on digital methods to 'inoculate' individuals against fake news, much as vaccines protect the human body against viruses.

The 'Bad News' smartphone game, developed by van der Linden and his colleagues, tasks players with boosting their social media following by disseminating fake stories – the idea is to teach individuals how to spot fakers by imitating their methods. In this Q&A, van der Linden explains the psychology behind the game and its historical echoes in wartime battles against propaganda.

What led you to the concept of 'inoculation' against fake news?

The idea of inoculation against disinformation first arose just before World War Two, when scientists were studying the nature of propaganda. The project was abandoned after the war, as the issue became less relevant, but we have tried to reignite the idea in the modern context of social media. Look at models in epidemiology of how viruses spread and the process is very similar to how information spreads. Following the metaphor, we thought perhaps we can develop 'mental antibodies' against false information.

Could you describe the thinking behind the game?

We ran some controlled laboratory experiments, where we found that for specific issues we could 'inoculate' people against disinformation. If you warn people they are going to be exposed to deceptive information, and explain in advance some of the ways in which they are going to be misled, they are much more resistant to the full dose of fake news. If you give people the necessary cognitive tools to withstand attempts to deceive, they can use that to guard themselves.

The purpose of the game is to teach people on a 'meta' level about the tactics being used to produce fake news, such as provoking emotions, spreading conspiracy theories, impersonating people online and trolling. We thought, what better way to inoculate people than to have them step into the shoes of a fake news producer?

We've been analysing the results of the first few months, testing people before and after they play the game, and we've seen a significant improvement in resistance to fake news headlines they hadn't seen before.

Why has fake news become such a pressing problem?

There's a complex cocktail of societal factors. During periods of political and economic instability, people are more liable to accept information that's false. When we are under cognitive stress, we are more likely to accept information without thinking deeply about it. That is why, whenever society is undergoing changes or is under some sort of threat, there is generally more traction for propaganda.

The other variable is the interface with technology. During WW2, people listened to the radio and it was the only way they had of getting information. Now, in the 'post-truth' era, people have technology that allows them to fact-check and be more accurate than before, but they are not doing this. We hadn't anticipated people could use this technology to support whatever they want to believe, no matter how far out it is.

Does the nature of social media platforms play a role in this?

Take Facebook. The way the whole platform is set up; the way people share: it is like an echo chamber. It doesn't help people to become critical news consumers; it actually feeds some of their worst biases. The technology itself isn't bad, but it could be designed to bring out better and more adaptive psychological responses. Some experts know this as 'techno-cognition'; the idea of designing tech with an eye towards human cognition and decision-making, rather than just doing it ad hoc and seeing how people react.

Some experts have claimed we are in a kind of arms race, with fake news and the attempts to contain it becoming ever-more sophisticated. Do you agree?

We're definitely in a kind of information war. With a lot of news out there now, people can't distinguish between what's real and fake. We know kids already have difficulty distinguishing between sponsored advertisements and real news, for example. As more data becomes available to allow these algorithms to develop and target people better, and further obscure the lines between truth and reality, we will have to adapt. It's an ongoing arms race that's probably going to get worse before it gets better.

THE TRUMP LEGACY

As Donald Trump approaches the halfway point of his first presidential term, there are signs his confrontational style and unconventional policies may be changing America – and the world – for good.

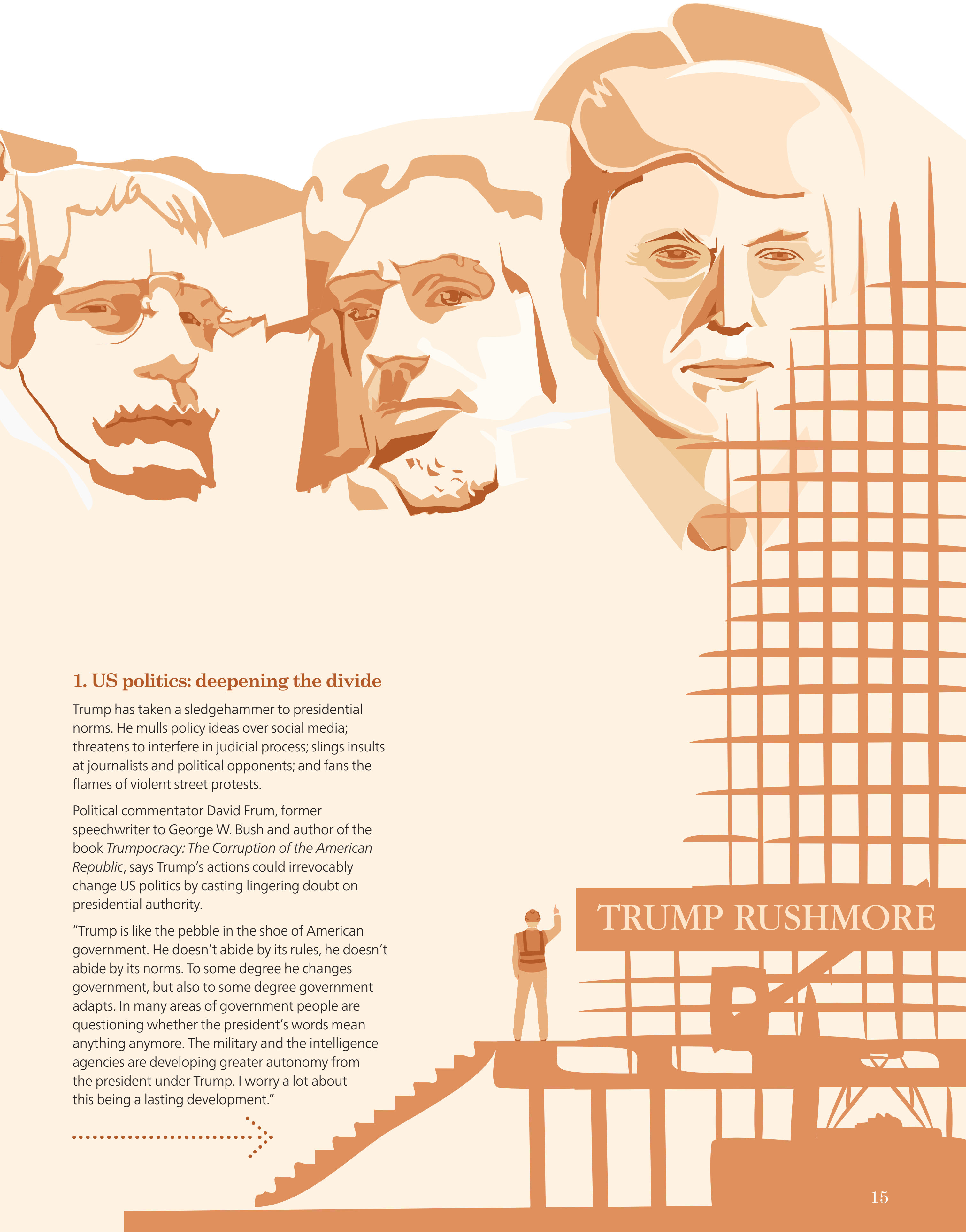
The year was 2007. Alan Greenspan, who had recently retired from his role as chairman of the Federal Reserve, was touring Europe to promote his memoir *The Age of Turbulence*, a book he famously wrote in longhand on yellow legal pads while sitting in the bathtub.

In an interview with a Swiss newspaper, Greenspan was asked how he planned to vote in the next US presidential election. The venerable economist thought for a moment, took a deep breath – and declared the question irrelevant. "[We] are fortunate that, thanks to globalisation, policy decisions in the US have been largely replaced by global market forces. National security aside, it hardly makes any difference who will be the next president."[1]

It makes a difference now. Over the past decade we have seen the eruption of a crisis that ravaged the global financial system; a coordinated response from governments and central banks that stoked deficits and distorted asset prices; and a political backlash against the very market forces Greenspan believed to be irresistible laws of nature. Riding the populist wave is the American president himself: a property tycoon and reality television star who has successfully remade the Grand Old Party in his own image.

As Donald Trump approaches the halfway point of his first term, he continues to face questions over alleged collusion with Russia during his election campaign. But thoughts are already turning to the longer-term consequences of his presidency. Does the Trump era represent a brief detour on the path towards the ever more liberalised and integrated global economy Greenspan celebrated, or the beginnings of a new, more unpredictable order? What should we expect from life after Trump?

To answer these questions, *AIQ* canvassed opinion from a range of commentators: advisers to the Reagan, Clinton and George W. Bush administrations; former officials from the World Bank, the International Monetary Fund and the US Treasury; foreign policy analysts; and Aviva Investors' fund managers and economists. While there were a range of views, these experts agreed Trump's legacy will be felt in five key areas: domestic politics; the US economy; global trade; international security; and the environment.



1. US politics: deepening the divide

Trump has taken a sledgehammer to presidential norms. He mulls policy ideas over social media; threatens to interfere in judicial process; slings insults at journalists and political opponents; and fans the flames of violent street protests.

Political commentator David Frum, former speechwriter to George W. Bush and author of the book *Trumpocracy: The Corruption of the American Republic*, says Trump's actions could irrevocably change US politics by casting lingering doubt on presidential authority.

"Trump is like the pebble in the shoe of American government. He doesn't abide by its rules, he doesn't abide by its norms. To some degree he changes government, but also to some degree government adapts. In many areas of government people are questioning whether the president's words mean anything anymore. The military and the intelligence agencies are developing greater autonomy from the president under Trump. I worry a lot about this being a lasting development."

THE TRUMP LEGACY
continued

> *Trump benefited from growing frustration at rising income inequality*

The most striking example of the government's growing autonomy from the president came in early September, when *The New York Times* took the unprecedented step of publishing an anonymous op-ed article from a member of the Trump administration.[2] The piece detailed how senior officials are actively resisting the president's more reckless impulses while pushing the more traditionally conservative elements of his policy agenda, such as military spending and tax cuts. The article even suggested Trump's cabinet had considered invoking the 25th amendment, which allows for the vice president to take over if the commander-in-chief is unable to discharge his duties. Trump responded with a Twitter tirade in which he demanded the newspaper "turn over" its source.

More revelations followed in *Fear*, an exposé by veteran journalist Bob Woodward, whose reporting on the Watergate scandal helped bring down the Richard Nixon administration. Woodward alleged Trump's former chief economic advisor, Gary Cohn, had taken to surreptitiously snatching documents from the president's desk to prevent him cancelling trade agreements.[3]

Frum is sceptical that traditional conservatism will survive the populist onslaught, even if individual conservatives are resisting the Trump machine from within. In his view, Trump has so completely disrupted the Republican Party that the comparatively restrained politics of the Bush and Reagan presidencies is unlikely to survive as an electoral force; what would follow is unclear.

"We're at a point now where it's very hard to imagine that conservatism as we know it re-emerges. The political world post-Trump will look very different. You can see the energising of the Democratic left. And I think we will see the drift of business-minded people away from what has historically been called conservativism because it's now so tainted by Trump," says Frum.

"The closest analogy is to the post-Vietnam era. We used to have a Democratic Party that was a party of labour unions and farmers, versus a Republican Party of professionals and managers: after Vietnam we had a liberal and a conservative party. That shows the character of these parties is not permanent and could change again. And they will have to change."

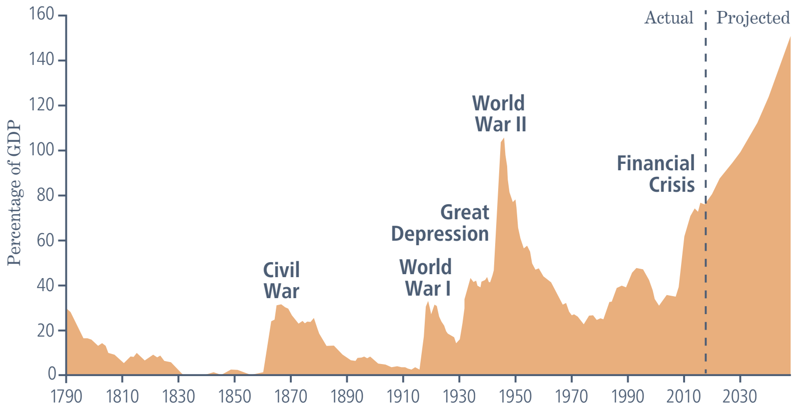
Early signs of this political reordering may become evident during the mid-term elections in November. A new cohort of young, left-wing Democrats is likely to feature prominently. Alexandria Ocasio-Cortez, a member of the Democratic Socialists of America, is expected to become the youngest Congresswoman in history, having seen off party veteran Joe Crowley to win a Democratic nomination in New York.

While Trump has galvanised resistance among the Democratic left, he has kept his core supporters onside, with approval ratings stabilising around the 40 per cent mark in most polls. The president's attacks on big business, along with his vociferous condemnation of international trade agreements, have played well with his base, although he has done little to remedy the very real issues facing the working class in post-industrial districts, notably the escalating opioid crisis that claimed a record 72,000 lives in 2017.[4]

Trump might appear to be a political one-off, but he did not come out of nowhere. His success has been facilitated by a growing frustration at structural trends such as rising income inequality, which have developed over many years. And his failure to attend to these issues may lay the ground for a more outlandish political figure to follow in his wake, according to Frum.

Meanwhile, US society is becoming ever more polarised, as evidenced in the bitter row over Trump's nomination of judge Brett Kavanaugh to the Supreme Court. Fully 70 per cent of Democrats and 62 per cent of Republicans say they now "live in fear of the other party".[5] Whether or not Trump comes

Figure 1: Federal debt set to sharply increase under current policy



Source: Congressional Budget Office of the US, September 2018.

> *Trump's pro-cyclical policy risks depriving the US of a fiscal cushion*

to be seen by historians as the *ne plus ultra* of American populism, the divisions he has exacerbated will take a long time to heal.

"The very nature of that 2016 election, and the campaigns around it, showed how deeply divided the US was and how difficult it is for people on each side to accept the outcome of election results without seeing the opposition as fundamentally illegitimate," says Helen Thompson, professor of political economy at the University of Cambridge. Thompson argues these deep divisions, together with Trump's lack of respect for presidential norms, means it is difficult to envisage a return to 'normal' politics after he leaves office.

"The presidency is being laid bare as just raw politics and power, without the symbolism that goes around it. At the same time, you have parties that regard each other as illegitimate and threats to democracy, and talk of resistance to elected presidents. I'm not sure how you come back from this."

2. The US economy: short-term gain, long-term pain

How long Trump's rustbelt constituency stays loyal – and who they vote for next – may ultimately depend on the performance of the US economy, and how the fruits of economic growth are distributed. The president is quick to take credit for a surge in equity markets and a continuing GDP expansion on his watch. But his fiscal stimulus may also be introducing new vulnerabilities, according to economists.

Trump's most high-profile economic policy to date was the Tax Cuts and Jobs Act, passed by Congress in December 2017. This sweeping piece of legislation reduced tax rates for individuals and companies and provided incentives for US multinationals to repatriate their overseas hoards of cash, which may encourage greater corporate investment over the longer term. September's Beige Book report, which collates data from different Federal Reserve Districts, points to evidence of rising capital expenditure across several sectors.[6]

US equities grew strongly over the first nine months of 2018, partly thanks to a year-on-year increase in per-share earnings of 24.8 per cent over the second quarter.[7] While a bout of market volatility in late October eliminated most of these gains, as of October 25 the S&P 500 was still up more than 20 per cent since Trump's election victory in November 2016.[8] The underlying economy is also performing solidly, with second quarter growth hitting an annualised rate of 4.1 per cent in 2018, the fastest expansion since the third quarter of 2014.

"In isolation, the tax cuts and fiscal stimulus will add about 0.5-0.75 per cent to US GDP growth this year and next, which is quite a sizeable amount," says Michael Grady, senior economist and macro strategist at Aviva Investors. "A separate question is whether it was appropriate for the government to implement stimulus at this point in the cycle, when the economy is already strong and monetary policy is steadily tightening. By 2020, that initial economic impetus will have faded and the US will be facing headwinds to growth of about 0.25-0.5 per cent, which is a considerable swing. And that's before you factor in the longer-term implications of rising government debt."

The International Monetary Fund has warned Trump's economic policies could be unsustainable, with increased government expenditure on defence and domestic programmes forecasted to widen the US federal budget deficit to 4.5 per cent of GDP next year.[9] One potential consequence is that inflation could tick higher, forcing the Fed to raise interest rates more quickly than the market expects.

Jeffrey Frankel, a professor of economics at Harvard University, served at the Council of Economic Advisers (CEA) during both the Reagan and Clinton administrations. He believes Trump's pro-cyclical fiscal policy runs the risk of depriving the US of the cushion it will need to limit the damage when the economy inevitably enters another downturn. The result could be a deep recession from which it is difficult to recover.

"Pro-fiscal cyclical policy destabilises the economy when growth is strong. We saw that under George W. Bush during the fiscal expansion of 2002-2007, when the government cut taxes and increased spending at a very rapid rate. The result was – as could have been predicted and indeed was predicted – that when the Great Recession hit in December 2007 Washington felt constrained by the high level of debt, and limited the magnitude and length of the fiscal response," says Frankel.

THE TRUMP LEGACY
continued

> *Trump's tariffs will not improve US bilateral trade balances*

"That situation could be worse next time, given the almost unprecedented fiscal expansion we are seeing under Trump. You'd have to go back to the late 1960s, and probably to World War Two, to find a time when the US had such a strong economy and such a low level of unemployment and yet was increasing the budget deficit. It means we won't have the fiscal space to respond when the next recession comes."

