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THE NOW NORMAL

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IMPORTANT INFORMATION

Here and now

“There are only two days in the year that nothing can be done. One is called Yesterday and the other is called Tomorrow. Today is the right day to Love, Believe, Do and mostly Live.”

These words from the Dalai Lama will resonate with many after the experience of 2020, when living in the past or looking too far ahead served little purpose. It might have taken a global pandemic to make us see the value of living in the present, but it is just one example of seismic changes taking place all around us that we must learn to live with and adapt to.

One of our contributors, Chris Shipley, describes this as ‘The Now Normal’. We thought that would be a fitting title for this edition, which looks at how many of the big trends shaping the world have been accelerated by the events of the past year, bringing forward our need to respond to them.

Take the climate crisis and the challenge for countries and companies to achieve net zero. This was already an acute issue before the pandemic; perhaps the stimulus needed to revive economic activity provides a once-in-a-lifetime opportunity to help economies and the climate, as our feature on building back better explores.

The way we work has also been transformed, but for all the time and money saved on commuting, has this come at the expense of creativity and culture? We look at how companies and policymakers can use the experience of 2020 to reinvent the world of work.

Another major development this year saw worldwide demonstrations against the murders of three black Americans, George Floyd, Breonna Taylor and Ahmaud Arbery. Our feature on anti-black racism looks at what asset managers can do to make a difference.

Elsewhere, we look at how the internet is being fractured into competing geographical regimes, potentially limiting the growth potential of the many companies and sectors that rely on it. Fractures are a theme of two other articles: one considers whether globalisation is in a slow, but terminal decline; the other examines whether China’s rise will bring an end to the long period of US exceptionalism.

It’s not all doom and gloom, however: we assess whether an unlikely consequence of COVID-19 is that it brings about greater unity in Europe; we also show, through data visualisation, how the pandemic has nudged many of us into healthier habits. Meanwhile, Steve Waygood outlines how Joe Biden can get the US back on track on climate change.

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

I hope you enjoy the issue.

Rob Davies,

Head of PR and Thought Leadership,
Aviva Investors

AIQ Editor

rob.davies@avivainvestors.com

AWARD-WINNING CONTENT

Since its launch in 2016, *AIQ* has covered the big themes influencing financial markets and the global economy. We aim to give our clients in-depth analysis of the issues that affect their investments, from demographics to big data, from climate change to China's growth. We also offer insights on more specialised topics, such as portfolio construction and cashflow-driven investing.

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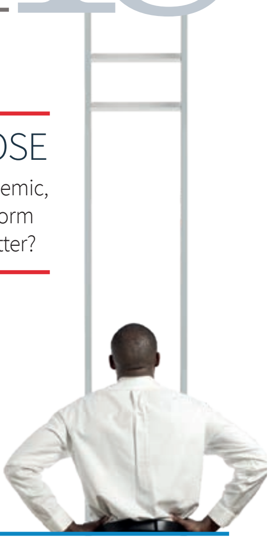

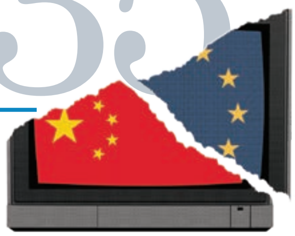

HOW THE US CAN LEAD ON CLIMATE FINANCE: A FIVE-POINT PLAN FOR PRESIDENT BIDEN'S FIRST YEAR

The US went backwards on tackling climate change under President Trump. His successor Joe Biden must act quickly to make up for lost time, says Steve Waygood.

President Trump obstructed efforts to tackle climate change at every turn. His administration withdrew the US from the historic Paris Agreement and unwound important environmental regulation at home.

Significantly, the full potential of climate finance was also locked down under Trump. Multilateral organisations were impeded from taking firm action to address climate risk and accelerate the energy transition away from fossil fuels. Global regulatory authorities were prevented from intervening to avert the greatest of systemic threats. And – with some notable exceptions – US institutional investors and their trade bodies generally opted to act quietly on climate-related projects, if they acted at all.

As the US dragged its feet, the European Commission led the world with its Sustainable Finance Action Plan.[1] But there is only so much progress Europe can make without the cooperation of the US. The pace and scale of the efforts needed to avert the chaotic economic, financial and human consequences of runaway climate change are now more daunting than ever.

Thankfully, under Trump's successor, president-elect Joe Biden, the US has an opportunity to make up for lost time. His appointment of John Kerry as US Special Presidential Envoy for Climate is a welcome first move. Kerry signed the Paris Agreement for the US in 2016 and possesses the diplomatic nous to restore US credibility on this issue.

No more business as usual

The new administration's immediate focus will be to address the devastating coronavirus pandemic. Rolling out a vaccine and reviving the economy will be at the top of its list of priorities.

But the president-elect has also been clear climate change will be a focal issue for his administration. He has pledged to reinstate the US as a signatory of the Paris Agreement on his first day in office.[2] He has also spoken in support of a Green New Deal and his climate change policy reflects these commitments.[3]

The Biden administration needs a strategy to align the rest of the global financial system with rapid, coordinated climate action. If global capital is to move at the pace and scale required to deal with climate change, all governments need to reconsider the architecture of financial markets. With nearly $20 trillion (25 per cent of global GDP) earmarked for spending over the next 12-18 months as part of the world's coronavirus response,[4] there is now a rare window of opportunity to direct and disburse that capital in a climate-smart way.