Along with his pro-cyclical fiscal policy, Trump has worried at the edges of the Dodd-Frank legislation, which was introduced in 2010 to fix the systemic vulnerabilities exposed by the last crisis. His Economic Growth, Regulatory Relief and Consumer Protection Act, signed into law in May 2018, raised the threshold over which financial institutions are deemed "too big to fail" from $50 billion to $250 billion, and eased mortgage loan-data reporting requirements for most banks.

As well as deregulating and implementing stimulus when the going is good, Trump has signalled he would prefer a pro-cyclical monetary policy, openly criticising the Federal Reserve's decision to continue hiking interest rates despite strong growth and unemployment below four per cent. Frankel does not believe Trump will seriously consider interfering with Fed policy; a greater long-term threat, in his view, is the potential fallout from Trump's protectionist trade policies.

3. Trump, trade and trust

On January 23, three days after his inauguration, Trump invited media into the Oval Office to witness the formal withdrawal of the US from the Trans-Pacific Partnership (TPP), a 12-country trade agreement painstakingly designed by the Obama administration to cement US authority in the Pacific region and contain China's economic rise. "Great thing for the American worker what we just did," said Trump, signing the order with a flourish of the presidential pen.[10]

Trump's withdrawal from TPP fulfilled a campaign promise and served early notice of his commitment to an 'America First' stance on trade. Since then, he has renegotiated the North American Free Trade Agreement with Mexico and Canada and revised the US-Korea Free Trade Agreement. He has also threatened to pull the US out of the World Trade Organisation, and is currently blocking the reappointment of one of the WTO's four remaining appeals judges, which could stymie the body's dispute-settlement system.[11]

Trump's tariffs on China are the clearest example of his protectionist tendencies. In April he announced around $60 billion of levies on Chinese industrial exports to the US, prompting retaliation from Beijing. On September 17 he upped the ante, taking to Twitter to warn countries that "will not make fair deals with us" that they would be "tariffed". True to his bombastic word, he slapped new taxes on a further $200 billion of Chinese imports the following day. China hit back with its own tariffs, targeting sectors such as agricultural produce and industrial products.[12]

Some of Trump's frustrations at China's economic practices – such as its insistence on 'knowledge transfer' with foreign companies in exchange for market access – are widely shared by Western allies. But the US president's stated objective to eliminate America's "unfair" trade deficit through a raft of new bilateral deals flies in the face of economic logic, says Frankel.

"Trump's tariffs will not improve US bilateral trade balances, because the sum of those balances has to add up to the overall trade deficit – and this is ultimately determined by the difference between national saving and investment. National saving is falling due to Trump's tax cuts and fiscal stimulus, and that widens the current account deficit. The logical result is a worse trade deficit – precisely what Trump doesn't want."

Trump's focus on the headline trade deficit figure also fails to account for some economic nuances. While it is true the US

> *Trump is pushing the US into a full-blown trade war with China*

had a $375 billion trade deficit with China last year, US companies are far more active in China than vice versa. US multinational subsidiaries made $222 billion in sales to China's increasingly-affluent consumers in 2015, according to the most recent official figures (data for Chinese sales in the US is not available, but they are likely to be far smaller).[13] The trade deficit numbers do not factor in this corporate activity.

The trade imbalance looks even less clear-cut when the global nature of modern supply chains is considered. Trump has called for Apple to repatriate the iPhone build from Chinese factories as part of his bid to revive US manufacturing. But while iPhone imports add billions to the trade deficit each year, recent estimates show China only makes about $8 per unit.[14] The bulk of profits accrue either to Apple itself or to other countries that specialise in the more value-added components of the product. If the iPhone were entirely made in the US, its price would probably rise by at least $100, hurting America's consumers.[15]

Nevertheless, Trump is pushing the US into a full-blown trade war with China, according to Frankel. He sees three possible outcomes. First, Trump wins some small but face-saving concessions from Beijing, enabling him to claim victory and de-escalate the dispute. Second, Trump enacts swingeing tariffs that wreak short-lived economic havoc, but which are negotiated back down by a more emollient successor. The third scenario would be the most damaging over the longer term: the prospect that the dispute sunders the global trading system into oppositional blocs reminiscent of the dark days of the protectionist 1930s.

The implications of the third scenario for global growth and financial markets could be severe. The biggest losers would likely be emerging markets, where living standards have been steadily converging with those in advanced countries thanks to the liberalisation of trade over recent decades. That convergence could slow or even stop altogether, hitting asset prices in these economies as growth slows and consumer spending falls. Equity markets in the euro zone and Japan – regions in which trade accounts for around one third of GDP growth – would also be hard hit.

Trump may be reckoning the US is rich and powerful enough to turn such economic chaos to its own advantage. It is a risky gamble. In a recent research note, Deutsche Bank analysts warned Trump's attempt to achieve lower trade deficits at the same time as increasing fiscal stimulus poses "the most severe challenge to the international monetary order since the collapse of Bretton Woods in the 1970s".

The problem is that the US requires foreign buyers for its debt even as Trump's trade disputes threaten to erode the very Asian current account surpluses that fed appetite for Treasuries over the last two decades. The logical outcome: either higher government bond yields or – more likely – a weaker dollar, according to Deutsche analysts. The associated rise in borrowing costs might even wipe out the US economy's ability to generate an income surplus on a growing stock of net foreign debt, the so-called 'exorbitant privilege' that had traditionally underpinned the dollar's status as the world's reserve currency. Such a reversal would be highly symbolic.[16]

Grady believes the dollar's status as the world's reserve currency is secure for now given the lack of alternatives, and that China and other major economies are likely to maintain large holdings of Treasuries. Neither does he think the doomsday trade scenario outlined by Frankel is probable. But he does not rule out a rise in Treasury yields – perhaps by 40 or 50 basis points – or a weakening of the dollar thanks to rising debt and flaring geopolitical tensions on Trump's watch.

Experts on trade suggest Trump's bonfire of the treaties will prove more directly counterproductive to his interests. Anne Krueger, senior research professor of international economics at Johns Hopkins University, has served as chief economist of the World Bank and acting managing director of the IMF. She says increased tariffs will cause short-term pain in the heavy industries Trump has made it his mission to protect, risking a political backlash at home.

"A lot of metal-using industries are going to be hit by the tariffs on steel and aluminium. There are reports of US plants laying off workers or shutting down because they can't get the steel they need or because they can't compete with the Europeans or the Japanese who are paying lower prices. So, it's already beginning to hurt at the margins, even if it is not fully showing up in the data yet."

Krueger also worries about the lasting effects on the reputation of the US among other countries. "The fact that there are treaties and agreements we have signed, and then reneged on, will make us less trustworthy in the future. I don't understand why anyone would go into a trade agreement trusting the US after it renegotiated the Free Trade Deal with South Korea, and then imposed further tariffs on top of that. It seems to me the damage being done in terms of trust is incredibly important."

Research shows that in the wake of China's accession to the WTO in 2001, it was not simply lower tariffs that promoted trade and economic growth, but a reduction in uncertainty about the future direction of tariff rates.[17] Trump's protectionist policies are causing uncertainty to rise once more, as countries worry about the longer-term implications of trade wars. Whoever is next in line to be "tariffed", the US won't be immune from the damage.

4. Geopolitics: spheres of influence

Trust is also a central issue in international diplomacy and defence. Even Greenspan conceded the president can have a decisive impact on national security. But Trump's influence in this area is difficult to assess, partly because his abrasive style masks certain continuities with the last administration.

THE TRUMP LEGACY

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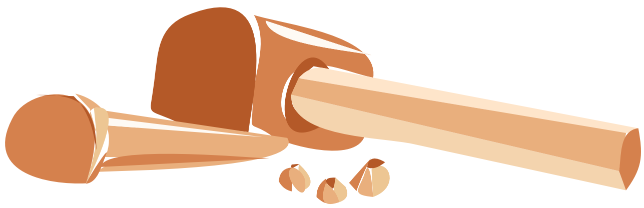

Trump's open criticism of US defence partnerships – from Japan to Korea to the North Atlantic Treaty Alliance (NATO) – may be unprecedented, but his frustration that other countries are unfairly relying on the US to protect them is not. Obama himself described certain allies as "free riders" in a candid interview laying out his pragmatic approach to foreign policy in *The Atlantic* magazine, near the end of his presidency.[18] Long before Trump, both Obama and Bush were complaining about NATO partners' failure to spend two per cent of GDP on defence, the target amount agreed by the alliance.

"The questions Trump is raising with respect to burden sharing are not crazy and earlier American presidents have raised them," says Hal Brands, Henry A. Kissinger professor of global affairs at Johns Hopkins University and author of the book *American Grand Strategy in the Age of Trump*. "But Trump is not simply frustrated with American allies; he sees no value in American alliances. That is a very different position to be taking."

Trump's willingness to ride roughshod over diplomatic orthodoxy led to an historic meeting with North Korea's Kim Jong Un in June. The summit encapsulated Trump's erratic approach to foreign policy: a matter of months after threatening fire and fury on a leader he dubbed "rocket man", Trump was glad-handing with Kim in the luxurious surroundings of Singapore's Capella Hotel.[19] It was a public relations coup for both men, but the conference ultimately yielded little in terms of concrete concessions, unlike Obama's legally-enforceable Iran nuclear deal – which Trump unilaterally cancelled in May to the dismay of allies who had helped secure it.

Trump's major overseas military actions have both come in the Middle East. In the first year of his presidency he deployed the largest conventional weapon in America's arsenal – the so-called Mother of All Bombs – against ISIS militants in Afghanistan,[20] and ordered precision missile strikes in Syria in response to a suspected chemical weapons attack by Bashar al-Assad's regime.[21]

Despite these deployments, Trump has equivocated over whether he would be willing to defend NATO allies in Eastern Europe. This had led some commentators to fret that he is surrendering the US' post-war leadership role and inaugurating a new geopolitical order that cedes influence to Russia in Europe and China in the Asia-Pacific.[22] Under Xi Jinping, China is forging ahead with the 'Belt and Road' programme, a vast network of infrastructure projects that extends from the deserts of Central Asia to the Gulf of Oman to the East African coast. Beijing has also launched a rival to the World Bank, the Asian Infrastructure Investment Bank, and has started to show greater willingness to use military force to defend its interests, even as the US rethinks its overseas commitments.

"Over the long-term, Beijing does see this as an opportunity to greatly expand China's soft power in Asia and more broadly," says Michael Hirson, director of Asia research at Eurasia Group and formerly the US Treasury's chief representative in Beijing. "Trump's 'America First' policy, and retreat from multilateralism, are creating new space for China to show leadership on global issues like climate change.

"China is not ready to challenge the US for the mantle of global leadership, especially on security issues, but it is increasingly willing to act as a rule-maker in the global system and not just a rule-taker. This doesn't mean casting off the existing multilateral structure of the WTO, the IMF, etc., but does mean shaping the system to China's benefit."

Trump has sporadically indicated he is aware of the need to show greater commitment to the Asia-Pacific region as China becomes more assertive. At the 2017 Asia-Pacific Economic Cooperation Summit in November 2017, Trump stressed US support for the 'Free and Open Indo-Pacific' policy, originally proposed by Japan, which seeks to protect freedom of navigation and keep shipping lanes open. And his threats of tariffs on China could be interpreted in geopolitical terms as a blunt attempt to contain the rising Asian power, Grady points out.

The length of Trump's presidency is likely to determine whether China can take a greater leadership role in the region. Countries in East Asia are generally adopting a hedging strategy: building their economic integration with China while maintaining a strong political-security relationship with the United States. Four more years for Trump could force these countries to abandon the balancing act and swing further into China's orbit, according to Hirson, although he points out that many governments in Asia and Europe are wary of allowing Beijing to assume a dominant role.

5. Climate change: après Trump, le deluge?

One of the Trump's eccentricities is his tendency to conduct presidential business beneath the swaying palm fronds at Mar-a-Lago, his country club on the Florida coast. He informed Xi Jinping of the Syrian missile strikes over chocolate cake on the Mar-a-Lago terrace, while hosting the Chinese leader at the resort.

The irony is that Trump's policies could be hastening a rise in global temperatures that would send floodwaters sluicing through the gilt-lined suites of his favourite hotel.[23] In June 2017, the president convened a press conference in the White House Rose Garden to announce he intended to withdraw the US from the Paris Agreement on climate change, an accord that commits signatories to cut carbon emissions and hold global temperatures at less than two degrees above pre-industrial levels.

This decision was criticised by statesmen and women in the US and around the world, but perhaps the best repudiation of Donald Trump's stance on climate change comes from an unlikely source: Donald Trump himself. In 2009, ahead of the UN Climate Change Conference in Copenhagen, Trump and his three adult children signed an open letter to Obama that called for "meaningful and effective

measures" to limit global warming. "We have the ability and the know-how to lead the world in clean energy technology," the letter read. "But we must embrace the challenge today to ensure that future generations are left with a safe planet and a strong economy."[24]

Trump has failed to follow his own advice. He has appointed two fossil-fuel advocates to run the Environmental Protection Agency (EPA): his original pick, Scott Pruitt, stepped down in July amid a corruption scandal and was replaced in an acting capacity by former coal-industry lobbyist Andrew Wheeler.[25] The EPA has rolled back regulations that stop energy firms from leaking methane, a greenhouse gas, into the air.[26] Bundled in with Trump's tax bill, meanwhile, was a provision that opened up Arctic refuges to oil and gas drilling, threatening a pristine wilderness that is considered by environmentalists to be a crucial bulwark against climate change.[27]

Withdrawing from the Paris Agreement could be the most damaging of all Trump's presidential actions, not just for wildlife and ecosystems but for markets and economies. A wealth of research shows the world is stuck between two main hazards in grappling with climate change. If countries move too quickly to limit carbon emissions, large swathes of the oil and gas sector will be severely affected. A Barclays study claimed that $34 trillion would be wiped off the value of companies in the fossil-fuel industry if the world cut carbon emissions to their target level overnight.[28]

On the other hand, there is the even greater risk of inaction. If carbon emissions are not curtailed, it is probable global temperatures would rise six degrees by 2100, more than enough to unleash disastrous flooding in coastal cities from Miami to Shanghai. Research from the Economist Intelligence Unit, commissioned by Aviva Investors, shows the physical damage caused by such a profound environmental shift could wipe $43 trillion off the value of financial markets, discounted to present-day value. That amounts to 30 per cent of the world's entire stock of manageable assets.[29]

"The point of the Paris Agreement is to try to steer the global economy between these two extremes by encouraging a smooth transition towards a low-carbon future," explains Steve Waygood, chief responsible investment officer at Aviva Investors. "This is in the best interests of governments, markets and societies. If the US drags its heels under Trump, it is more likely it will have to enact a more hurried transition further down the line to catch up with emissions reductions and halt potentially-catastrophic temperature rises, disrupting various industries."

But there are grounds for optimism. Waygood observes that Trump's attacks on the environment are catalysing support for the battle against climate change in America and beyond as people unite against a common enemy.[30] Former New York mayor Michael Bloomberg has led financial-market efforts to tackle climate change as chair of the Financial Stability Board's Task Force on Climate-related Financial Disclosures.[31] He has also committed to make good any shortfall from the US federal allocation to the UN Climate Change Secretariat during the four-year exit process from the Paris Agreement.[32]

In California, the state government has committed to eliminate all carbon emissions and derive its power from exclusively carbon-free sources by 2045. Governor Jerry Brown deliberately framed the pledge as a response to Trump's "gross ignorance" on climate issues.[33] In September, Brown co-chaired the Global Climate Action Summit in San Francisco, which brought together representatives from the public sector, business and finance to put pressure on governments to deliver the Paris objectives.

The Trump legacy

Similar trends are evident in other areas in which Trump has attacked the traditional consensus, as stakeholders come together to form a united front and defend the institutions he has assailed. His stance on trade appears to be fostering a thaw in relations between China and Japan, for instance.[34] And China, Russia and the EU are working together on a plan to provide Iran with economic incentives to abide by the terms of Obama's nuclear deal, to the chagrin of the Trump administration.[35]

At home, Trump's assault on democratic norms and the free press is summoning opposition from voices across the political spectrum, according to David Frum. "There has been an extraordinary rise in civic engagement. 2018 will see the highest number of women running for office ever recorded. Everyone who works in journalism is aware of intense public interest in our work. And at the same time as there is damage being done to the trading system and the Western alliance, a lot of people maybe understand the preciousness of those things a little bit better than they did when those things were more secure."

Assessing Trump's longer-term impact will ultimately be a matter for historians. One can imagine a time, half a century from now, when a venerable policymaker retires and settles down to write their own memoir of politics and economics in the 21st century. Perhaps Trump will be seen to represent the beginning of a new age of turbulence – of broken trade deals, rising geopolitical tensions and rampant climate change – that makes Greenspan's pre-crisis worries look trivial by comparison. Then again, perhaps the Trump era will be recognised as the moment the world recognised how fragile were the institutions and alliances he took apart, and began to piece them back together again.

THE TRUMP LEGACY

continued

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TRUMP AND THE MARKETS

Trump's policies have already had a profound effect on financial assets. The bull market in US equities gathered pace on his watch – at least until October's slide – thanks to extra momentum from the tax reform bill and the promise of ever-greater fiscal stimulus. And at a time when structural volatility is ticking higher – due to the gradual withdrawal of the extraordinary central bank support that had long kept a lid on market movements – Trump's unpredictable pronouncements on trade and corporate sectors have stoked price gyrations in various sectors. So what is the outlook for global asset classes under the Trump presidency? And is he permanently altering the market landscape? We asked Aviva Investors fund managers for their views.

James McAlevey, head of rates, portfolio manager AIMS Fixed Income

High federal debt is a problem that is not going away and this is a deep structural issue Trump has exacerbated with fiscal stimulus. The US entitlement programme is very expensive and it's only going to get more expensive given the demographic backdrop. Projections from the Congressional Budget Office have debt rising to 100 per cent of GDP by the end of the decade, and 152 per cent by 2048. Until government and federal authorities change the fiscal framework in a material way, we're stuck with very large deficits in the US.

The US has been helped by the exorbitant privilege of having the dollar as the world's reserve currency. But that's why we feel there's a very large conflict in terms of what Trump's trying to achieve: namely, issuing debt at the same time as challenging those countries that have been primarily responsible for funding the US deficit. We don't expect a big sell-off of Treasuries among Asian central banks, but the flow into Treasuries is clearly falling compared to the situation in the post-crisis period. So demand for US government debt is going to have to come from domestic sources, where demand looks quite saturated: the US market already holds more Treasuries as a percentage of GDP than at any time since the 1960s. We expect the market to clear, but Treasury yields might have to rise materially.

Josh Lohmeier, head of North American investment grade

From a credit investor's perspective, Trump's policies have benefited risk assets in the US in the short term, largely due to the corporate tax cuts. Any time you deliver a significant boost to cash flows right to the bottom line of corporate income statements, that is going to stimulate the price of those assets. In the short term, the tax reform bill has probably prolonged the business cycle and the rally in US assets.

What is harder to pinpoint is the extent to which Trump's rhetoric on trade policy and the potential for a trade war will impact the global economy. In the first instance, it is bad for confidence given the uncertainty that surrounds such a large range of outcomes. Another concern is the impact the fiscal boost to the US economy will have on the US deficit over the longer term.

What we are left with is more questions than answers on what future trade policy will be and how big the deficit will get. I suspect the market today is choosing to focus on the tangible short-term positives of what is driving economic growth in the US and keeping a watchful eye on the range of outcomes of these other factors. For the time being, the shorter-term tangible positives are winning out, with the cash-flow boost to corporate earnings more than offsetting the longer-term fears of trade wars.

Richard Saldanha, global equities fund manager

The tax cuts have provided a 'halo effect' in US equities. US companies are printing year-over-year earnings of over 20 per cent, and the tax cuts are a big part of that. But it's also important to remember the repatriation of offshore profits. Once companies bring cash back onshore they can deploy it more effectively. Some of that capital will be returned to shareholders via buy-backs and dividends, but we are also seeing more money going into capital expenditure as well as M&A. Over the longer term, that increased corporate investment will bring benefits.

On the other side, Trump increases tail risks. His Twitter posts can cause volatility among the companies or sectors he attacks, such as pharmaceuticals or tech. His stance on trade is the big longer-term concern. A full-blown trade war would be negative not just for US equities but for equities and other asset classes globally, because protectionism and tariffs are detrimental to growth. It's frustrating as an investor, because the only way you can deal with the associated uncertainty is to apply a discount – perhaps a small percentage, but a discount all the same – to your valuations across the board, even if a full-blown trade war isn't your base scenario.

152% of GDP

Projected US federal debt in 2048 under current policy

Alistair Way, head of emerging market equities

It's been a disappointing year for emerging market equities, which have underperformed compared with the developed markets. A strong dollar and a US tightening cycle have played a part in that, as have idiosyncratic difficulties in Turkey and Argentina, but Trump's protectionist rhetoric has also been a key factor.

If you drill down into the indices, what's interesting is that small-cap emerging market equities have underperformed, and that partly has to do with the higher weight of export companies among small caps, which are vulnerable to a downturn in global trade. Chinese equities have also suffered disproportionately, which suggest Trump's targeting of China is having an impact.

As for whether this a longer-term problem, it's difficult to say. Rising trade has been a key driver of growth across emerging economies and a key factor in the convergence between emerging and developed markets over the last few decades, so greater protectionism is a big risk. But given how interconnected the global trading system is, this isn't just a problem for emerging markets. Some of Trump's more extreme threats, such as relocating iPhone production from China to the US, would bring all sorts of consequences for supply chains and the cost of goods for consumers and companies across the world.

ETHICS & ALPHA:

CAN INVESTING RESPONSIBLY ENHANCE RETURNS?

We take an in-depth look at the relationship between responsible investing and performance.

Does investing responsibly mean sacrificing returns? Such a seemingly simple and innocuous question can cause all manner of confusion.

In search of clarity, we set out to provide a wayfinding tool for investors by trawling through the academic literature, interviewing the experts and contrasting the theory with reality. And while our focus is on equity markets, we also touch on some of the key factors to consider in fixed income and real assets.

Friedman's objection

Nobel Prize-winning economist Milton Friedman said: "There is one, and only one, social responsibility of business: to use its resources and engage in activities designed to increase its profits so long as it stays within the rules of the game, which is to say, engages in open and free competition without deception or fraud."[1]

Friedman, perhaps the 20th century's most celebrated free-market economist, described the idea that businesses had a responsibility to wider society as a "fundamentally subversive doctrine".

His seminal article for *The New York Times Magazine*, published in September 1970, sparked a furious debate as to whether firms can increase their value by incorporating environmental, social and governance (ESG) considerations into their business operations. While that argument continues to rage nearly half a century later, and has expanded out to include bonds and real assets, there is a growing body of evidence to suggest they can.

Bell Pottinger, KPMG and Miramax are recent examples of what can happen to established companies when they fail to heed ESG factors. And with governments and other agencies expected to continue tightening regulations

> *Common sense suggests forward-looking firms that are quickest to react to the changing landscape will have a competitive advantage*

in the coming years – whether by forcing companies to cut their carbon footprint, increase the diversity of their workforce, or improve their management structure – common sense suggests forward-looking firms that are quickest to react to the changing landscape will have a competitive advantage.

From an investor's perspective, if firms can indeed increase their worth by being 'responsible', various questions follow: Is there money to be made by investing in funds that exclude companies if they fail to abide by certain ESG criteria? If not, does integrating ESG considerations into the investment process, to complement traditional valuation yardsticks, improve investment performance? Is it worth engaging with companies to improve their ESG credentials? And can investors do anything to combat market failures?

Empirical evidence

Following the publication of Friedman's controversial article, initially the debate consisted largely of glib assertions that formed attempts to justify opposing philosophical standpoints. There was little effort to discover if firms which adopted sustainable business practices were rewarded by financial markets for doing so.

However, in recent years, researchers from both academia and the asset management industry, drawing on an ever-expanding universe of data, have conducted numerous studies to establish whether such a relationship exists.

There is sufficient evidence to be confident firms that adopt sustainable business practices perform better over the long run, and this is in turn rewarded by financial markets.

ETHICS & ALPHA

continued

> *There is sufficient evidence firms that adopt sustainable business practices perform better over the long run*

According to researchers at the University of Hamburg and Deutsche Asset and Wealth Management, a positive relationship between ESG ratings and corporate performance was found in close to half of over 1,800 academic studies published since 1970, with a negative correlation being found just 10 per cent of the time.[2] For instance, a July 2013 Harvard Business School study found that over an 18-year period, a sample of 90 'high-sustainability' companies "dramatically outperformed" 90 low-sustainability firms in terms of both stock market and accounting measures.[3]

Similar findings have been found for other asset classes. For instance, a 2016 study by Barclays analysts found a "small but steady" performance advantage by imposing either a positive or negative tilt to different ESG factors on a portfolio of US investment grade corporate bonds.[4]

As for real estate, a 2008 report by The Swedish Foundation For Strategic Environmental Research found rising resource prices, tougher national and international regulations, shifting tenant demands, and the opportunities presented by new building materials and technologies "are all increasing the financial materiality of ESG issues to the real estate investor".[5]

There are, however, problems with a number of these studies. For a start, as Halbritter and Dorfleitner point out, most are based on short time series as rating agencies tended not begin their work before the start of the current millennium.[6] More problematic still, it is difficult to measure ESG criteria in a consistent and purely objective fashion. Since there are several specialised agencies producing ESG ratings, with significant variations in their methodologies, it is important to allow for these differences.

Crucially, many studies fail to differentiate between correlation and causality. Often when a correlation is found, it is interpreted to mean high ESG scores lead to improved financial performance. But it could be that stronger financial performance is allowing companies to invest in steps likely to boost their ESG scores. With most studies failing to explain the mechanism that led to improved performance, Harvey et al (2016) warn that simply focusing upon historical data runs the risk of "correlation mining".[7]

Logical explanations

Nevertheless, there are logical explanations as to why high, or improving, ESG ratings might boost investment returns. Firstly, assets underpinned by high ESG ratings are likely to be less risky. For instance, while in the short term firms may in some instances be able to get away with exploiting their customers or workforce, or degrading the environment, common sense suggests they will eventually be damaged by such behaviour. Indeed, according to a 2018 Bank of America Merrill Lynch report, an investor who only bought stocks with above-average Thomson Reuters' environmental and social scores five years ahead of the event would have avoided 90 per cent of the S&P 500 companies that went bankrupt between 2005 and 2017.[8]

The analysts said ESG-based investing would have offered long-term equity investors substantial benefits in mitigating price risk, earnings risk and even existential risk for US stocks. They concluded ESG provided "the best signal for future investment risks".

Secondly, there is plenty of evidence to suggest highly-rated firms have a lower cost of capital. A number of studies have found good environmental performance correlates with a lower cost of debt and stronger credit ratings (Graham and Maher;[9] Bauer and Hann;[10] and Schneider[11]), and one found the same for good employee relations (Bauer et al.[12]). As for firms' cost of equity capital — the internal rate of return (or discount rate) the market applies to a firm's future cash flows to determine its current market value — studies by Dhaliwal et al[13] and El Ghoul et al[14] are among those to have found that improved corporate social responsibility (CSR) can lower firms' cost of equity capital, thereby enhancing their value.

While sceptics have suggested sustainability and the cost of capital were correlated simply because they were both affected by other variables, this latter study established a persistent link between ESG and the cost of equity capital even after accounting for many other variables, including industry, size, 'beta' and leverage.

The authors hypothesised that high-scoring CSR firms enjoy a lower cost of equity capital than low-scoring CSR firms due to the latter having a smaller investor base and higher perceived risks. They also concluded that managers of low-scoring CSR firms should consider increasing investments in CSR-related activities, "especially in the areas of employee relations, environmental policies and product strategies".

However, even if there are strong grounds for believing there is a relationship between ESG rankings and corporate performance, it has not always been clear investors have been able to profit from it in their portfolios.

Negative screening: the jury's still out

The ESG market segment has grown strongly in recent years. Socially responsible assets under management globally grew to US$23 trillion in 2017 — more than a quarter of the total, and up 27 per cent on 2014, according to the Global Sustainable Investment Alliance. However, many industry participants are yet to be convinced of the merits of sustainable investing. According to one recent survey of 500 pension funds, foundations, endowments and sovereign wealth funds, nearly half expressed concern it could hurt performance.[15]

Their caution is perhaps not so surprising when one considers that historically, 'responsible' investing consisted of mutual

HISTORY OF RESPONSIBLE INVESTING

Socially responsible investing can trace its roots back hundreds of years, when religious doctrine determined what could be considered ethical investments and what couldn't. For example, according to Sharia law investing in banks has long been considered unethical throughout much of the Middle East and Asia. Likewise, the Methodist movement has for at least 200 years been urging its followers to shun investments in companies which earned their money through alcohol, tobacco, weapons or gambling – essentially establishing social investment screens.

However, while Methodists and members of other faiths applied particular principles to their investments through the years, it wasn't until the 1980s that dedicated socially responsible mutual funds were launched. In recent years this segment of the market has grown rapidly. For example, socially responsible mutual funds boasted more than US$8 trillion in assets under management in the United States alone at the end of 2016.

funds that avoided various companies – such as arms and tobacco manufacturers or fossil-fuel extractors – and which were designed to appeal to certain investors' ethical views. More recently, some funds have adopted positive screening – only investing in highly-rated companies. The problem with either approach is that having fewer companies to choose from implies fewer profitable opportunities.

For instance, while the bulk of research may appear to show firms can enhance shareholder returns by improving their ESG rating, Fabozzi et al found evidence that investments in alcohol, tobacco and arms manufacturers — so-called 'sin stocks' — can generate abnormal returns over lengthy periods.[16] One explanation that has been put forward is that since so many investors shun them, these assets can often be underpriced. In the case of tobacco stocks, it could be the market tends to undervalue their defensive qualities and high dividend yields, choosing instead to focus on the companies' limited growth prospects.

A multitude of studies have tried to establish the financial implications of investing in ethical mutual funds. While some pointed to significant underperformance compared with conventional equity mutual funds, and a few others documented the opposite, the majority appear to suggest the difference in average performance between the two is scarcely significant (see for example Statman;[17] Bauer et al;[18] Benson et al[19]).

Brière et al[20] conclude that while on the one hand socially responsible screening plays a minor role in explaining the "performance evolution of many mutual funds", this means ESG investors can achieve portfolio performance equivalent to that of conventional funds while also achieving their ethical objectives.

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> *If ESG factors can help drive asset price performance, there is a relationship to be exploited by investors*

"This modest average contribution … may seem disappointing. But it also means… investors can do equally well or badly while doing good," they argue.

ESG integration works

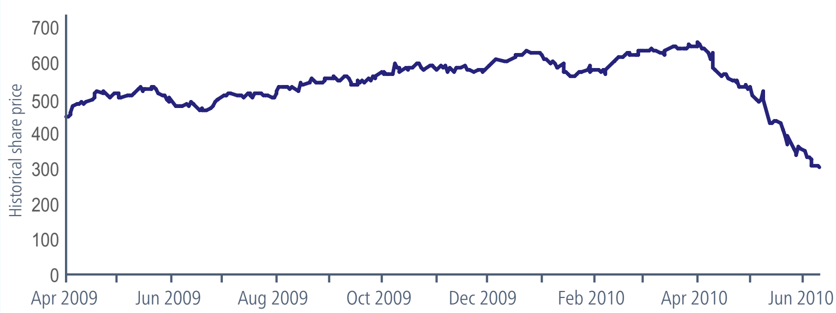
That the research does not find a compelling case for investing in ethical mutual funds should come as little surprise since these funds were never designed to outperform in the first place.

Yet even if one concludes there is little financial reward from investing in such funds, that does not necessarily imply there is no merit in applying ESG criteria in other ways. Although Halbritter and Dorfleitner are among those to argue it is difficult to detect a relationship between ESG ratings and corporate performance which is exploitable, plenty of other studies suggest the opposite.

"It stands to reason that, if one believes ESG factors can help drive asset price performance, there is a relationship to be exploited by investors," according to Steve Waygood, chief responsible investment officer at Aviva Investors. In recent years, investors have moved away from applying screens, of either the negative or positive variety, towards integrating ESG considerations into mainstream investment processes and areas such as impact investing.

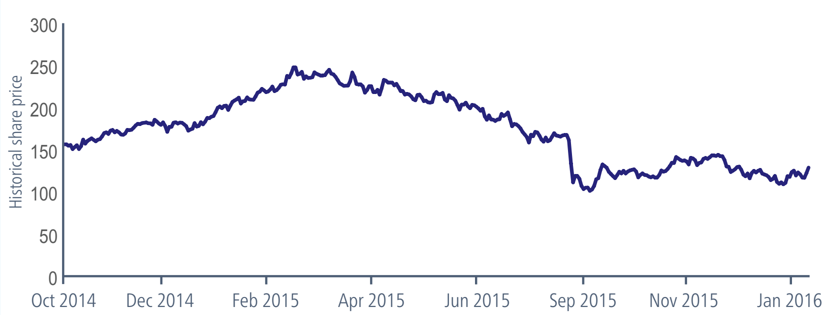
Proof ESG matters: How scandals hit the share price

Figure 1: BP Deepwater Horizon



Source: BP, 30 September 2018

Figure 2: VW emissions scandal



Source: VW, 30 September 2018

> *Many investors simply pay lip service to ESG factors*

Waygood says the rationale for doing so ultimately boils down to the extent to which you believe in the efficient market hypothesis – the idea asset prices fully reflect all available information and it is impossible to 'beat the market' consistently on a risk-adjusted basis.

Proponents of this theory would contend if a high ESG rating helps a company lower its cost of capital and signal it is a less risky investment, this should be reflected in the price of its assets. However, as Waygood explains, there is plenty of evidence to suggest markets are far from perfect. "Nowhere are their imperfections more glaring than when it comes to looking at ESG factors, which many investors simply pay lip service to," he says.

According to Professor Gordon Clark of Oxford University's School of Geography and the Environment, the picture is clouded partly because some studies look at a firm's absolute ESG score and others a change in that score. It is important to distinguish between the two as it is the latter investors can primarily look to profit from.

"An increase in an ESG ranking will get shareholder attention and attract a premium. It might not last a long time but it certainly will attract a premium. Likewise, a decrease in an ESG score will attract a penalty," argues Clark. Furthermore, he suggests the opportunity to add value is especially true of smaller companies where "considerable information asymmetries can persist".

Clark adds although there is likely to be less money to be made by simply investing in companies which already boast high ESG scores, even here there is an opportunity to add value to the extent not all issues will be fully understood by markets and factored into share prices. For instance, a 2016 study by Shank and Shockey found an equally-weighted portfolio containing the shares of the firm ranked highest on corporate sustainability performance within 18 different industry sectors delivered 3.68 per cent a year between September 2002 and March 2013. That compared favourably with the average annual return of the S&P 500 of 2.11 per cent, with the difference adjudged statistically significant.[21]

Short-termism and distorted incentives

Waygood says there are a number of reasons asset prices fail to accurately reflect ESG considerations. For a start, he believes since it is in the commercial interest of investment banks' corporate broking arms to maintain strong relations with their clients, researchers often fail to account for ESG factors in their analysis.