The Biden administration is lucky that many of the world's largest financial institutions are domiciled in the US. If Wall Street and its network of advisors act in a coherent way on climate change, the positive repercussions will resonate around the world.

A five-point plan for Biden's first year

Under a Biden administration, rapid action on the climate agenda across the financial system is possible – even if the Democrats lack a Senate majority. We would like to see the president adopt a five-point plan on climate change for his first year in office:

1. Update the Paris Agreement

Biden's first step will be to re-join the Paris Agreement on Climate Change – but he should also push to extend it.

Dismayingly, there is still no accompanying global strategy to finance the Paris Agreement investment plan that covers public and private finance, despite the significant scale of investment and associated structural changes required across all key economic sectors.

Biden could take the opportunity presented by COP 26, scheduled for November 2021, to help produce a Glasgow Private Finance Accord. He could also use the platform provided by COP 26 to support the creation of a new collaborative mechanism, the International Platform on Climate Finance (IPCF), to help governments map out how to put finance flows on a sustainable trajectory and coordinate national capital-raising plans with potential funders.

> *Under a Biden administration, rapid action on the climate agenda across the financial system is possible*

2. Include green policies in an economic stimulus package

The Biden team aims to implement a coronavirus relief package to support the US economy through the pandemic. It is crucial that this stimulus plan is climate-friendly: clean-energy subsidies could be used to direct investment towards renewables and accelerate the shift in capital expenditures towards lower-carbon energy assets. If stimulus measures focus on job creation in new climate-smart infrastructure, the Biden administration may be able to find common ground with a Republican-held Senate and get the plan through Congress.

3. Deploy the US Treasury and set a carbon price

Governments must apply a meaningful carbon price to ensure companies causing climate change are made to pay for it. Chief among the required fiscal measures is a material carbon tax, which would provide a floor to the carbon price and generate revenues to finance support for individuals, households and communities during the energy transition.

It is positive that Biden has already pledged to *"apply a carbon adjustment fee against countries that are failing to meet their climate and environmental obligations"*.[5] This is analogous to the EU's proposed Carbon Border Adjustment tax. If the EU and the US both introduce a carbon border adjustment, suddenly every country in the world effectively has a carbon price – the level of which is determined by the intensity of their trade with the EU and US.

4. Focus the Fed

While national climate action could be accelerated with a price on carbon, the need for bold action does not end at the Treasury.

The most pressing issue is to reform quantitative easing (QE) to better align these limitless bond purchase programmes with climate targets. Since the financial crisis, major companies have materially benefited from unprecedented bond-buying programmes amounting to tens of trillions of dollars, which have significantly cut the cost of borrowing. As a result, many firms in the automobile and transportation, chemicals, metals and mining, oil and gas and utility sectors have been able to borrow, invest and grow more cheaply.[6] This has distorted markets and increased climate risk. QE needs to be refocused through a climate lens.

5. Empower global financial regulators

The US government needs to work with and empower regulators around the world to drive the energy transition. Biden can signal to global financial regulators and standards bodies that climate change should be on their agendas, including at the International Organization of Securities Commissions;[7] the Organisation for Economic Cooperation and Development; and the International Accounting Standards Board.[8]

The Financial Stability Board, meanwhile, needs to tackle the fundamentals of prudential regulation – particularly the way it exacerbates the climate crisis by driving down the cost of capital of unsustainable businesses.

A sustainable future

Under a new US administration, these five goals are achievable after years of obstruction and foot-dragging on climate change.

Unlike Trump, Biden understands the scale of the climate threat; as vice president, he served under Barack Obama, who famously told the UN Climate Summit in 2014 that "ours is the first generation to feel the effects of climate change – and the last to be able to do anything about it".[9] With President Biden in post, there is fresh hope this might happen ●

Steve Waygood is Chief Responsible Investment Officer at Aviva Investors.

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3 'Climate change', Biden-Harris Transition, 2020.
4 'Wood Mackenzie energy transition outlook 2020: Highlights', Wood Mackenzie, September 14, 2020.
5 'The Biden plan to ensure the future is "made in all of America" by all of America's workers', Battle for the Soul of the Nation, 2020.
6 Frank van Lerven and Josh Ryan-Collins, 'Central banks, climate change and the transition to a low-carbon economy,' New Economics Foundation, 2017.
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BUILDING BACK BETTER:
THE PATH TO NET ZERO

While much of the world's focus continues to be on tackling the COVID-19 pandemic, the climate crisis also requires urgent attention. The number of countries and companies supporting the move to a lower-carbon world is growing, but practical challenges remain. How can we build back better after COVID, and navigate to a cleaner, safer and sustainable world?

Out of the gloom surrounding COVID-19, there have been calls for a radical change of direction. "Going back to 'normal' is problematic, if 'normal' got us to where we are," said Professor Mariana Mazzucato, founder of the Institute for Innovation and Public Purpose at University College London, speaking during the first UK lockdown.[1] Her analysis, that the factors precipitating the pandemic, the worst economic crisis since the 1930s and the climate emergency are all interrelated, suggests it is time to do things differently.

"We have to reimagine what kind of society we want to be living in, and be bolder and more ambitious in constructing the remedies," Mazzucato said.

Decarbonisation: an epic challenge

The call for action on the climate is timely, as the first wave of COVID lockdowns brought an unprecedented slump in global carbon dioxide (CO_2) emissions. The cleaner air and a resurgence of wildlife revealed a different world, as workplaces closed, travel was reduced, and people stayed at home.

"The immediate impact of COVID-19 was a seven to eight per cent reduction in CO_2 emissions versus 2019," says Richard Howard, research director at the energy analytics group, Aurora Energy Research. "The challenge now is how we reboot the economy and move forward. Remember that we need to reduce emissions by around that amount each year from now on for decades if we are to stay on a trajectory to limit global warming to 1.5 degrees [the goal of the 2015 Paris Climate Agreement]. It is a very, very difficult thing to do."

Dieter Helm, professor of energy and economics at the University of Oxford, describes it as the largest industrial undertaking attempted in peacetime; a change that will impact the way people live and every sector of the economy. Limiting emissions to cap warming above pre-industrial levels and ensuring human activity no longer adds to atmospheric carbon stock means weaning society off fossil fuels, as well as certain chemicals and plastics. It also means maintaining "a laser focus"[2] on carbon consumption and becoming more thoughtful custodians of the natural world.

"[Climate] mitigation is as much about stopping the damage to key parts of the natural environment which inhibit the take-up of carbon, and enhancing that through policies to increase trees, grasslands, the take-up of carbon in the soils, and the protection and enhancement of peat bogs," Helm says.[3]

Ultimately, achieving net zero may also require industrial solutions, using new technologies to suck CO_2 from the ambient air (direct air capture) or compressing it and storing it underground in rock strata (carbon capture, utilisation and storage). (Read more on carbon sequestration pathways, including nature-based paths in *Carbon capture: Solution or pipedream?*[4]) But despite the Paris Agreement, there is no agreed route map, and no global consensus on accounting techniques to keep the score. (See *Shaping the agenda for COP 26* and *Metrics to help navigate to net zero*, p.15.)

The issues are urgent, as signals from the natural world are cause for alarm. Record atmospheric CO_2[5] levels despite COVID shutdowns, temperatures reaching 38 degrees Celsius in the Arctic in June 2020[6] and gigantic wildfires on the US West Coast show the climate system is evolving fast.

"2020 was the year when we were supposed to see CO_2 emissions peak," says Rick Stathers, senior environment, social and governance (ESG) analyst and climate specialist at Aviva Investors. "But it is alarming to see the responses in the natural environment. Worryingly, we may have underestimated the feedback loops, like those associated with the methane surges from melting permafrost."

The climate progress report: must do better

A quick glance at progress from co-ordinated climate action is not encouraging. "It is not going well," is Professor Helm's succinct analysis in the first line of his new book,

THE PATH TO NET ZERO

continued

Net Zero: How we stop causing climate change.[7] "If the objective set in 1990 was to reduce emissions and reduce global warming, it has been an utter failure," he says.

Aside from the reductions associated with the global financial crisis and COVID-19 lockdowns, the trajectory for global emissions has been up. And there is already enough carbon-fuelled plant in place to propel the world over the damage-limiting target agreed in Paris in 2015.

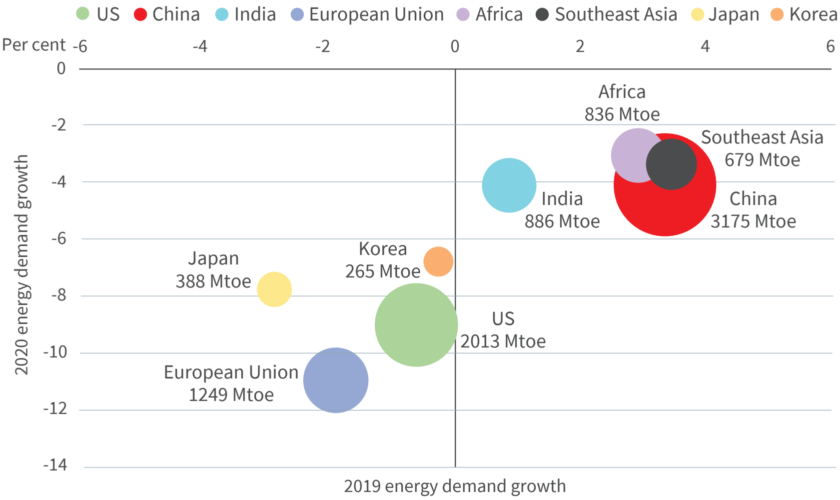
"We have not seen radical action on climate prior to now, because climate has always been trumped by what were perceived to be more acute crises," says Jill Rutter, senior fellow at UK think tank the Institute for Government. "When I was Director of Strategy and Sustainable Development at the Department for Environment, Food and Rural Affairs, we wrote a short note comparing climate change with terrorism after the Chief Scientific Adviser suggested climate was the greater threat. But every action by government seemed to signal the reverse. Climate change only got a look in when every other policy priority had been pursued. It was 'back of the line.'"

Moving climate issues forward in the policy queue

Climate action is no longer 'back of the line' on the international stage. Extreme climate events have been focusing minds, and the calls to build back better after COVID-19 have intensified. Importantly, public attitudes also seem to be shifting decisively. "Now is not the time for scoring party political points," the first UK-wide citizens' assembly on climate change concluded, calling for cross-party action.[8]

Initially, only Europe was heavily invested politically in emissions reduction, but momentum is accelerating elsewhere. Canada, South Korea, Mexico, Chile, Japan, South Korea and South Africa are all part of the growing club taking steps to legislate for net zero, setting out in law the ambition to balance the output of greenhouse gases with their removal from the atmosphere.