"To disparage a client or potential client of the investment bank may not be beneficial for the bank or for the analyst's career. This has consequences for the efficient functioning of markets," he says.

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A lack of complete and comparable ESG market data, institutional investors' lack of expertise on ESG considerations, or the syllabus of the Chartered Financial Analyst qualification are other barriers to efficient markets. But perhaps the most important source of market inefficiency is the incentives within the system that lead to excessively short-term views prevailing.

Company boardrooms and most financial analysts are preoccupied with quarterly results, while fund managers are too often incentivised to invest in a way that is more akin to speculation than genuine ownership. As a result, more weight is attached to the short-term costs or benefits of an initiative than the long-term ones; whereas many ESG considerations are only likely to play out over the long term.

The other main reason ESG criteria are often not factored in is they are subjective and assessing the impact of failures is complicated. Take the issue of climate change. Scientific evidence overwhelmingly suggests man-made climate change is happening, and the need to cap temperature increases will have major implications for a wide range of industries. But it will take years for the full impact of climate change to be felt, and its consequences are hard to quantify.

Financial analysts often use a 'discounted cash flow' framework for valuing financial assets. For example, they may sum estimated cash flows for the next five years and then add on a 'terminal value' for the business as a means of valuing all the increasingly uncertain future cash flows beyond this point in time.

Unfortunately, this methodology is of little use when it comes to accurately pricing many financial assets. For instance, coal deposits owned by mining groups are widely assumed to have a decade or more of life left in them. And yet all the indications are that carbon emissions will be taxed increasingly heavily, potentially forcing companies to abandon deposits altogether. The same goes for the rest of the fossil fuel sector. Oil and gas explorers will simply not be able to extract all their reserves if the objective of the Paris Agreement – to cap a rise in world temperatures at two degrees centigrade – is to come even close to being met.

However, whereas a value can be attached to a drop in sales growth or an increase in a dividend payout, valuing this kind of risk to the quality of an oil explorer's earnings is more subjective. Because the outcome is so uncertain, the market completely disregards the issue. In turn, that means there are inefficiencies to be exploited by investors prepared to analyse companies' long-term prospects in sufficient detail.

Integration and the measurement problem

Unfortunately – and perhaps one of main reasons why people still question whether ESG can add value – it is difficult to accurately quantify the value of embedding ESG considerations into the investment process. Aviva Investors' global head of governance, Mirza Baig, explains that since it is just one of multiple investment considerations, "disentangling its effect on fund performance from other factors is impossible to do in a purely objective way".

Nonetheless, both he and Waygood insist there is overwhelming evidence ESG data can give investors valuable insight into how well a business is run, where its material risks lie and how sustainable its business model and practices really are. As a result, there is no logical reason why fund managers who have not already done so would not wish to broaden their investment process by integrating material non-financial data.

The collapse of Enron, and the Deepwater Horizon oil disaster and emissions-cheating scandal that wiped billions off the value of BP and Volkswagen respectively, are three of the more high-profile examples of hugely damaging ESG failures in recent memory.

While it may be impossible to spot all these failings in advance, Waygood believes investors can identify enough of them to justify integrating ESG considerations into their decision-making process. "Our active equity portfolios sold out of VW shares not long before the emissions scandal broke in September 2015 due to a suspicion the company's governance wasn't of a sufficiently high standard. We did not know an emissions scandal was about to happen, but we no longer trusted the management team," he says.

None of this implies integrating ESG considerations into the investment process in a thoughtless fashion is likely to add value. Since correlations are liable to change over time, and as correlation does not evidence causality in the first place, simply taking external data feeds, pumping information into a quantitative model, and expecting that to lead to outperformance is wishful thinking.

It is necessary to spend sufficient time analysing each individual company: the quality of its management and transparency of its reporting; how likely it is to be impacted by regulatory changes; the broader political and environmental risks; and assess how well placed is it to respond to these challenges relative to its competitors.

Baig sees ESG as a factor all fund managers should incorporate into their valuation and risk-management processes. Sometimes it can be a dominant one, other times less so. "It is not an ESG team's role to tell fund managers not to invest in a particular sector. That decision is ultimately down to the client. Rather, its role is to help them understand the risks associated with individual companies, and, as much as possible, price the risks appropriately. If the client wants to be invested in say the mining or tobacco sector, it is important the fund manager invests in the right company," he says.

Engage or divest?

Incorporating ESG criteria into the investment process can improve returns in other ways. Since the evidence suggests companies can create value by improving their ESG scores, it makes sense to engage with them to help improve their approach. For example, investors may wish to encourage an oil company to improve its safety record to lessen the danger of oil spillages, or to be more transparent in assessing the risks it faces due to climate change. Such improvements are likely to be rewarded by the market, even if not immediately.

Having said that, there is a decision to be made in terms of how much time and money should sensibly be devoted to engaging with companies, not least because there is likely to be a ‘free-rider’ problem with other investors potentially benefitting from those efforts. Collaborating with other investors can often make sense.

Reforming markets

It is also important to recognise the limits to what engagement can achieve in the face of specific market failures; including the inability to correctly price the impact of climate change and the depletion of natural resources such as fish stocks and fresh water. While it is primarily the responsibility of governments to ensure the global economy operates in a sustainable fashion, here too the investment industry has a role to play by engaging with governments, regulators and supranational institutions to ensure markets work as efficiently as possible.

For example, the lack of comparable and consistent data on ESG considerations contained within companies’ stock exchange filings around the world is a major problem when it comes to making investment decisions. A United Nations’ initiative in 2008, which Aviva Investors led, aimed at getting all the world’s major stock exchanges to change their listing rules, should help to solve this. To date, more than 60 exchanges have signed up to the Sustainable Stock Exchanges initiative, the goal of which is to improve the extent to which companies disclose their compliance with different sustainability criteria.

More generally, by ensuring governments and regulators set the right standards, create fiscal measures such as carbon taxes, or set up market mechanisms such as carbon trading schemes, fund managers can help ensure externalities are correctly priced. Researchers at the University of Cambridge and Erasmus University in 2013 estimated methane emissions caused by shrinking sea ice from just one area of the Arctic could cost a staggering US$60 trillion, equivalent to the previous year’s global economic output.[22]

While the accuracy of the estimate is open to debate, there is little doubt huge market distortions will be created if governments fail to tackle this issue urgently. By encouraging them to do so, fund managers can create value for their clients by putting their capital to work in the right places.

The trend is clear

With evidence mounting that raising ESG standards leads to improved corporate performance, companies are now paying ever more attention to these considerations. This is being reinforced by the sheer weight of money flowing into responsible investments, which is forcing fund managers to take ESG criteria seriously too.

According to the Bank of America Merrill Lynch research note, a “wall of money” is poised to flow into ESG strategies. Potential inflows from ‘millennials’ alone could drive US$15-20 trillion into ESG-oriented strategies over the next two to three decades, roughly equivalent to the size of the S&P 500 index today. Such developments would push ESG considerations ever further into the mainstream.

That the debate sparked by Friedman continues to rage nearly 50 years later is partly because his comments have frequently been taken out of context. In a forgotten part of the oft-quoted article, he also said the responsibility of a corporate executive is to “make as much money as possible while conforming to the basic rules of society; both those embodied in law and those embodied in ethical custom”.

> *A 'wall of money' is poised to flow into ESG strategies*

ETHICS & ALPHA

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> *There is every reason to believe investing responsibly will pay off*

To the extent he meant it is not the purpose of a business to give money to philanthropic causes unless it is going to benefit it financially, for example by improving its image and the value of its brand, or as Friedman put it "the business of business is business", Waygood agrees with him. Where he disagrees is with Friedman's definition of what it means to be a socially-responsible company.

"He was wrong to define it as doing things other than the core business. Meeting basic rules of society: whether it is labour standards, environmental protection or good governance standards, are fundamentally important to all businesses," Waygood says.

However you define it and subsequently measure its impact, it is becoming extremely difficult to argue against incorporating some level of ESG analysis into investment decisions. While investors need to be wary of overpaying for assets based on ESG criteria alone, there is every reason to believe investing responsibly, far from leading to returns being sacrificed, will pay off ●

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DEFINITIONS

NEGATIVE SCREENING

Avoiding controversial stocks or sectors based on ethical concerns about their product or production process. This can originate for a number of areas, such as faith-based concerns, conflict with the mission of a charity or foundation, or personal values.

POSITIVE SCREENING

Steering investments toward companies' solutions to social, ethical or environmental problems. Some forms represent a relatively mild tilt of a conventional portfolio, such as best of sector. Other forms can be much more exclusive, such as social enterprise impact investing or funds that invest exclusively in solutions to one theme, such as climate change.

ENGAGEMENT

Using the influence of ownership, particularly but not limited to the rights associated with equity ownership. Also applies to other asset classes such as corporate debt, real estate and infrastructure. Some investors are experimenting with government bond engagement.

INTEGRATION

The integration of material environmental, social and corporate governance issues into the asset management philosophy and process – ideally including security selection, portfolio construction and portfolio risk management.

DIRECTOR OR DICTATOR?

Star CEOs are bringing into question what makes a good leader in a flatter, networked world. We explore what this means for the overall governance of companies.

If Google or Baidu didn't exist, would we have search engines? If Mark Zuckerberg hadn't dreamt up Facebook in his dorm room, would we have social media platforms? These may seem absurd questions, as the answer is an obvious 'yes', yet the god-like status we bestow on the leaders of organisations often borders on the fanatical. However, when you consider that the incandescent lightbulb was invented by 20 different people within the space of a couple of decades, the randomness of who apparently 'succeeds' is hard to comprehend.

Nevertheless, every era has its stars – leaders who take ideas and grow them into hugely powerful companies. Martin Sorrell at WPP, Steve Jobs at Apple, Jack Ma at Alibaba, Zuckerberg at Facebook, Elon Musk at Tesla…the list goes on. Often, their success is closely bound with an ability to set out a vision then drive relentlessly towards that goal.

The rewards on offer for those who are the face of the company, as well as its innovator and driver, can be immense – stock options worth more than a billion dollars, for instance.[1] Getting the right person in place can add vastly to a company's market capitalisation, and cause investors to sell if their star heads for the door.[2] But it's hardly worth mentioning the skills needed to maintain a workforce of thousands are different to those required to direct a small, tight-knit team.

Understanding what motivates and what ties; these are the things that will determine the CEO's tenure. Perhaps it's time to check how rewards might be aligned and structured for the long haul, rather than a sprint towards a bonus cheque; and to look more closely at whether tomorrow's organisations are likely to turn away from a dictatorial style and morph towards flatter structures.

Big rewards: where markets and networks collide

Back in the 1980s, just as Reaganomics was taking off, US economist Sherwin Rosen grappled with the superstar phenomenon. As he observed the world around him, including everything from stand-up performers to those selling economics textbooks, he saw a handful of leaders dominating their fields. In *The Economics of Superstars*,[3] Rosen suggested the trend would continue: technology would empower the best, but lock out those on the lower rungs of the ladder.

His views seem eerily prescient. In recent decades, the superstar phenomenon has intensified, and the gulf between the 'winners' and 'also rans' has grown. The most effective corporate leaders, the best brands and connected influencers enjoy network effects, where profits cascade into the hands of a few.

Today, unique conditions – where new technologies are being applied in the process of globalisation – have created superstar companies where markets and networks collide.[4] At the same time, cheap credit has fuelled expansion and helped drive rounds of mergers and acquisitions. Finding and motivating leaders for these corporate giants has become a high-stakes game.

As companies have upsized, so have the rewards on offer for their leaders. In a mix that might include salary, equity and equity options and pension, the equity component has become increasingly important, coinciding with the stock market bull run. Compensation has tended to accelerate fastest for those with substantial stock-based incentives at the top of the corporate tree.

> *"Finding and motivating leaders for these corporate giants has become a high-stakes game"*

DIRECTOR OR DICTATOR?

continued

Abnormally high real returns in the 'golden ages' for equities (for example, 335 per cent for UK equities in the 1980s, or 276 per cent in the 1990s for US equities),[5] and more specifically in certain sectors – evidenced by 'accelerator' periods around secular shifts in innovation and technology – have radically altered the baseline.

However, perhaps a little more reflection is needed as to whether any one individual executive can really be responsible for the success of a large, global company. "Systems that have evolved over time, the wider economic context, the contribution of the workforce as a whole…these are all things that can shape performance too," says Luke Hildyard of the UK's High Pay Unit, one of the independent bodies that surveys executive compensation trends. "Whether a single executive deserves to take all the credit is questionable."

> *"The question, of course, is whether the rewards environment promotes considered risk-taking"*

Yet while the compensation landscape has been changing, compensation committees have often felt reluctant to brake or put downward pressure on pay awards for fear of losing the best talent. Although plenty of effort has gone into assessing annual awards, the cumulative effects often dwarf them.[6] The question, of course, is whether the rewards environment promotes considered risk-taking for the long-term benefit of the company. Perhaps not if the 'carrots' create a steep personal payoff curve for the chief executive. Lots of out-of-the-money options can incentivise risky decision-making; CEOs have limited downside – their options simply expire – but attractive upside if the stock price increases, and their options can generate a healthy return.

Unsurprisingly, interest has grown in capping total compensation, to prevent any single individual heading off with an uncomfortably large reward. Other ideas include adding debt and convertibles to compensation packages; bonds to sensitise leaders to bankruptcy risk and recovery value should the company fail.[7] The aim is to ensure insiders have genuine 'skin in the game'.

Meanwhile, there are ongoing efforts to push out decision-making time horizons. "Long-term incentive plans are generally set at five years now, whereas they used to be around three years," explains Hildyard. "It's also increasingly common that bonus payments are made in shares, and deferred for a number of years before an executive can access them."

Strikingly, UK regulators have imposed an extended seven-year bonus clawback period in finance, beyond the minimum set out by European Union guidelines.[8,9] There are even discussions on pushing those clawbacks out to a decade.

Culture: the key to motivation

While the scale of financial rewards gathers column inches, not everyone believes money is a particularly effective motivator. "Money is important, but that is not what gives people high-quality motivation," says US psychologist Richard Ryan. "It's usually a sense of commitment, purpose, allegiance with your organisation, having a sense of concurring with those goals. These are the keys to getting the most high-quality motivation. Financial rewards are a kind of maintenance. You have to have them, but if you are using those as a primary tool, you will likely have very low-quality motivation in your workplace."

Ryan – who advises Fortune 500 companies in the US – believes culture is king. The factors that contribute to engagement can be enhanced and drive long-term success. "Are employees feeling a sense of autonomy? Are they feeling a sense of effectiveness and confidence? And are they feeling connected to other people in the workplace? If you have those three things – the autonomy, the confidence and the relatedness – then you very likely have a highly-engaged employee," he adds.

Interestingly, a pacesetting leadership style, where a leader obsesses about doing everything better and faster, can lead engagement to fall. "The pacesetting style

> *Strong decision-making with clear direction and focus can easily veer into autocracy*

destroys culture," believes Daniel Goleman, author of *Emotional Intelligence*. It can be isolating. But these are just the kind of behaviours that disrupt.

Checks and balances

The balance between director and dictator can be a fine one. Organisations take their cues from the top and corporate culture is shaped by the examples set at the executive level, placing huge pressure on ensuring the right leadership tone. Strong decision-making with clear direction and focus can easily veer into autocracy.

"For businesses to thrive in the long term, they need a clear vision, a competent CEO and a strong board to challenge, guide and assist," says Mirza Baig, global head of governance at Aviva Investors. There may be a time and place for a star to drive – but, ultimately, the complexity of the modern business is too much for any single individual.

Instead, diverse boards made up of independent-minded people prepared to ask tricky questions can help. Awkward subjects – like the rationale for overly-ambitious acquisitions or the need for better succession planning – cannot be ignored. Studies of what differentiates great boards from the not-so-great show that it's not about cosy, club-like agreement.

"The highest-performing companies have extremely contentious boards that regard dissent as an obligation and that treat no subject as undiscussable," wrote American academic Jeffrey Sonnenfeld in the *Harvard Business Review* in 2002.[10] It is as true now as it was then.

If the executive wishes to run the company in the best interests of its owners (its shareholders) and other stakeholders (including customers and the wider community), a CEO should certainly be prepared to have decisions challenged by the chair, the 'guide on the side', and others to be kept wholly accountable. Combining the roles of the chair and CEO is a rarity in the UK, rooted in the idea no individual should wield too much power. This is not the case in the US, where around 50 per cent of listed companies still have powerful individuals holding both posts.[11] The star can hold the aces, being the public face of the company and its guide as well. Controversially, some companies are choosing to revert from separate roles to combined ones.

As ultimate owners, shareholders have a critical role to play. By expressing their views and using their votes actively, they can help regulate company behaviour. "Investors should use their voices to bring about change," says Steve Waygood, chief responsible investment officer at Aviva Investors. "It helps to accelerate corporate action."

Rebelliousness is on the rise – recently, more shareholders have challenged elections to board posts and more voices have been raised against pay resolutions in the UK.[12] This might account for a certain new modesty; more discussions on 'downward discretion' and pay restraint.

In some instances, shareholders may be constrained by share structures that privilege founders or early investors. Issuing shares with varied voting rights is not uncommon in the US, giving enhanced rights to some classes of share (say ten-fold greater than for holders of ordinary stock), as in the case of Facebook. Shares with lesser rights may trade at a discount relative to peers; not so in this instance.

Corporate structures of the future

Today's more fluid organisational structures are challenging traditional beliefs about the optimal ways to organise and motivate and, ultimately, how best to lead companies. Although leadership styles tend to change, evolving from visionary and commanding to more democratic and affiliative, there are deeper organisational changes going on as well.

"I've seen a gradual movement away from hierarchy towards a different form of collaborative human organisation," explains psychologist Dr. Meredith Belbin after years of work at Cranfield School of Management and Henley Business School. "We are in a transitional period and it's happening in all industries and, I believe, in all countries to a different extent. We need to understand the dynamics of teamwork, how we can use human resources to the best advantage because this is applicable in a general way right across the world."

If Belbin's view is correct, it has implications for the kinds of skills and intelligences in demand. So, from a time when larger companies were largely driven top down, in the management style of Henry Ford or Alfred Sloan at GM (who backed centralised administration and decentralised operations), newer ways of working have emerged. Lately, the impetus to decentralise and delayer has meant fewer managers and greater focus on how individuals can co-operate and drive change themselves.

Howard Gardner, Harvard professor of education and creator of the theory of multiple intelligences, sees interpersonal skills as critical to future success. "Nowadays, when the working environment shifts quickly and unpredictably, you need individuals who have considerable interpersonal and intrapersonal intelligences," he says. It's all about the science of the team, not so much the pacesetting hero.

Too many stars?

In Belbin's view, drawing on a variety of different perspectives can lead to better results. However, there is still a widespread belief that more 'stars' will inevitably translate into greater success.

DIRECTOR OR DICTATOR?

continued

> *The power of the team is being recognised in flatter organisations that draw on diverse skillsets*

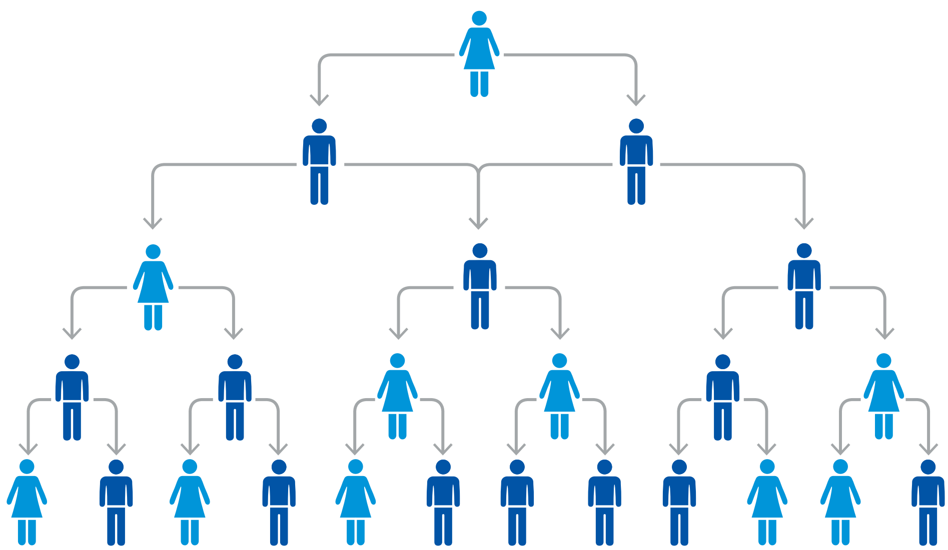
"The evidence is pretty clear: no matter where you work, having an entire team of superstars can be a total disaster," according to organisational psychologist Adam Grant.[13] "It turns out that if you have a team of 10 people, you're better off with six stars than eight. You see it on Wall Street. Teams with mostly top analysts make worse financial recommendations than teams that have a mix of stars and average performers."

And in a study of NBA basketball over a decade, teams with only three star players won more games than rivals with four or five. The star-studded teams had fewer assists, missed more of their shots and grabbed fewer rebounds. The players struggled to coordinate. They all wanted to be the 'alpha dog'.

Encouragingly though, the power of the team is being recognised in 'flatarchies' – flatter organisations that draw on diverse skillsets, rather than pyramids where 'Great Men' command and coerce. Although rare, flatarchies can be particularly useful for businesses seeking to innovate: they are dynamic, allowing teams to be formed and then dissolved to match business priorities as they change. This also implies today's 'star' may need to take a more pedestrian role tomorrow, but come back to shine further down the track.

One way to explain the shift in focus is to look at the nature of problem-solving. "When we solve problems, we climb landscapes," says Professor Scott Page, a complex systems specialist at the University of Michigan. "If one of us gets stuck, and if we all think in the same way, we're all stuck."[14] Diversity fuels different ways of looking at the world – of how problems are perceived and how solutions are sought. To think differently is good.

Figure 1: Hierarchical organisations



Source: Jacob Morgan (thefutureorganization.com)

> *Diversity fuels different ways of looking at the world and perceiving problems*

This has been explored mathematically, by comparing the predictive powers of diverse groups with forecasts from high-performing individuals.[15] The findings suggested better outcomes from group decision-making – all of which can be helpfully distilled into an equation:

collective accuracy =
average accuracy + diversity

Uncomfortably effective

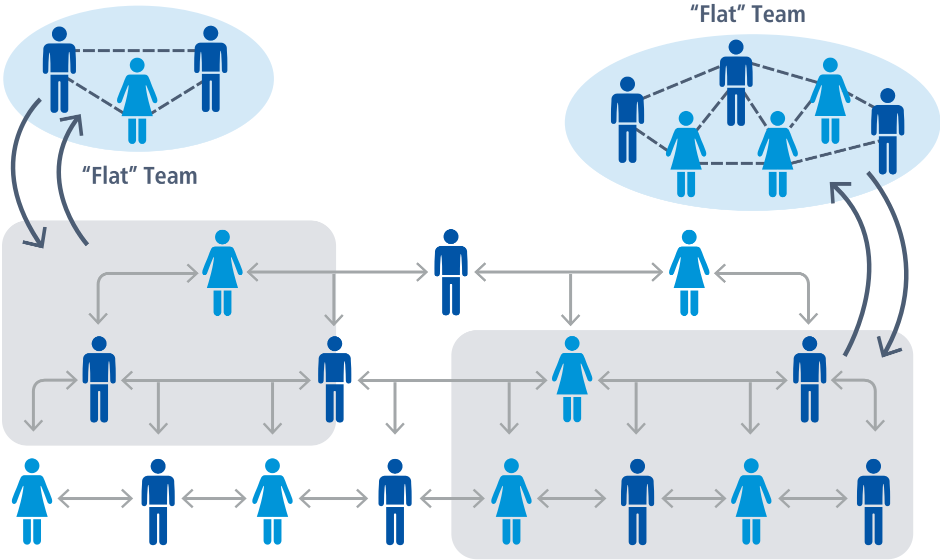
The reality, of course, is not all apple pie. Diverse teams tend to produce higher variance performance – both more conflict and better outcomes – so the process of working together won't necessarily be comfortable.

Contemplating this in the context of the corporate lifecycle can be illuminating, as management researcher Jim Collins has done. Collins believes all organisations are ultimately vulnerable to "the silent creep of impending doom".[16] Only certain organisations with the right checks and balances in place will survive, proving both malleable and resilient enough to reinvent themselves.

It is not difficult to find examples of companies whose phenomenal success left them ill-prepared for change – think of Motorola, paralysed by denial of the competitive threat from Blackberry in the 1990s; or Kodak, unable to recognise a paradigm shift to digital photography. Being aware of Collins' 'trajectory of decline' can help shape a healthier company – with everyone aware success may be transient and yesterday's hero project might need to be cast aside.

According to Collins, the leaders of companies with longevity have extraordinary resilience – they "never give in, never give in, never, never, never, never…" in Churchillian style. They also surround themselves with responsible people, who share core values and recognise others who contribute to their success.

Figure 2: Flatarchies



Source: Jacob Morgan (thefutureorganization.com)

DIRECTOR OR DICTATOR?

continued

Shared goals, shared culture; these are the features that drive and hold a team together. Traditionally, the practical side of this has fallen to managers. However, as we move to flatter models, the need for leaders to infuse such values is critical. Howard Gardner believes business leaders must lead by example and "know what they do not know, how to acquire the requisite knowledge and skills, how to find associates who may possess the knowledge or skills they lack themselves, and when to gracefully retire".

Grounding stars

It is time to circle back and revisit what the modern CEO needs to embody. Demand for those who can carry a brand, give direction to a strategy and promote a feeling of belonging is unlikely to end any time soon. But more mature companies are also likely to need individuals with collaborative intelligences and strong governance structures to help them stay on track. Treading the right side of the director/dictator line will mean setting culture by example, being prepared to look beyond their own tenure and, most importantly, being prepared for a healthy dose of challenge ●

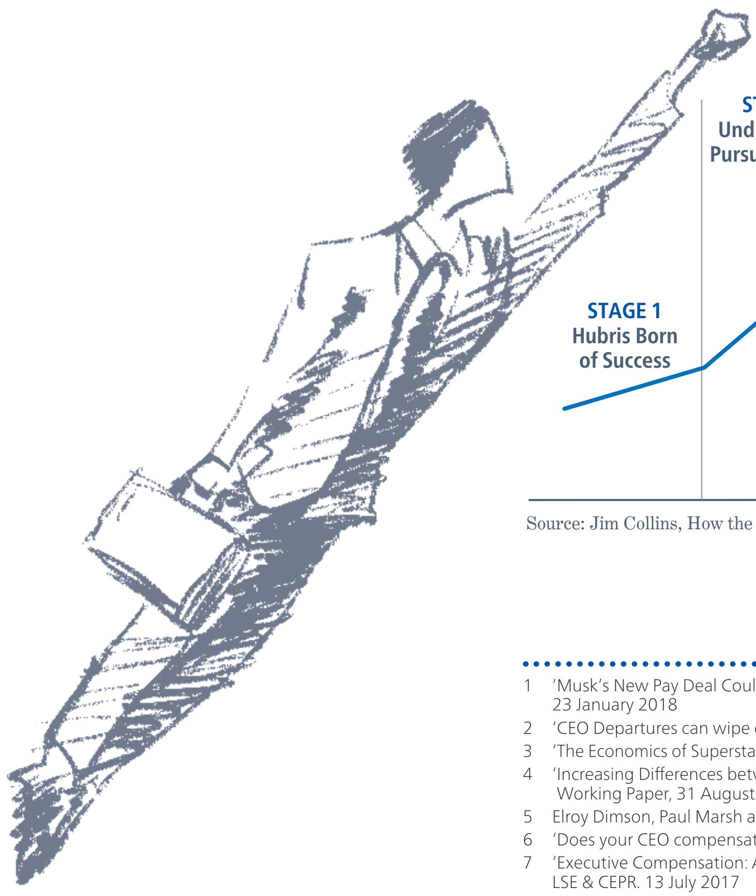
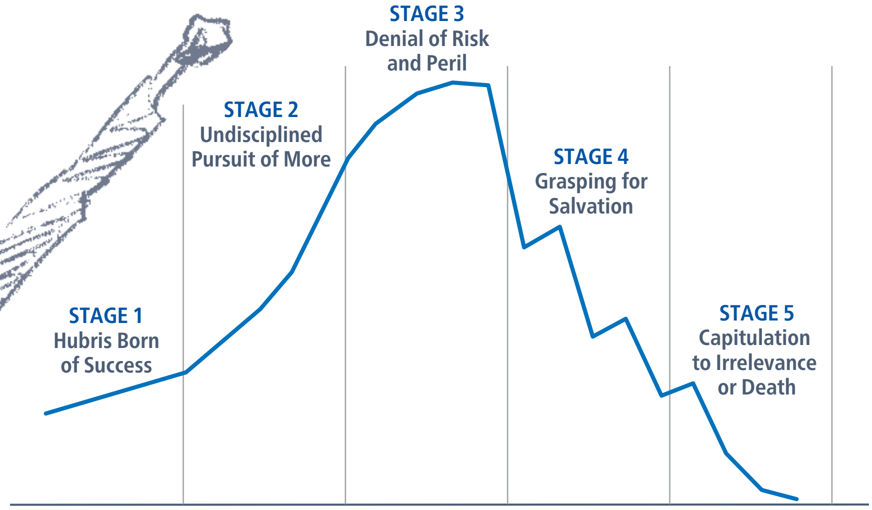


Figure 3: Five stages of decline



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VOICE AND EXIT:

USING ENGAGEMENT AS A FORCE FOR CHANGE

Investors often come under pressure to divest from companies. But engagement can be a more effective way to bring about positive change, argues Steve Waygood.

> *“Exiting may be convenient but it tends to entrench the status quo”*

The economist Albert Hirschman once argued people have two different ways of responding to disappointment: they either stay put and complain or vote with their feet. Hirschman called these options ‘voice’ and ‘exit’. An oppressed citizen may start a protest or emigrate to another country. Unhappy customers may return their goods for a refund or simply start shopping elsewhere.

This dilemma also applies to ethically-minded investors. If shareholders in a company discover it is polluting the environment or mistreating its staff, should they voice their concerns or simply exit the investment?

Divesting from companies that break ethical rules is often the more convenient option and may even bring a useful reputational boost. But once investors sell out they are no longer able to apply pressure to company boards. They may be replaced by less conscientious shareholders who are more than happy to look the other way so long as the profits keep rolling in. As Hirschman observed, while exiting may be convenient and conscience-soothing, it tends to entrench the status quo.

Steve Waygood, chief responsible investment officer at Aviva Investors, argues investors should use their voices before heading to the exit door. In this Q&A, he explains how shareholders can engage with companies to improve their practices; sets out what investors can do to ensure their asset managers are applying the necessary pressure; and highlights examples of engagements that have delivered positive change.

VOICE AND EXIT

continued

> *Investors can push companies towards more sustainable energy sources*

Why is engagement a better approach than divestment?

Engagement is more than a buzzword; it can be traced back to the origins of company law, which positioned shareholders as the primary regulators of corporate behaviour. Modern investors should approach their responsibilities in this spirit. They have a moral duty to act where they have the power to enforce generally-accepted standards. Often this means staying put to establish a dialogue and exerting pressure where necessary. It can also help to protect long-term shareholder value.

Divestment may be a simpler solution in many cases. Selling out can ease an investor's conscience and earn praise from divestment campaigners. But the real question is what is more likely to bring about change? Imagine you are an executive at a mining company where lax safety standards are leading to fatalities among staff. You are coming under heavy criticism from the company's investors and could be voted off the board at the next annual general meeting. Would your life become easier or harder if those concerned investors walked away? I would say it becomes considerably easier.

How can investors make sure they are listened to?

Equity investors have a variety of tools at their disposal. They have the power to fire a company's leadership at AGMs, and can use this to vote against strategies they disagree with. They can also vote against auditors if they are concerned the company's report and accounts are not being properly scrutinised or do not truthfully represent the financial and reputational risks it faces due to unethical practices.

Shareholders can work in tandem to bolster their influence. Collaborative engagement can be particularly important when it comes to addressing the behaviour of powerful fossil fuel companies that are used to resisting pressure from environmental campaigns.

Some argue that divestment from fossil fuels is necessary because the business model itself is the issue, rather than isolated cases of malpractice. How would you respond to this?

It is true that the activity of fossil fuel companies threatens the future of the whole planet. But we would argue this makes engagement even more important, because the stakes are so high.

If carbon emissions are not curtailed, it is possible global temperatures could rise by six degrees by 2100. In current prices, the associated damage could wipe US$43 trillion off the value of financial markets.[1] Such a catastrophe is difficult to contemplate. But without government engagement from large and powerful investors, policymakers may not come under enough pressure to correct the market failure. And without company engagement, energy utilities could simply continue burning fossil fuels, using their own lobbying activities to ensure policymakers let them do so.

By collaborating to put pressure on executives, investors can push these companies towards more-sustainable energy sources. Such a transition is in the interests of everyone, including the companies themselves, as at a certain point the remaining hydrocarbon reserves will become uneconomic to extract.

Could you give an example of successful engagement in the energy industry?

Consider Exxon Mobil's recent steps to improve its approach to climate

> *We strongly believe investors should use their voices to bring about change*

reporting. We've been engaging with Exxon for over a decade on this issue, voting against board members due to their position on climate change. Traditionally Exxon was among the most resistant of the oil majors to climate-related initiatives, but a significant milestone was reached at the company's AGM in 2017.

At the meeting, the Church Commissioners, the organisation that manages the assets owned by the Church of England, led a shareholder proposal requiring Exxon to publish an annual assessment of the long-term effects of global climate agreements on its portfolio. Aviva Investors and other shareholders supported the proposal, and this investor pressure has begun to bear fruit. The company's reporting now includes assessments of the impact of a global rise in temperatures on its operations, as well as the sensitivity of its portfolio to various supply and demand scenarios, such as the proliferation of electric cars.

This shows just how long engagement can take, which is why it is also important for investors to engage with governments to make sure market incentives are properly structured and encourage good corporate behaviour.

Beyond disclosure, what difference can engagement make in climate-related industries?

Engagement is about reducing the underlying emissions, too. For example, Italian multinational electricity firm Enel pledged never to build another coal station following our engagement. At its renewables programme launch event, the chief executive Francesco Starace said it was "obvious that renewables are winning the battle for competitiveness against fossil fuels and nuclear power. It is a matter of fact, there is no discussion any more". A coal-fired power station opened in Chile in 2016 will be Enel's last. Nor will the company spend any more money on nuclear. Half of Enel's £18 billion growth investment over the next five years is going into solar and wind energy, which currently provide just seven per cent of its electricity.