Figure 1: **Energy demand: Slowing in the old world, growing in the new**



Mtoe: Millions of tonnes of oil equivalent. Source: International Energy Agency, Global Energy Review 2020

China has joined too, albeit with a 2060 target, catapulting the number of people administered under net zero regimes to over two billion. Adair Turner, chair of the global Energy Transitions Commission, believes this is a "giant step" in the fight against climate change.[9] As the world's largest consumer of the dirtiest fossil fuel (coal), a country experiencing rapid growth in energy demand (see Figure 1) and responsible for more than 25 per cent of CO_2 emissions worldwide, China's commitment marks an important strategic shift. It is expected to accelerate innovation and bring dividends for those experiencing an 'airpocalypse'.[10]

The US is also back in the room, with President-elect Joe Biden pledging to pour up to $2 trillion of federal funds into climate action. While it may be difficult to get meaningful legislation over the line with a divided Senate,[11] a growing number of states are pressing ahead with their own climate targets. In California, for instance, guidance is out from Lawrence Livermore National Laboratory on how the state (equivalent to the fifth largest economy in the world) might realise its net zero ambitions by 2045.[12] Three main pathways are in the frame – restoring natural ecosystems, bioenergy with carbon capture and storage (BECCS) and direct air capture – which it hopes will deliver the goal.

Are these commitments leading or misleading, to borrow the framing used by Greta Thunberg?[13] If they omit the carbon produced from offshoring, are they useful at all? Observers will be looking for proof of real commitment to action at COP 26 in Glasgow next year.

"The net zero target has certainly energised people," says Rutter, who has been observing the galvanising effect of the target in the UK. (Read an analysis of policy progress in *Navigating the path to net zero: An interview with Jill Rutter*.[14]) Although she sees an enormous gulf between the ambition and the practical steps being taken on the ground, she believes the feeling within government is more positive.

Why might that be the case? Could the positioning of the target be part of it? "'Zero' is much more powerful than nerdier climate targets like two degrees Celsius or 350 parts per million of carbon dioxide in the atmosphere," environmental commentator David Roberts suggests. "'Zero' is clear and intuitive."[15]

Or is it the attractive possibility of an economic 'win-win' that has caught attention, where tilting towards green growth could generate jobs and stimulate demand? The UK's plan for a green industrial revolution suggests potential for 250,000 new jobs,[16] with 'shovel-ready' projects in offshore wind, electric vehicles, hydrogen production, battery storage and geoengineering.[17]

Directing finance flows towards net zero

Despite the urgency, many COVID-19 recovery packages around the world have been structured to support the status quo. Professor Mazzucato believes this is a missed opportunity: COVID support gives

> *Net zero implies a whole infrastructure revolution*

governments an opportunity to stimulate a greener recovery. She points to Austria, which tied its bailout of Austrian Airlines to a long list of conditions: lower emissions, better fuel efficiency and the goal to shift passengers off short-distance flights.[18] For the first time, the airline will also be caught by an 'anti-dumping' clause that will prohibit it from selling tickets below cost. This action feels radical but is aligned with the ambition set out in the Paris Agreement to make financial flows consistent with climate action goals.

Future alignment means major changes need to be made by the providers of public and private capital. "Globally, around $300 trillion of investment is going to be required over the next 30 years – that's like rebuilding the US entirely, from the bottom up, every two years for the next three decades," says James Belmont, climate risk lead at Baringa, a consultancy. "Every bank or asset manager we talk to is keen to fund the transition, because they see a massive opportunity."

Nevertheless, the nature of climate risk makes assessing how the land lies particularly difficult. It is only in recent years that the tools to measure what is going on have been developed. Prior to now, answers to some fundamental questions have not been clear. Accurate, timely pictures of greenhouse gas emissions have been elusive; the way physical outcomes might impact financial ones in complex feedback loops also needs to be confronted, as does a certain amount of inertia.

"Usually what happens when scenario analyses and stress tests are run is that there is a base case, and then the question is asked 'If something goes wrong, how much might we lose?' But this is different, because we know that we cannot expect to keep plodding along in some kind of equilibrium," adds Belmont. "We are either going to have a lot of transition, or we are going to have a lot of physical change, and we are probably going to have some messy combination of the two. This is not a stress test away from a central case, in a way financial services firms normally conceptualise it.

"Financial institutions need to carry out detailed sensitivity analysis to understand how their investments and lending decisions might play out, because there are many possible evolutions of the world."

Uncertainty inhibiting investment

Uncertainty over what the future might look like is not conducive to private sector investment in large-scale capital projects. Net zero implies a whole infrastructure revolution, but the near-term outlook is unclear.

"Investors with exposure to power rely on price forecasts from third-party consultants to assess the value of their investments," says Laurence Monnier, Aviva Investors' head of quantitative research in real assets. "Consultants are faced with greater uncertainty than ever on the future composition of the power system, due to its sensitivity to the regulatory changes needed to achieve net zero."

Perhaps unsurprisingly, investors are reluctant to invest in new capacity without some mechanism for price stabilisation and more clarity from governments. (Read more about the issues in *Real assets and net zero: Now for the hard part*.[19])

"Uncertainty means people are less willing to invest, and they will demand a better return," says Rutter. "That's because they are not just covering the cost of change, they are covering the cost of change and the risk that the policy environment changes again too. It is not a good way to govern. For net zero, the question is how you deliver in a way that commands public consent, so you are not forced to carry out about turns, at least cost to the economy. There are lots of benefits that will come from the transition, but there is no need to make it a more expensive process than it needs to be."