Similarly, we asked Glow Energy in Thailand for a public 'no new coal' commitment. A few months later it announced it will not add any new coal-fired power plants to its generation fleet. In total, five of the 40 fossil fuel firms we have engaged with have committed to science-based targets (i.e. consistent with the Paris agreement on climate change) on emission reductions. For example, Origin Energy became the first Australian company to have science-based emissions targets recognised by the global We Mean Business initiative, which helps drive collaborative engagement on this issue.

Can engagement deliver benefits in other sectors?

Engagement can help investors tackle wider issues such as corporate governance. Take Samsung Electronics in South Korea. The company has been involved in a series of controversies over the years, centring on the exercise of undue political influence and the misappropriation of shareholder funds.

But Samsung recently announced important reforms, including the appointment of independent international directors and the splitting of the roles of chairman and chief executive. Samsung also revealed it would significantly increase the dividend pay-out ratio, which had long been a point of contention between the controlling family and minority shareholders. Much more remains to be done, but these changes reflect the efforts of Aviva Investors and other long-term shareholders over many years to engage with the company.

What can institutional investors do to ensure they are pushing companies to remedy their behaviour?

It is important institutions have a clear process for identifying the companies that are of greatest concern in their portfolios, and ensure their fund managers are proactive in addressing the issues. One way for institutions to ensure their managers are taking responsibility on engagement is to incorporate it into their incentive structure. Is there a sanction in place if the engagement plan fails to deliver? And is there a reward if the plan is delivered and change is implemented?

What should investors do if they fail to see the changes they are pushing for?

Not every investor has the clout to make a company alter its behaviour, and sometimes firms will refuse to improve their business practices no matter how powerfully investors protest. Engagement can fail, and there will come a time when the only option is to walk away.

Where persistent and concerted engagement has failed, then it's time to use the exit. For example, in 2017 Aviva divested its own money from a Japanese coal company called J Power because, despite our best efforts, we saw no progress on a series of key issues. But we strongly believe investors should use their voices to bring about change before they head for the exit. It helps to accelerate corporate action ●

1 Research from the Economist Intelligence Unit (EIU), commissioned by Aviva Investors.

WHY GOVERNANCE IS KEY TO RESTORING TRUST IN UK INFRASTRUCTURE

> *The sector is facing an unprecedented lack of trust that risks derailing the UK's modernisation strategy*

The UK infrastructure industry needs to face up to its failings and act in the best interests of all stakeholders. Developing a code of conduct would be a good place to start, argue Darryl Murphy and Mirza Baig.

The UK, like many countries around the world, is facing the complex challenge of ensuring there is sufficient investment in infrastructure to keep pace with social, economic and technological changes and needs. The Government National Infrastructure Delivery Plan in 2016 stated that over £480 billion of investment was required in the period to the end of this decade and beyond.[1] Of this, 50 per cent is proposed to be financed and delivered by the private sector.

On July 10, the National Infrastructure Commission (NIC) launched the eagerly-awaited National Infrastructure Assessment (NIA), which will provide a pathway to infrastructure investment to 2050 to build our future society.[2] The assessment makes a series of recommendations, including a switch to low-carbon and renewable sources for power and heating; a nationwide broadband plan; flood defence; and the move towards electric vehicles.

With the Commission stressing its recommendations are not "an unaffordable wish list" for the government, the private sector features heavily within the NIA as part of the long-term delivery and investment plan. The NIC also asserts that "both government and arms length independent state institutions can help to support this investment, by absorbing risk that the market finds hard to manage and supporting due diligence functions for innovative projects".

However, despite the centrality of private finance to the current and future provision of essential public services, the sector is facing an unprecedented lack of trust that risks derailing the UK's modernisation strategy.

How did we get here?

One of the key issues that has influenced the fluctuating stance and policy of government is the long-term nature of infrastructure investments, which can often sit uncomfortably within a shorter political cycle. Ministries charged with providing funding and oversight are often different to the ones who approve projects. Furthermore, megaprojects and services with a direct impact on local communities regularly become hot button topics for opposition parties to contrast their economic and ideological positions.

In this context, Conservative ministers, select committees and the current Labour opposition have all felt compelled to look at how private finance operates, with Labour calling for the termination of Private Finance Initiative (PFI)/Public Private Partnership (PPP) contracts and the nationalisation of privately-owned utilities.[3] The demise of Carillion has only intensified the scrutiny around placing essential public projects in the hands of the private sector.

Beyond politics, private investors and operators of public services have scored a series of own goals with the way they have priced and structured contracts. Every headline of a school or hospital being closed under the weight of long-term, inflexible PFI payments further cements the perception that the public are being 'ripped off' by unscrupulous private operators. This conclusion was drawn more formally in the National Audit Office report on PF2 in January 2018,[4] which raised serious questions over the value for money delivered through the historic use of PFI/PPP. The report estimated the government could have saved between 40-70 per cent on the value of contracts awarded if it had financed the projects directly.

The current debate extends well beyond PPP as a delivery tool and goes to the heart of the infrastructure market that has been shaped over the last 30 years, dating back to the privatisation of state-owned companies in the 1980s.

DARRYL MURPHY
Head of Infrastructure Debt

MIRZA BAIG
Global Head of Governance

The infrastructure industry has a short window to face up to and address this trust deficit or risk undermining both its own long-term viability and the UK's ability to remain a leading economy.

Addressing governance failures

The private sector has tried to respond to increasing criticism by pointing out the positive impact its investment in infrastructure has had across many industries, including water, energy, schools, hospitals and transportation. However, the real value to the public has neither been clearly articulated nor sufficiently promoted. This is in part due to a failure of robust and transparent engagement with all stakeholders during the life cycle of the project or service.

Traditionally, private operators of infrastructure and public services have focused on demonstrating their environmental credentials as the primary measure of their responsible practices. While this remains a critical consideration, similar importance has not been given to the governance of their operations, which provides the overarching framework of their conduct and behaviour. This is in part due to a misconception that governance is an issue for public rather than unlisted private companies and entities.

However, good governance is essential in the delivery of long-term value. For businesses to remain sustainable and flourish, they must acknowledge their role in the broader environment in which they operate, and endeavour to develop deep and positive relations with customers, government agencies, suppliers, employees and communities. The revisions to the UK Corporate Governance Code,[5] which emphasise social purpose, culture and stakeholder relations as foundational principles, are welcome. While the Code is directed towards public companies, lessons from the collapse of BHS have already resulted in demands to raise governance standards in private companies.

There are other long-term trends that will inevitably have an impact, including demands for a fairer distribution of value and wealth in society and the rise of environmental, social and governance (ESG) investing. Although infrastructure remains a unique asset class, the impact of these phenomena to the sector is inescapable. In due course, it will mean that the myopic pursuit of maximising short-term profits at the expense of 'stakeholder value' will likely result in business failure, while entities unable to demonstrate strong ESG credentials will be starved of capital or be required to pay a substantial risk premium.

The way ahead

Despite the obvious challenges, constraints on public budgets mean that private finance will continue to have an important role to play in the future of infrastructure and public services. Although the threat of hard and soft regulation looms, private players have an opportunity to proactively shape the reform agenda. This will require the industry to move beyond the outdated approach of viewing projects exclusively through the lens of contractual obligations, and recognise their primary objective is to deliver high quality, cost-effective public goods and services.

Regaining public trust will require industry leaders to set clearer standards; to create a culture that places public interest at the top of board and management agendas; and to engage with critical stakeholders in an honest, transparent and responsive manner. Reading across from the experience of publicly-listed companies, the evolution of the idea of 'enlightened' shareholder value should result in a fairer and more balanced distribution of value and benefit. Outsized profits should be exchanged for more considered long-term profitable partnerships. This will help rebase the industry on a more sustainable footing.

A possible mechanism to demonstrate the commitment of the industry to change would be the development of a voluntary code of conduct to address the key issues highlighted, including social purpose, robust board governance with suitable levels of independence, and a detailed framework for engaging stakeholders. The credibility of the code would require the establishment of an oversight committee that monitors compliance and can demonstrate meaningful behavioural change within the sector.

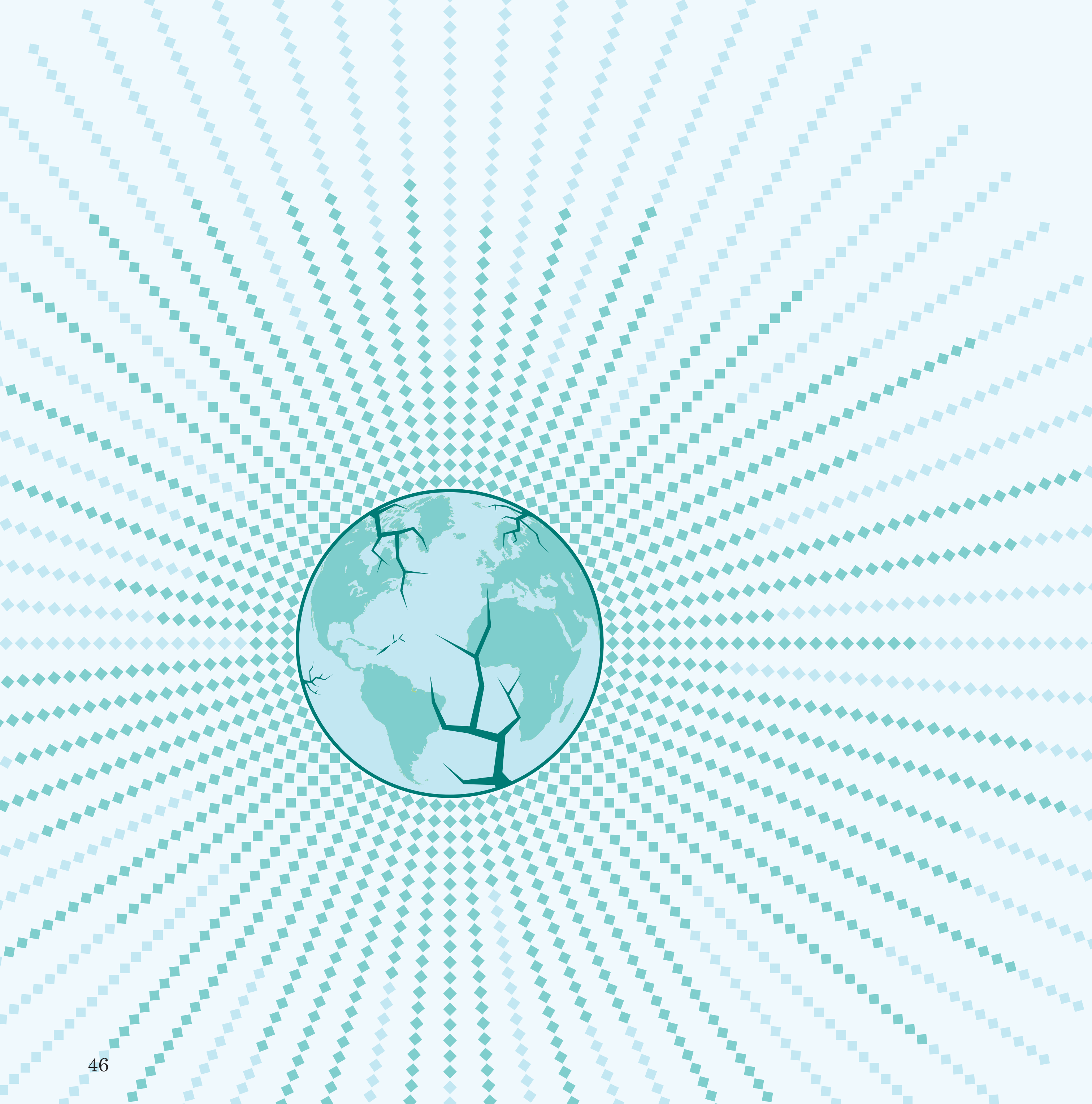
Meeting UK infrastructure needs over the next 30 years will require effective relations between private investors, the public sector and the public. These relationships have been materially damaged and it will take time and effort to repair the trust deficit.

The private sector must now show itself capable of acting swiftly, decisively and responsibly in redefining how it connects with the government and wider public and seek to overhaul its mission statement, culture and conduct. This would help shift the narrative of the dynamics of private capital and public interest projects from a zero-sum game to an essential and mutually-beneficial partnership for all stakeholders ●

1 *National Infrastructure Delivery Plan 2016–2021*, UK Infrastructure and Projects Authority, April 2016
2 *National Infrastructure Assessment for the United Kingdom*, National Infrastructure Commission, July 2018
3 'John McDonnell: Labour public infrastructure plan will cost nothing,' BBC News, February 2018
4 *PFI and PF2*, National Audit Office, January 2018
5 Consultation on a Revised UK Corporate Governance Code, Financial Reporting Council, December 2017

GROWING PAINS

Gross domestic product is our chief measurement of economic health. But GDP is failing to account for the dynamics of modern economies and damage to the environment – and some experts are calling for reform.



> *GDP is failing to provide an accurate picture of how economies are performing*

GDP: a wealth of meaning is crammed into those three letters. Gross domestic product is our principal index of economic welfare. It is the subject of conferences and hand-wringing editorials. It is the metric by which the success or failure of government policy is judged.

Such is the ubiquity of GDP in public life, it is easy to forget it is not a naturally-occurring phenomenon but a human invention, like chocolate cake or the internal combustion engine. And like an old car trundling along the motorway, GDP is struggling to keep pace with the demands of the modern world.

As investment shifts towards service sectors and digital assets, GDP is failing to provide an accurate picture of how economies are performing. It does not account for the distribution of economic gains, which might explain why Western governments failed to anticipate the populist votes of recent years. So is it time for GDP to be replaced? Or does it remain an indispensable tool, despite its flaws?

"If you are trying to value spending and income, GDP remains the most relevant statistic. But it is not perfect," says Stewart Robertson, senior economist for the UK and Europe at Aviva Investors. "It is quite easy to measure the number of widgets coming out of a factory, but quantifying the economic value being produced by digital and creative industries is much more difficult. In an economy that is evolving in these directions, it is legitimate to ask whether GDP is still fit for purpose."

A brief history of GDP

GDP is a relatively recent creation. The first comprehensive national accounts were devised by the Russo-American economist Simon Kuznets, who worked in US President Franklin D. Roosevelt's administration in the 1930s.

Roosevelt's predecessor Herbert Hoover had relied on patchy data such as stock market indices and freight-car loadings to measure the economic impact of the Wall Street Crash of 1929. But Kuznets devised a more accurate metric, which could indicate a nation's entire output in a single number. He and his small team criss-crossed America, visiting factories and farms to conduct interviews and collect data. In 1934 he presented his first report, which revealed a shocking fact: the US economy had almost halved in size since the crash.[1]

In the run-up to the Second World War, the US government found GDP a useful way to measure the nation's economic capacity – and the likelihood of military victory. Kuznets worked in the Planning Committee of the War Production Board and may have influenced the timing of America's entry into the war, having concluded the US would be better positioned if it delayed its involvement.[2]

Around the same time, the British economist John Maynard Keynes was doing similar work across the Atlantic. Keynes's crucial contribution was to include state spending in calculations about the scope of the economy. Building on Keynes's theories, governments in the post-war period used national accounts statistics to create econometric models to project the impact of policy decisions using so-called 'fiscal multipliers'. GDP became a key tool of macroeconomic management.

Growth and welfare

There are three main ways to measure GDP: production, income or expenditure. The most familiar method uses expenditure, according to the formula GDP = C + I + G + (X – M), or consumer spending plus gross investment plus government spending plus exports less imports. But this seemingly-simple equation hides many complexities.

For example, consumer spending estimates are subject to a seasonal adjustment to smooth out fluctuations over the course of a year. Like other components of demand, GDP numbers are adjusted for inflation using a general price index or deflator. Further tweaks are needed to compare how different economies are faring; hence conversion rates for purchasing power parity (PPP).

The final GDP figure therefore involves a lot of adjustments, estimates and guesswork based on previous findings, says Robertson. "You measure a nominal value and derive a price index, and use the price index to establish a real value. The process is quite convoluted with plenty of scope for error. In 1996, the Boskin Commission in the US discovered the consumer price index (CPI) overstated inflation by 1.1 percentage points a year, which meant output was higher than previously thought."

Despite these issues, 20th century governments found GDP a neat way to gauge the health of their economies and a workable proxy for overall living standards. Strong growth in the post-war era came hand-in-hand with increased employment, higher incomes, a greater range of consumer goods and widespread innovation – what British prime minister Harold Wilson called the "white heat" of technology. Higher GDP-per-capita also proved to be positively correlated with lower infant mortality and longer life expectancy, according to research from Nicholas Oulton at the London School of Economics (see figure 1).[3]

What's in and what's out?

Nevertheless, GDP is an imperfect index for a nation's overall welfare. In his recent book *The Growth Delusion*, *Financial Times* journalist David Pilling criticises what he calls the "cult of growth", arguing that policymakers' focus on GDP is problematic. He points out GDP growth depends on a perpetual increase in human consumption, which threatens to cause irreversible damage to the environment.

Pilling also points to the fact that GDP includes all sorts of morally-dubious practices in its measurements. Kuznets believed GDP should only incorporate activities that contribute to human welfare, but nowadays war, organised crime and natural disasters can all boost output.