Despite the unknowns, Belmont describes asset managers as being "on the front foot", with growing budgets being allocated to assess opportunities and risks. So far, managers of around US$5 trillion of assets have agreed to transition investment portfolios to those on net zero pathways,[20] and the list of corporations committing to curbing emissions continues to grow. At the executive level within major companies, the discussions are becoming increasingly involved: are formal, long-term targets admirable or "wishy washy", as Ivan Glasenberg, CEO of mining group Glencore, suggested if they deal with timescales so far out that it is impossible to be "precise and factual?"[21]

"Net zero is becoming part of the narrative in all kinds of areas," says Stanley Kwong, associate director, ESG for real assets at Aviva Investors. "A few years ago, the concept was nascent; it was not really understood. More people are talking about it – in government, among policymakers and companies – that's a good thing. Of course, we need to mindful of what is really happening on the ground and attempts at greenwashing as well."

Significantly, the focus on decarbonisation is becoming increasingly important operationally. "It is only recently that companies outside the energy system have realised their funding costs and ability to access the resources they need will depend upon how they decarbonise, and how they communicate that externally," Belmont says. "They are starting to see the business case and identify the transfer price for decarbonising and mitigating climate transition risks. But there is still an important piece missing from the jigsaw: the policy that will ensure the transition can be achieved."

Policy priorities: seeking direction

Policy is the hard part, because each country contemplating a net zero pathway faces its own unique challenges. The solution can never be one size fits all.

The most commonly cited action economists and analysts believe will speed the journey is to introduce coherent carbon taxes,[22] to ensure polluters pay. "A neoliberal approach has not led the price of carbon and the price of climate change to be factored into

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continued

> *A striking amount of new capacity has already shifted towards renewables*

markets," says Stathers. "That needs to be addressed."

Faith Ward, chief responsible investment officer at Brunel Pension Partnership, shares that concern. She puts "esoteric pricing and taxations that result in peculiarities" top of the list of obstacles to a net zero future.

Without effective carbon pricing, consumers fail to recognise the environmental costs of their actions, and many of the technologies that might aid the transition do not make commercial sense. Delays in developing a defined vision for new low carbon infrastructures – public goods that should ultimately benefit everyone – also mean that path dependencies and sequencing cannot be resolved.

"I'm pleased to see that we have reached the point where government has been more prescriptive about the kind of technologies it wants to see," says Darryl Murphy, managing director of infrastructure at Aviva Investors. (See details of the UK's Ten Point Plan for a Green Industrial Revolution,[23] confirming commitments to offshore wind, hydrogen, nuclear power and carbon capture.)

"That's controversial; some might say governments should not be allowed to pick winners, but we simply don't have much time. At this point, it does not make sense to have a multitude of technologies competing among themselves. This does not just apply to electricity generation, but also to transport and energy storage, other areas that need focused attention. We need that direction at the granular level. We are not going to get there by just letting things evolve. We need much more planning, more focused effort."

Murphy hopes the announcement of the UK's National Infrastructure Bank will help support early stage technologies and crowd in the significant private investment that will be required.

"The question is how we are going to align different technologies with specific sources of funding to allow them to be commercialised quickly," says Vikash Ahuja, director of energy, utilities and resources at Baringa. "We need those important phases of trialling, testing and reducing costs, and preparation for scaling up, to enable that to happen. We have already been through these stages with renewables; the same thing needs to happen with carbon capture and storage, hydrogen and other technologies."

With innovation moving rapidly, the solution needs to be iterative. "If you had asked people in 1990 to anticipate what the world would look like in 2020, would anyone have predicted what we have now? Absolutely not," says Howard. "The optimal solution is a concrete plan for the next ten years or so, setting out what needs to be addressed immediately, whilst also developing technology options for the later waves of decarbonisation in the 2030s and 2040s. It is near-impossible to anticipate exactly what the world will look like in 2050 – by then, we could have an entirely different equilibrium – but we need to continue to develop the options."

An important part of any solution will also involve levelling with the public on the choices to be made. There are important social consequences of the transition to clean energy; protection may be needed for those at the hard end of 'old economy' deindustrialisation, or on lower incomes, who may be disproportionately impacted if the price of carbon is hiked.

"Ultimately, how will you get consumers over the line?" Rutter asks. "Will you use regulation? Will you incentivise? What is the toolset you must work with? People have limited bandwidth for change; the best indicator of what I do tomorrow is what I did today and what I did yesterday. To get people to change, you need a catalyst. This is the bit that is missing from standard economics."

The rise of renewables

Changing the asset mix in power networks is among the low-hanging fruit for those seeking emissions reductions, and a striking amount of new capacity has already shifted towards renewables (see Figure 2). The momentum has been helped by a sharp drop in costs: photovoltaic (PV) modules have dropped 88 per cent in ten years,[24] for instance, and recent breakthroughs with new coatings for PV panels should boost efficiency significantly.

As renewables become more prevalent, what happens next? In a market-based system, could adding further renewable capacity undermine opportunities to build out elsewhere?

"If Boris Johnson goes ahead with his plan and procures more wind capacity, to what extent will it cannibalise opportunities to build other projects through a market-based route?" asks Howard. "It's a real state-led versus market-led argument. At the extreme, if you build enough gigawatts of renewables, there would be very little value left in the wholesale market anymore. It would still be useful for asset dispatch, but it might become less and less useful for investment decisions because the value could drop away."
Will changes in market design be needed? It's not wholly clear.