GROWING PAINS
continued

Combined with GDP-based spending targets, these inclusions can lead to absurdities. In 2015, the *FT* reported that a rise in illegal drug trafficking and sex work had added £9.7 billion to UK GDP the previous year; on the same day it ran an editorial discussing Britain's pledge to keep its defence expenditure at two per cent of GDP. Joining the dots, a reader's letter wryly observed: "If only prostitutes worked a bit harder, the army could have a few more guns."[4]

Even as it includes the proceeds of illegal work, GDP leaves out a range of activities society deems beneficial, such as unpaid social care, childrearing and housework. In 2000, British economists calculated that total unpaid household labour was worth £877 billion, or about 45 per cent of all the country's economic activity for that year.[5]

Aside from the discussions over what to include, there can be problems in retrieving the relevant data, especially in emerging economies where vast swathes of commercial activity are invisible to central government statisticians.

In 2014, for example, Nigeria announced the results of a three-year statistical survey that discovered the economy was 90 per cent bigger than previously thought. The country leapfrogged South Africa as the continent's largest economy overnight; its debt-to-GDP ratio fell precipitously and its markets immediately began to attract more foreign investment. But everyday life changed little for the people running small rural businesses whose economic contribution had been belatedly recorded in the national accounts.[6]

The intangible economy

Measuring GDP is also becoming more difficult in advanced economies as services replace manufacturing as the key driver of growth. It is much easier to measure the output of a factory that produces countable objects than a service-based company specialising in consulting or product design.

The growth of investment in intangible assets such as data, design and expertise only exacerbates this problem. Many cutting-edge companies now rely on digital platforms with scarcely any physical presence: Airbnb, the world's largest accommodation provider, owns minimal real estate; Uber, the world's biggest taxi company, has hardly any vehicles in its portfolio.

Jonathan Haskel, a professor of economics at Imperial College London who joined the Bank of England's Monetary Policy Committee in September, explored the rise of the intangible economy in his book *Capitalism Without Capital*, co-authored with Stian Westlake.[7] He says GDP fails to accurately record the activities of intangible-focused companies.

"If we are going to track the economy via GDP, particularly when it is turning up or down, we need to better measure intangibles. And since many intangibles are about product upgrading – think of spending on design and branding – we need to be sure we are measuring new products and their prices when we look at GDP.

"When we look at wider well-being, all these factors come in as well: if we are to measure consumers' welfare and the reach of their purchasing power, we need be sure we are capturing all that they can potentially buy," Haskel adds.

It is likely that some of the economic contribution of technology companies is going unrecorded, which could mean we are underestimating overall growth. Then again, aspects of the intangible economy are probably bad for GDP. Jobs that would once have been performed by paid employees are being automated. Airbnb has no need for hotel clerks or concierges, for example; customers make their own bookings and carry their own bags to their rooms – in economic parlance, these roles have moved outside the 'production boundary'.

As Will Page, director of economics at music-streaming service Spotify, put it: "The goal of disruptive technology companies, in the statistical sense, is to reduce GDP. To wipe out transaction costs, which are being measured, and to replace them with convenience, which is not being measured. So the economy is shrinking but everyone is getting a better deal."[8]

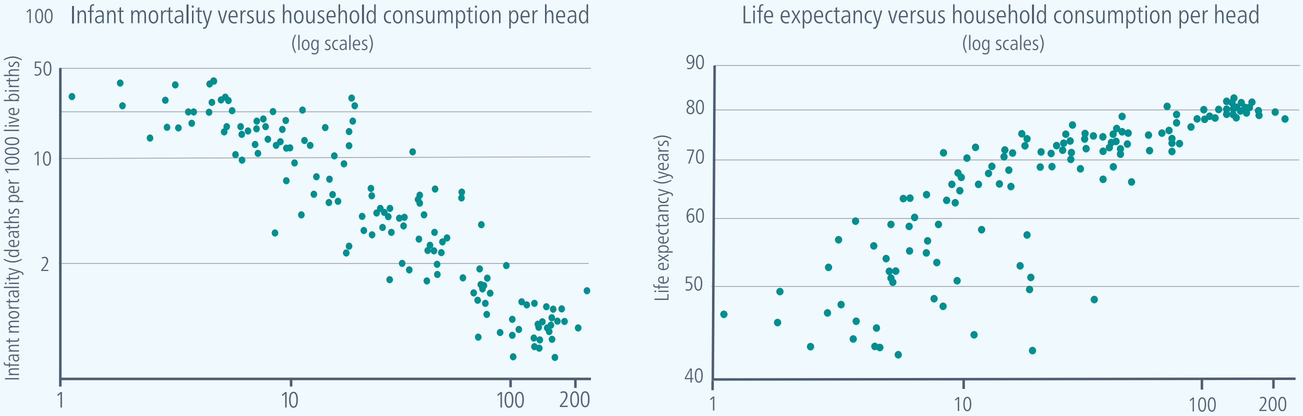
The rise of populism

But is everyone really getting a better deal? Since the turn of the century, new technologies have created a range of covetable consumer gadgets that have made our lives more convenient, but dissatisfaction with the state of Western economies is growing. The Brexit vote in the UK and the election of Donald Trump in the US were widely attributed to a sense of futility among voters who had been excluded from the fruits of economic growth.

In relying on GDP as their chief economic indicator, governments may have missed underlying trends. GDP was never intended to measure economic distribution: it simply measures the size of the cake, not how it is divided up. According to some experts, policymakers' failure to anticipate the rise of populism may have been the result of their dependence on top-line GDP measurements amid the fast-changing dynamics of the modern economy.

"If the Office for National Statistics in the UK had put more resources into collecting regional and finer geographical statistics in the past, we would have known that some parts of the country simply haven't benefited from GDP growth for about 10 years or more; it was all very concentrated in the southeast," says Diane Coyle, Bennett professor of public policy at Cambridge University and author of *GDP: A Brief but Affectionate History*. "We think we are only measuring what we see, but in fact it's the other way around: we see what gets measured."

Figure 1: Higher GDP-per-capita correlates with lower infant mortality and longer lives



Real household consumption per head (DRC=1)
Notes: 144 countries, Household consumption deflated by EKS Fisher PPP.
Source: Nicholas Oulton, London School of Economics, 2012.

Real household consumption per head (DRC=1)
Notes: 144 countries, Household consumption deflated by EKS Fisher PPP.

In a recent paper written with Benjamin Mitra-Kahn, Coyle argues for a two-stage reform to GDP: as an initial measure, GDP should be amended to incorporate intangible assets, remove unproductive financial investment and adjust for income distribution. Eventually, GDP should be replaced with a "dashboard" that records "access" to six key assets: physical assets, natural capital, human capital, social and institutional capital and net financial capital. Coyle and Mitra-Kahn argue this approach would help avoid the sort of "complacency about economic performance" we have seen in recent times.[9]

"We ought to pay attention to the distributional question even if we don't change the statistics," says Coyle. "If we ask what are the sorts of assets people have access to, we would start to think about other things: What is the transport infrastructure available to people in areas of low income? What are the schools like; are they able to build up the human capital to give people the life chances they need? You can think about distribution in a much more empowering way if you have these kinds of figures."

Alternatives to GDP

Other experts say GDP is worth sticking with, despite its flaws. In 2017, Coyle and Mitra-Kahn's paper shared the inaugural Indigo Prize in Economics with an entry written by Haskel and colleagues, which makes the case that many of the mooted alternatives to GDP throw out the baby with the bathwater. While GDP is flawed in many ways, it still provides policymakers and investors with a useful barometer of how economies are performing and therefore a basis for efficient capital allocation.

Haskel and his team argue GDP fulfils two key principles of measurement alternatives do not. First, it avoids 'double counting' by only measuring value added at each stage of production (for example, it counts sales of sandwiches, but subtracts the bread used to make them). Second, its reliance on prices ensures items are accorded different weights depending on their relative economic importance at a particular point in time.[10]

Haskel's team argues we should hold onto GDP, but reform it to address its principal flaw; namely its failure to account for intangible assets and wider human welfare. To ensure the use of 'free' intangible assets such as apps and websites are recorded in the national accounts, Haskel's team advocates using surveys to determine how much consumers would pay for them. Such surveys have found users would be willing to pay US$14 per month to preserve their access to Facebook and as much as US$1,300 per month for search engines.

GDP could also be extended to encompass broader human and environmental wellbeing. New variables could be added to national accounts to give a more-comprehensive picture of overall welfare without compromising GDP's usefulness as an indicator of growth, investment and

"*GDP could be extended to encompass broader human and environmental wellbeing*"

GROWING PAINS
continued

$1,300
per month
The amount users would be willing to pay for search engines

economic performance. For example, leisure time and life expectancy could be measured as a supplement to the consumption figures, on the basis that more income is of no use if you have no free time in which to spend it.[11]

GDP RIP?

There have been attempts to put these kinds of reforms into practice. In the US, the Maryland state government now refers to an index called the Genuine Progress Indicator (GPI) before making its budget decisions.[12] The GPI supplements GDP figures with variables such as leisure time and unpaid housework, and subtracts so-called 'regrettables' including pollution and time spent commuting.

Similarly, in 2013 the Australian Bureau of Statistics launched a platform called Measures of Australia's Progress (MAP) to track education, health and social trust alongside traditional economic variables.[13] MAP showed that while the economy and per capita income had increased over the previous decade, social trust had stagnated and the health of the natural environment had regressed.

Despite these innovations, it is likely to be some time before the majority of states, economists and investors end their reliance on GDP, says Coyle. "There's a lot of interest in change at the moment, but it's a bit like having a technical standard, like driving on the left side of the road. Nobody is going to switch until anyone else switches.

CONSCIOUS DECOUPLING:
GDP AND ENVIRONMENTAL SUSTAINABILITY

One of the most serious problems with GDP is that it fails to measure the impact of economic growth on the planet's finite environmental resources. As economist Kenneth Boulding once put it: "Anyone who believes that exponential growth can go on forever in a finite world is either a madman or an economist."

By Abigail Herron,
Global Head of Responsible Investment at Aviva Investors

Some economists have indeed argued it is possible to 'de-couple' economic growth from environmental damage. The International Resource Panel (IRP) of the United Nations Environment Programme points to evidence that advanced economies tend to achieve more growth at a relatively lower environmental cost – even if they continue to increase their use of resources in absolute terms – as they become more technologically sophisticated and efficient.[14]

The ongoing shift to green energy contributes to this kind of 'relative' decoupling. In an article for the journal *Science* in 2017, Barack Obama observed that the US economy grew more than 10 per cent over the course of his presidency, even as carbon emissions from the energy sector fell by 9.5 per cent, thanks to a transition to greener energy sources.[15]

While this transition is to be welcomed, it should be noted that solar panels

> *For now, GDP is the best metric we have for the state of economies, the flow of investment and per-capita wealth*

If politicians started saying GDP is not important, all the newspapers would say: 'Well you're only saying that because it isn't growing.'

"So there needs to be some kind of consensus and enough intellectual firepower behind switching to something else, as was the case when GDP was invented during the Second World War and immediately afterwards. The debate about what we would switch to is still going on," Coyle adds.

For now, GDP is the best metric we have for the state of economies, the flow of investment and per capita wealth. To paraphrase Winston Churchill's famous observation about democracy, GDP remains the worst way of measuring economies apart from all the others that have been tried from time to time ●

1 Diane Coyle, *GDP: A brief but affectionate history* (Princeton University Press, 2014)
2 David Pilling, *The Growth Delusion* (Bloomsbury, 2018)
3 'Hooray for GDP,' *CentrePiece* magazine, London School of Economics, Winter 2012
4 Op.cit.
5 Ibid.
6 'How Nigeria's economy grew by 89 per cent overnight,' *The Economist*, April 2014
7 Jonathan Haskel and Stian Westlake, *Capitalism without capital* (Princeton University Press, 2017)
8 Interview with Pilling, *The Growth Delusion*
9 'Making the future count,' Indigo Prize website, September 2017
10 'Improving GDP: demolishing, repointing or extending?,' Indigo Prize website, September 2017
11 Ibid.
12 'Maryland Genuine Progress Indicator,' Maryland state government website
13 'Measures of Australia's Progress,' Australian Bureau of National Statistics
14 'Decoupling natural resource use and environmental impacts from economic growth,' UNEP, 2011
15 'The irreversible momentum of clean energy', *Science*, June 2017
16 Op. cit.
17 Tim Jackson, *Prosperity without growth: Economics for a finite planet* (Routledge, 2009)
18 happyplanetindex.org/

and wind turbines still use up finite environmental resources such as land and materials. And some countries that appear to be decoupling, such as Germany and Japan, are often 'exporting' their resource consumption by making use of goods that have been produced abroad using major quantities of water and minerals. Overall, advanced economies still consume far more natural resources than developing ones: the IRP has noted that the average citizen in a developed economy such as Canada consumes 25 tonnes of minerals, ores, fossil fuels and biomass per year, compared with four tonnes for the average citizen in India.[16]

With the sustainability question in mind, some experts have called for alternative measures of economic welfare to replace the emphasis on GDP. Tim Jackson, professor of sustainable development at the University of Surrey and an adviser to Aviva Investors, framed his seminal 2009 report *Prosperity Without Growth* around the evidence that, beyond a certain point, growth does not increase human well-being.[17] Diane Coyle calls for a shift of focus towards 'access' to economic benefits, with the preservation of 'natural capital' a key concern. Meanwhile, Jonathan Haskel argues the health of the environment could be encompassed within a reformed GDP framework, so that planting a forest counts as an investment in 'environmental capital' while polluting the Great Barrier Reef subtracts from it.

The New Economics Foundation's Happy Planet Index is one of the first global measures of sustainable wellbeing. It captures global data on wellbeing, life expectancy, and ecological footprint to reveal an index of which countries are most efficient at producing long, happy lives for their citizens, while maintaining the conditions for future generations to do the same.[18]

As there is not yet any consensus on how to reform or replace GDP, it seems likely that the debate over the compatibility of economic growth and environmental welfare will run and run ●

CURRENCIES:

THE PHONEY WAR?

With US President Donald Trump accusing China of manipulating its exchange rate to gain the upper hand on trade, we consider the likelihood of an all-out currency war between the rival superpowers.

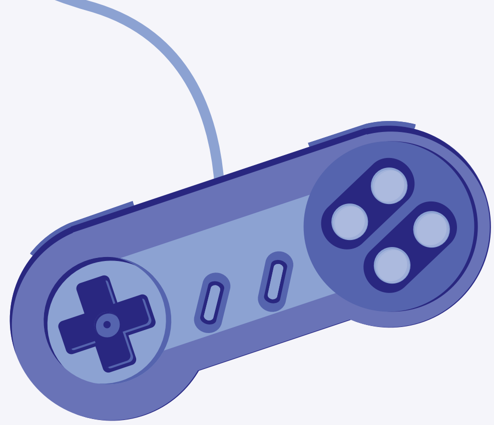
The trade war between the United States and China is intensifying. On September 24, the two countries hit each other with their biggest round of tariffs yet: Washington slapped ten per cent levies on $200 billion of Chinese imports, spanning thousands of products; China retaliated immediately with new taxes of between five and ten per cent on $60 billion of US goods, including meat, chemicals, clothes and auto parts.[1]

The moves marked a significant escalation in the growing conflict between the world's top two economies. US President Donald Trump's tariffs now apply to over $250 billion of Chinese exports, roughly half the annual total. Having placed levies mostly on industrial goods earlier in the year, Trump’s latest tariffs include thousands of products bought by US consumers, including furniture, electronic devices and even baseball gloves.

There seems every prospect of the fight intensifying. Not only is the size of the US levy set to increase at the end of the year to 25 per cent, Trump has threatened tariffs on a further $267 billion of Chinese products.[2] That would mean virtually all China's annual goods exports to the US being subject to tariffs, with the US having imported $527 billion worth of goods from China in the year to the end of June.[3]

CURRENCIES: THE PHONEY WAR?

continued



China, which is running out of new US products to target in response as it imports barely a quarter of that amount – $135 billion – has failed to spell out what, if any, further steps it is considering.[4]

China's options

Renowned foreign exchange expert Jens Nordvig, founder and chief executive of Exante Data, which provides data and analysis to the financial industry, believes an obvious option open to Beijing is to subsidise key industries to limit the damage. Indeed, he believes this has already started to happen.

Nordvig, a former head of foreign exchange research at Nomura, says Beijing has other avenues open to it, including halting the export of various items such as rare earths or high-tech components; boycotting various US goods as it has done before with Japanese products; and reducing its holdings of US government bonds, worth almost $1.2 trillion. Given the extent to which relations with Washington have soured, he sees a significant risk that it will deploy some of these other weapons.

Perhaps most worrying of all, there has been speculation Beijing may be seeking to maintain the competitiveness of its exports by deliberately weakening its currency, the renminbi. That could potentially open an altogether more chaotic front in the conflict with Washington. After hitting its highest level against the US dollar in nearly three years on April 11, by October 8 the renminbi had fallen nearly ten per cent – it lost 3.3 per cent of its value in June alone, the worst one-month decline since China established its foreign exchange market in 1994. The fall has left it hovering just above its lowest level in a decade.

The move has not gone unnoticed in Washington. Trump, who on the campaign trail declared China a "currency manipulator", complained on July 19 the renminbi was "dropping like a rock".[5] On October 9, US Treasury Secretary Steven Mnuchin warned China not to engage in competitive devaluations of its currency.[6]

The renminbi's fall: intervention or market forces?