Hydrogen: back in the frame

What about the way in which potential spin-offs from renewables could be optimised? Exploring this question explains the revival of interest in hydrogen. "Is hydrogen the new wonder fuel?", *The Wall Street Journal* asked in June 2020, replicating a headline that had already had a run out in the 1990s.[25] Hydrogen is versatile, energy-dense and clean, but it is also significantly more expensive to produce than natural gas at the moment. (Read more on hydrogen as a potential fuel source in *Hydrogen: Back to the future*.[26])

There are several pathways to produce industrial hydrogen, but if electrolysers are used to break down water into its component parts – hydrogen and oxygen – the cost of production is heavily determined by the average electricity price.

With ample renewable capacity, plentiful energy can be generated when energy demand is low: hot sunshine or gusty weather can force generators to shut down

Figure 2: **Power to renewables: net global power capacity additions**

All Renewables: Includes solar, wind, geothermal, biomass and hydro, and excludes energy storage technologies. Source: BloombergNEF, October 2020

capacity. In future, this excess could be put to work to produce hydrogen, ('green hydrogen', if the underlying energy source is 100 per cent renewable), keeping installed capacity at work. In this scenario, hydrogen is not just a fuel that could be used in cells to power hydrogen-fuelled transport, it is also an important renewable energy store.

"What happens if renewables get cheaper and cheaper?" asks Howard. "You might think it would put downward pressure on price, but there may be other forces that work in the opposite direction, to utilise the power being produced. That is the level of complexity we get to in our modelling, to try to understand these opportunities."

Aurora Energy Research recently carried out analysis in which it added hydrogen into its forecasts for the first time. The analysis included one net zero scenario with lots of renewables and no hydrogen electrolysers, then it added the electrolysers, to compare and contrast. They increased the baseload prices by a meaningful amount and reduced renewables curtailment significantly.

"It is possible to envisage a situation where a certain amount of installed capacity combined with specific weather conditions could send the electricity price close to zero," explains Howard. "Imagine that is the point when all the electric vehicles switch on to charge, hydrogen electrolysers switch on and other demand kicks in too. Vertical industrial farms, where crops are grown indoors using hydroponics, are another major energy user but might become viable. We would not think of building these assets now, but if electricity becomes extremely low cost at times, perhaps we might start doing things differently. There might be a new equilibrium. In scenarios like this, the demand side becomes more and more interesting and important to understand."

Out of this come numerous possibilities – hydrogen-fuelled transport and cheaper home heating among them. But these low-carbon solutions all take time to install. Developing a new network or converting the existing gas networks to take a hydrogen fuel blend is a significant undertaking.

"To do that in one city or sub-region could take around a decade," says Howard. "If you wanted to carry out the changes extensively, that would need at least a 20-year roadmap. We need to define what solutions we want and where, soon, to even have a chance."

In Germany, hydrogen development is set on 'go', having received an important funding boost in the country's post-COVID recovery plan. The UK is also looking to develop low-carbon hydrogen capacity in its green ten-point plan, aiming to stretch from its first hydrogen-fuelled neighbourhood to a town in a decade.[27]

Dampening appetite for carbon

In setting the course for net zero, the management of the built environment is a critical consideration. "COVID-19 has triggered a real estate crisis, and that has sharpened minds towards addressing future risks," says Sam Carson, director of sustainability at Carbon Intelligence, a consultancy that advises companies on how to reduce their carbon footprint. "Many buildings are not fully occupied, and we are having more discussions about net zero strategy than ever before."

This focus is timely, as the construction, occupation and demolition of the built environment consumes around half of all raw materials produced annually.

THE PATH TO NET ZERO
continued

"In the UK, the construction industry generates around 45 per cent of all CO_2 emissions on its own," says Duncan Baker-Brown, award-winning architect and lecturer at the University of Brighton.

This creates a problem that needs a holistic solution. The built environment can certainly work better, drawing in fewer resources and creating less waste; architects and designers are well placed to deliver the change. "Architects already have the ability and tools to design carbon negative or carbon neutral buildings," adds Baker-Brown. "These buildings can be useful 'materials banks' for the future as well."

Where possible, he advocates a circular approach, where valuable raw materials can be re-used. This is also being included in the net zero city plans explored by Mazzucato and her team at University College, London.

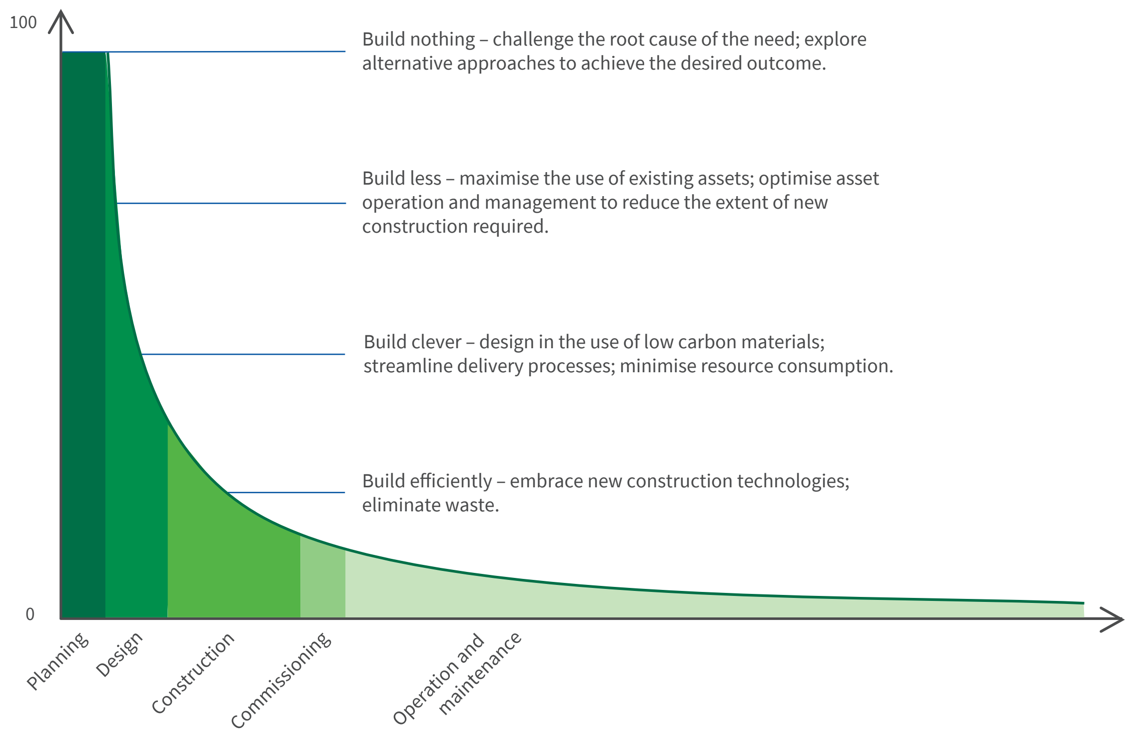
Baker-Brown's views reflect the sentiment captured in the illustration in Figure 3. For an asset owner, not carrying out major construction works has the greatest positive carbon impact, but 'building less' and 'building clever' with lower carbon materials can be advantageous too.

"We need to be mindful that those managing the built environment have generally not been used to having constraints on the quantum of space they can build," says Ed Dixon, head of ESG for real assets at Aviva Investors. "A skyscraper in the City of London might be knocked down and replaced with a new one, even though it is in a usable state and could be refurbished. There is nothing in current policy or regulation to prevent that; in fact, the VAT structure privileges 'new'.

"But we need to recognise society cannot afford this type of growth. We cannot keep demolishing 20-year-old buildings to rebuild simply because we want something different. The solution must be making better use of the assets we already have; replacing façades, freshening lobbies, improving energy performance and so on. This is the way forward," adds Dixon.

These considerations are receiving greater attention with the arrival of carbon accounting. There is carbon embodied in every building and the materials that have created them, in addition to the operational carbon used for ongoing heating, lighting and so on.

Figure 3: **Carbon reduction potential**



Source: HM Treasury, Infrastructure Carbon Review 2013

> *Meaningful reductions in energy usage have been achieved even in hard-to-insulate constructions*

Over a lifetime, the first category tends to be larger in scale and is harder to get a handle on. "Much of the approach to monitoring embodied carbon was developed for manufacturing, where you have a widget and you make one million of them," Carson says. "You work out the embodied carbon in the widget and then multiply it by one million, and you are done. But every building is different, and the combination of materials that go into it varies. Each supply chain is unique, the processes are new and the people dealing with the data are disconnected. We have not yet fully resolved this; there are a lot of challenges."

In future, the price of carbon is expected to be significantly higher, but commercial property developers are unlikely to pay for carbon-heavy materials if they will not generate significant value in return. "That is what will shift the market," says Carson, adding he expects to see ambitious plans to re-design and re-use structures in future to reduce the carbon load.

Operational carbon will need to managed better too. Meeting carbon neutral targets is likely to result in "massive retrofits", says Baker-Brown, who reports achieving meaningful reductions in energy usage, even in hard-to-insulate constructions like 1980s warehouses.

Regulatory changes have already led to a flurry of carbon-targeting. "Nobody wants to mess up the planet," says Carson. "But many people did not understand how to make the changes needed, even though tried-and-tested technologies exist." He is clear those failing to address the issues swiftly enough are likely to see the value of their assets impacted.

"There is no doubt the value of properties that cannot achieve net zero without significant upgrades will fall," says Carson. "There will be times when a potential buyer says, 'I cannot buy that; it does not align with my science-based target.' Ultimately, someone will buy, but they may also say: 'You need to reduce the price significantly, because it will be costly to get the EPC up.' There are tools to understand the risk of asset stranding due to poor energy and carbon performance. We are using them to help property owners understand that risk."

SHAPING THE AGENDA FOR COP 26: 1-12 NOVEMBER 2021

The 26th Conference of the Parties – COP 26 – is due to take place in Glasgow in late 2021. Delayed by COVID-19, this is a vital meeting where signatories of the UN's Framework Convention on Climate Change (UNFCC) will come together to discuss rules and progress on climate action.

At the last meeting in Madrid in 2019, Greta Thunberg's emotional speech garnered headlines, as she insisted that political leaders could not "get away with" inaction.[28] Nevertheless, the review in 2021 cannot fail to note the lack of global progress in reducing emissions since the Paris Climate Agreement in 2015.