However, while some commentators question whether the fall has been deliberately engineered by China, the evidence suggests otherwise, according to Joubeen Hurren, fixed income portfolio manager at Aviva Investors.

He argues that although it would be natural to assume China is letting its currency fall to make its exports more competitive and neutralise the bite from US tariffs, it seems more likely market forces have been behind the currency's weakness, with the economy having slowed in part due to Chinese authorities' efforts to rein in credit creation.

"If you look at where the exchange rate fixes have been taking place relative to the previous day's close, the PBoC (People's Bank of China) has been fixing it stronger. It has actually been attempting to prevent it dropping too fast," Hurren says.

Others concur. Harvard University professor Jeffrey Frankel describes Trump's accusations that China is manipulating its currency downwards as "absurd". "Since 2014, China has spent $1 trillion in reserves trying to stop its currency depreciating. That is a heavier intervention in the foreign exchange market than any country has made in history," he says.

Nordvik also sees "no evidence" the PBoC has been selling the yuan "according to the most reliable metrics we have".

Having abandoned a policy of fixing the exchange rate in 2005, China has allowed the renminbi to float in a narrow margin around a rate determined with reference to a basket of world currencies. Its value against the dollar is permitted to fluctuate in a band around a daily reference rate. That band has gradually grown looser, from plus or minus 0.3 per cent in 2005 to plus or minus two per cent since March 2014.

While acknowledging Chinese officials have an interest in not saying anything that could inflame tensions further, Hurren says recent events reinforce his view that the trade spat is not morphing into a currency war.

Chinese Premier Li Keqiang, during a speech at a World Economic Forum event in the northern Chinese city of Tianjin on September 19, said China "will never go down the road of relying on yuan depreciation to stimulate exports".[7]

Hurren says it is important to recognise that at the same time as the renminbi has been coming under pressure – due also to the anticipated effect of Trump's tariffs – the dollar has been underpinned by a strengthening US economy and rising US interest rates. He points out the renminbi is far from alone in losing value against a resurgent dollar, with various other emerging market currencies having been hit even harder as the withdrawal of US monetary stimulus and rising trade tensions cause a flight of foreign capital.

Furthermore, complaints from the US – and for that matter a number of other countries – that China keeps the value of the renminbi artificially low, boosting its exports and trade surplus at the expense of trading partners, are nothing new.

Although the US Treasury has repeatedly stopped short of labelling China a 'currency manipulator' in its twice-yearly reports to Congress, it has consistently pressured Beijing to allow its currency to appreciate at a faster pace and fluctuate more freely in line with market forces.

The International Monetary Fund (IMF), the World Bank and many economists have also argued for faster appreciation and a more flexible exchange-rate policy. Partly in response to these pressures, but more because of domestic considerations,

> *An obvious option open to Beijing is to subsidise key industries to limit the damage*

China has allowed the renminbi to rise by around 20 per cent against the dollar since July 2005. Yet the pace of appreciation has not appeased the US and other countries, whose manufacturing sectors continue to face stiff competition from cheaper Chinese goods.

The magic number seven

While there may be little evidence China has been trying to weaken its currency to date, it is still too soon to rule a devaluation out.

"We need to see what happens to the renminbi in the final months of the year. If China respond to this further escalation (of tensions) by letting it fall below seven (to the US dollar), that would be significant," says Nordvig.

By contrast, Hurren would be wary of reading too much into such a move. While Beijing has historically been prepared to abandon long-term objectives to ensure economic growth hits its target, and a weaker currency would help to offset any negative impact of US tariffs, there seems little need for it to go down that route for the time being.

That, somewhat ironically, is because Trump's domestic economic policies are likely to severely compromise the effectiveness of the tariffs in cutting the US current account deficit. Partly fuelled by swingeing tax cuts, US growth has been accelerating rapidly in recent months. With the economy already operating at close to full capacity, imports are being sucked in at a record pace, including from China. It is unclear tariffs will be able to stem the flow by much until the economy begins to cool.

According to data from the US Commerce Department, the US deficit on trade in goods and services totalled $338 billion on a seasonally-adjusted basis in the first seven months of 2018, seven per cent higher than the prior year, as imports climbed more than eight per cent to a record $1.8 trillion. A breakdown revealed the all-important bilateral deficit on trade in goods with China climbed nine per cent to $223 billion; imports rose by a similar margin to $297 billion.[8]

If US tariffs do eventually depress China's growth rate by a half a percentage point or more, as some analysts are forecasting, it may suit the PBoC if the renminbi were to depreciate a little bit further. But Hurren believes even if the tariffs were to have such a material impact on the Chinese economy, it is more likely Beijing would look to support activity primarily via fiscal policy, and other types of monetary policy measures, rather than a weaker exchange rate.

Beijing's eyes fixed on long-term goals

In any case, for now, with tariffs having failed to curb US demand for Chinese goods, Beijing is unlikely to be diverted from its long-term goals: rebalancing the economy from investment towards consumption; reducing high debt-to-GDP levels; liberalising its capital markets; and potentially having a fully-floating currency.

Many commentators have suggested the trade war between the US and China is an inevitable consequence of the latter's emergence over the past two decades as a genuine economic superpower. And that is encouraging it to challenge the global economic architecture built from the ruins of World War II and the US' dominant role within it.

For instance, Steve Bannon, Trump's firebrand former chief strategist, who in 2017 said there was "no doubt" the two nations were heading to war within the next decade over islands in the South China Sea, claims the US has been fighting an economic conflict with China for decades.[9] "A hundred years from now, this is what they'll remember – what we did to confront China on its rise to world domination," he told *The New York Times* last September.[10]

Indeed, in 2017, Chinese President Xi Jinping admitted China's long-term strategy was to supersede the United States as the most powerful and influential nation on earth within 30 years.[11]

Reserve currency vs currency reserves

According to James McAlevey, global head of rates at Aviva Investors, it is understandable why some people are paying such close attention to the renminbi at present given the size of China's trade surplus and its past efforts to depress the value of its currency.

However, he argues it is important to keep in mind that China's desire to see the renminbi replace the dollar as the world's premier reserve currency is a central plank of its goal to oust the US as the world's hegemon.

"Who wants to hold reserves in a currency that's likely to be devalued ten per cent every time they're caught in a trade spat? We think China's playing a very long game here. It all comes down to the battle for supremacy between the US and China, one of which has the global reserve currency and the other the most reserves," he says.

According to the IMF, the renminbi accounted for just 1.7 per cent of global central banks' holdings of foreign exchange reserves at the end of September.[12] However, McAlevey, who points out that represents a 100 per cent increase in the space of 12 months, believes the renminbi's share of global reserves will inevitably climb further as China loosens its capital controls, once its domestic financial markets are sufficiently large and liquid and once the renminbi is freely traded.

CURRENCIES: THE PHONEY WAR?

continued

> *Trade war between the US and China may not lead to a currency war*

Should China – the biggest foreign owner of US government bonds – scale back its buying of Treasuries in the coming years as it looks to diversify its foreign exchange reserves, any attempt to weaken the currency now would be counterproductive.

Phoney currency war

All of this is not to deny currencies are being used by various countries as a tool to maintain their slice of the global economic pie. For instance, McAlevey says that to some extent the world has been engaged in a phoney currency war ever since the financial crisis, as central banks around the world slashed interest rates to zero and beyond to try to reflate their economies. One of the unstated aims of this policy was to boost exports via weaker exchange rates.

Other countries have been intervening more directly. According to Joseph Gagnon and Tessa Morrison of the Peterson Institute for International Economics, a Washington-based economic think tank, between 2015 and 2017 seven non-resource exporting countries – Hong Kong, Israel, Macau, Singapore, Switzerland, Taiwan and Thailand – bought excessive amounts of foreign currencies to pin down the value of their own to maintain large current account surpluses.[13] For example, the IMF estimates Switzerland alone purchased $171 billion in 2016 and 2017.[14]

Many of these countries have huge current account surpluses. According to the IMF, Singapore had a surplus of 18.8 per cent of GDP in 2017. In Taiwan it was 14.5 per cent and in Thailand 10.6 per cent.[15] Collectively these countries are important and these surpluses are deficits for other nations.

Crack down on currency manipulation

With Trump having so far been focused on tariffs, currencies have largely gone under the radar. However, that could be set to change. In March it was announced Washington had reached agreement with South Korea – a country which has been accused of manipulating its currency in the past – on a revised free-trade pact. The deal contained a side agreement calling for a crackdown on currency manipulation and steps to bolster transparency in foreign exchange practices.[16]

Although Brad Setser of the US Council on Foreign Relations described it as a "bad deal" and the level of disclosure required of Korea "underwhelming",[17] Gagnon and Morrison believe the side agreement could have "broad implications" for future US trade policy.[18]

ECB governing council member Ewald Nowotny recently warned there could be an accidental currency war if the global trade battle escalates further. Perhaps mindful that a succession of devaluations and so-called beggar-thy-neighbour policies preceded the Great Depression of the 1930s, he said the situation could escalate and potentially have a more serious effect than a trade spat.[19]

However, while some countries will no doubt continue to look for ways to use their currency as a means of defending their economic interests, it is far from clear the escalating trade war between the US and China will lead to a currency war between the two nations that matter most.

As Hurren says: "While devaluing the renminbi might be a tempting riposte to Trump's tariffs, it would not be doing much more than sticking a plaster over a short-term problem when all their focus is on the long-term prize."

1 'China Strikes $60 Billion of US Goods in Growing Trade War,' Bloomberg, 17 September 2018
2 'Trump says he's ready to hit China with another $267 billion in tariffs,' CNBC, 7 September 2018
3 Source: United States Census Bureau
4 Ibid.
5 'US President says Chinese currency "dropping like a rock",' CNBC, 19 July 2018
6 'Mnuchin warns China on currency devaluations,' *Financial Times*, 9 October 2018
7 'China says won't weaken currency to boost exports, as U.S. tariffs mount,' Reuters, 19 September 2018
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9 'We're going to war in the South China Sea ... no doubt,' *The Guardian*, 2 February 2017
10 'Next Stop for the Steve Bannon Insurgency: China,' *The New York Times*, 8 September 2018
11 'China reveals plan to become world's biggest superpower within 30 years,' *The Independent*, 21 October 2017
12 Source: International Monetary Fund. Currency Composition of Official Reserves (COFER) report published 28 September 2018
13 Currency Manipulation Update for 2015-17. Peterson Institute Report by Gagnon J. and Morrison T., 3 April 2018
14 Source: International Monetary Fund, Currency Composition of Official Foreign Exchange Reserves
15 Ibid.
16 'US, South Korea to revise trade pact with currency side-deal, autos concessions,' Reuters, 27 March 2018
17 'A bad deal on currency (with Korea),' Council on Foreign Relations. Blog Post by Setser B, 18 May 2018
18 Op. cit.
19 'ECB's Nowotny cautions over dangers of unintended currency war,' *Financial Times*, 9 July 2018

BEWARE THE RISKS OF EQUITY MARKET CONCENTRATION

Richard Saldanha
Global Equities
Fund Manager

With concentration levels increasing in stock markets around the world, investors in passive equity strategies are taking on ever more risk, argues Richard Saldanha.

In August 2018, Apple became the world's first trillion-dollar public company, just 42 years after being founded in the garage of former boss Steve Jobs. Barely a month later, Amazon passed the same milestone – 18 years quicker. The companies' combined market value, if translated into national income, would have made them the world's tenth biggest economy, with each alone bigger than Turkey's.

The rapid growth in these two firms' market value – along with those of other technology giants such as Microsoft, Alphabet, and Facebook – has in recent years delivered handsome returns to many investors. Simultaneously, it is causing concern on many fronts.

Echoes of the dot.com bubble

Since it has helped drive concentration levels within the US stock market to what are arguably unprecedented levels, from an investor's perspective the dominance of these big technology firms is becoming more of an issue.

As at the end of September, the top five companies in the S&P 500 accounted for 15.8 per cent of the index's market capitalisation. That left it just shy of the previous peak in early 2000, at the height of the dot.com boom, which itself was the highest level in 18 years.

While it is true the biggest five stocks accounted for an even larger slice of the US market in the 1960s and 1970s, what makes the current situation unique is the dominance of just one sector – technology. Of the largest five US groups, only Berkshire Hathaway is not a technology company. Facebook, the sixth biggest, is only slightly smaller than Warren Buffet's investment vehicle following a recent decline in its share price. By contrast, even in early 2000, only two technology groups – Microsoft and Intel – ranked among the top six.

Between them, Apple, Microsoft, Amazon, Facebook and Alphabet accounted for 15.7 per cent of the S&P 500 at the end of September. When including the latter three stocks, the technology sector comprised 29 per cent of the index, as much as in early 2000.[1] That left it exceeding the next two largest sectors – financial services and pharmaceuticals – combined.

A global phenomenon

Worryingly, stock markets are even more concentrated in many other places. For instance, the top five stocks constitute nearly 18 per cent of the MSCI Emerging Markets Index, with the technology sector once again dominant. As for the UK, five biggest companies account for nearly a third of the FTSE 100.

Such high levels of stock market concentration are partly a result of the growing prevalence of passive investment vehicles. According to Morningstar, by the end of 2017, passive investments accounted for almost 45 percent of all equity assets in US mutual funds and exchange-traded products.[2] The fact most leading indices such as the S&P 500 and FTSE 100 are weighted according to constituent members' market capitalisations means the biggest shares attract ever more money from tracking funds as their price rises.

The obvious danger is that asset price 'momentum' becomes a key driver of future asset price returns, irrespective of the underlying performance of the company itself. In such an environment, where passive funds begin to monopolise investment flows, there can be a large divergence between companies' market capitalisation and their true economic worth.

> *The dominance of one sector – technology – makes the current situation unique*

BEWARE THE RISKS OF EQUITY MARKET CONCENTRATION

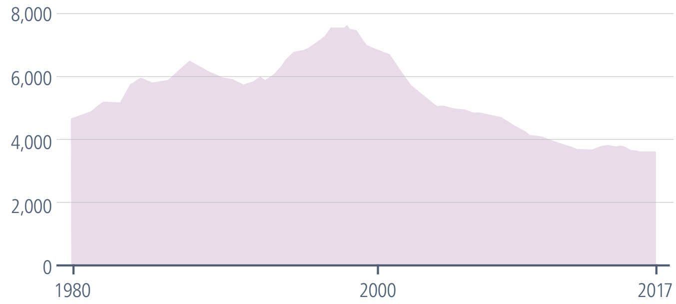
continued

The other problem posed by rising stock market concentration is that many investors in passive investment vehicles are unlikely to be aware of the level of risks they are exposed to.

There is a widespread perception that index-tracking products are less risky than their actively-managed cousins since the latter tend to be more concentrated. While that may be true of an index where all the constituent stocks are of a roughly similar size, the reverse may be the case in an environment where the stock index itself has become highly concentrated.

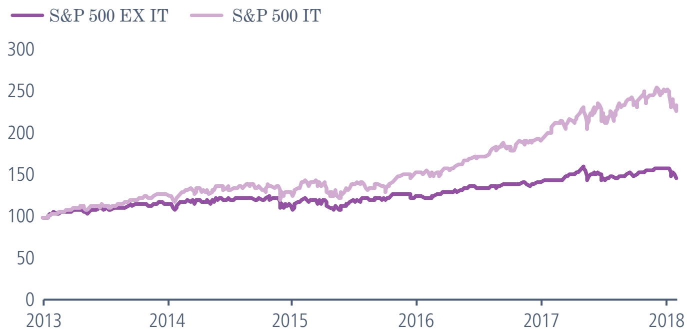
For instance, it seems likely many investors in passive investment vehicles tracking the S&P 500 have, in technology, got much more exposure to a single sector than they are aware of. And as share prices in the sector rise, so too does the size of the bet on that sector.

Figure 1: Where have the Public Companies gone?



Sources: Jay R. Ritter, Warrington College of Business Administration, University of Florida, University of Chicago Center for Research in Security Prices.

Figure 2: Tech's dominance



Source: Bloomberg, as at October 26.

History repeats?

While there may be strong fundamental reasons to explain the surge in technology stock valuations in recent years, history demonstrates markets do not go up for ever. Common sense suggests the sector that led the market higher will be the one that suffers oversized losses when sentiment sours, as was the case with energy stocks in the early 1980s, technology shares in 2000 and financials in 2008.

There is nothing to suggest such a reversal in the technology sector's fortunes is imminent. Nevertheless, the dangers posed by increased stock market concentration help explain the growing popularity of alternative beta strategies. To avoid the dangers of following stock price momentum, managers of such funds will often anchor positions based on fundamental factors such as revenues or profits, rather than market capitalisation.

The dangers posed by rising stock market concentration could tip the balance once again to active managers over their passive rivals. Active managers who are rigorous in their analysis of the fundamental drivers of companies' value, and remain disciplined on the price they pay, seem well-placed to benefit from any market inefficiencies ●

1 According to S&P Dow Jones Indices and MSCI, Amazon is in the consumer discretionary sector, while Alphabet and Facebook were recently moved from the technology sector to a newly created communication services sector.

2 'Passive Investing Rises Still Higher, Morningstar Says,' *Institutional Investor*, 21 May 2018

Source for all market returns data: Bloomberg

Source for all index composition data: Factset


Why is a bobtail squid an asset manager's responsibility?
Because the Great Australian Bight is under threat from oil giants.
Because it's home to strange creatures and 270 newly found species.
Because our work can extract 'no go' commitments from extractive companies.
Because our voice has the power to change an industry.
Because responsibility influences outcomes – for investors and for everyone.
Read how we take responsibility every day at avivainvestors.com/responsible
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