More than 200 countries failed to agree the rulebook in Madrid – exactly how to navigate to the lower carbon goal. Many of the world's largest emitters were reported to be "missing in action", apparently resisting calls to raise the bar.[29]

But the tone of global rhetoric has changed considerably since then. Leaders from China and the US – the world's two largest emitters of greenhouse gases – say they are committed to action. Within the energy complex, there have been calls for every country to stretch for more ambitious emissions targets.[30]

"We have the 'what' as a result of the Paris Agreement, we don't have the 'how'," says Steve Waygood, chief responsible investment officer at Aviva Investors. "The big prize for COP 26 will be to chart the roadmap."

The arrival of Mark Carney, former governor of the Bank of England, as UN special envoy for climate and finance is significant. He will be expected to drive a much deeper conversation on pricing climate risk and the rules governing the allocation of carbon credits. At a time when many industries will have to restructure after COVID-19, Carney has emphasised this is a chance "to try not to go back to the status quo"

THE PATH TO NET ZERO
continued

Being mindful of net zero gains

The tone of the net zero debate often feels heavy, weighted towards industry, the asset mix in the power sector, construction and the like. But even with the best will in the world, net zero will not be achieved without careful consideration of our place in the natural world, and how to be better custodians. There is a clear choice, Helm argues, to continue to be a selfish generation, or "get cracking".

"Meeting net zero implies a level of awareness and collectivism that we struggle to have as a society now," Belmont admits. "But I think we are witnessing some important changes. During the coronavirus pandemic, we have had a distinctive change of views around what our economy is for. We are also seeing other changes around ideas about what work is for. It feels like a tipping point."

For Murphy, what has changed as a result of the pandemic is attitudes towards the socialisation of costs. "There now seems to be greater commitment to the idea the current generation has a duty to pay for future generations," he says. "In some respects, this was a constraint that held back investment in the past. COVID has tipped that view on its head. In theory, that gives a clearer way forward: it is important everyone understands these changes may be costly, but we still have a duty to invest for the future."

Getting this right will bring many benefits. "The quality of life should be so much higher," says Oliver Rix, partner for energy, utilities and resources at Baringa. "As professionals, we tend to talk in terms of various scenarios, and we compare the risks and costs. Those approaches are needed, but we also need to understand and talk about what it means for people. It's about better air quality, less noise pollution, using land more sustainably, having a well-managed countryside and improving biodiversity.

"Transport will be revolutionised too, with safer roads and far fewer parked cars freeing up valuable urban space. These are all huge advantages; we need to keep them in mind," adds Rix ●

METRICS TO HELP NAVIGATE TO NET ZERO

Nearly three decades after countries committed to publish data on greenhouse gas emissions under the United Nations Framework Convention on Climate Change, progress has been hampered by the lack of reliable and timely information. Little consistency, long gaps between publication dates and some alarmingly large discrepancies in emissions estimates have undermined confidence in the process.

China, for instance, has no official annual emissions report,[31] and the variance between the estimates submitted by different research organisations can be as much as 20 per cent.

This is important, as confidence around the net zero target will depend on experts' ability to measure what is happening on the ground. The ideal solution would be to have data available in real time and scrutinised by independent third parties to ensure its neutrality. In 2020, a handful of independent organisations have come together to deliver that for free.

Climate TRACE (Tracking Real-Time Atmospheric Carbon Emissions) will use satellite data, remote sensing and image processing to build worldwide emissions reports.[32] Contributors include Earthrise Alliance (consolidating publicly available data), CarbonPlan (satellite data on biomass cover to a resolution of 300 metres), Carbon Tracker (power plant utilisation information), the Rocky

> *Net zero will not be achieved without careful consideration of our place in the natural world*

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Mountain Institute (quantifying methane emissions from oil and gas infrastructure), Hudson Carbon (agricultural field data) and Blue Sky Analytics (tracking fires).

The lack of data has been cited as one reason why China's emissions trading system was scaled back from eight sectors to one (power generation). Without it, it was impossible to set targets and allocate carbon credits, which could be purchased by the largest polluters from lower emissions generators, as extensively as had been hoped.[33]

Measuring carbon sequestration also remains to be resolved. In the natural world, carbon is sequestered anyway via photosynthesis, so the approach needs to capture a baseline and additionality – to measure if more carbon is being locked away than would inevitably take place. (Read more in *Carbon capture: Solution or pipedream?*[34]) In this area, an assortment of guidelines exists, but there is no agreement between countries or between sub-sectors, for example forestry and agroforestry.

"To reach net zero, the underlying principle should be to prioritise the decarbonisation of assets, before looking to carbon offset schemes. But the lack of consistent carbon sequestration metrics has meant many different approaches are being developed to achieve the goal," says Stanley Kwong, associate director of ESG for real assets at Aviva Investors. "Some companies are choosing to purchase carbon offset certificates, as they are the simpler, cheaper option. These companies have essentially outsourced their emissions reduction strategy. It is a short-term solution, only a small piece of a longer-term puzzle."

The financial sector has its own measurement issues to address. Regulators like the Financial Stability Board have been pressing for insights into climate risk through guidelines agreed by its Taskforce on Climate-related Financial Disclosures (TCFD). The idea is that public companies can demonstrate their commitment to build a more resilient financial system through greater transparency. The process is intended to improve understanding of risk and ensure better capital allocation. The guidelines are voluntary, and now supported by more than 1,500 companies.[35]

Making these disclosures compulsory is now on the agenda. "Given the urgency of the climate threat, a voluntary approach to climate-related financial disclosure may not be sufficient," the UK Treasury recently concluded, publishing a roadmap towards achieving this goal in November 2020.[36]

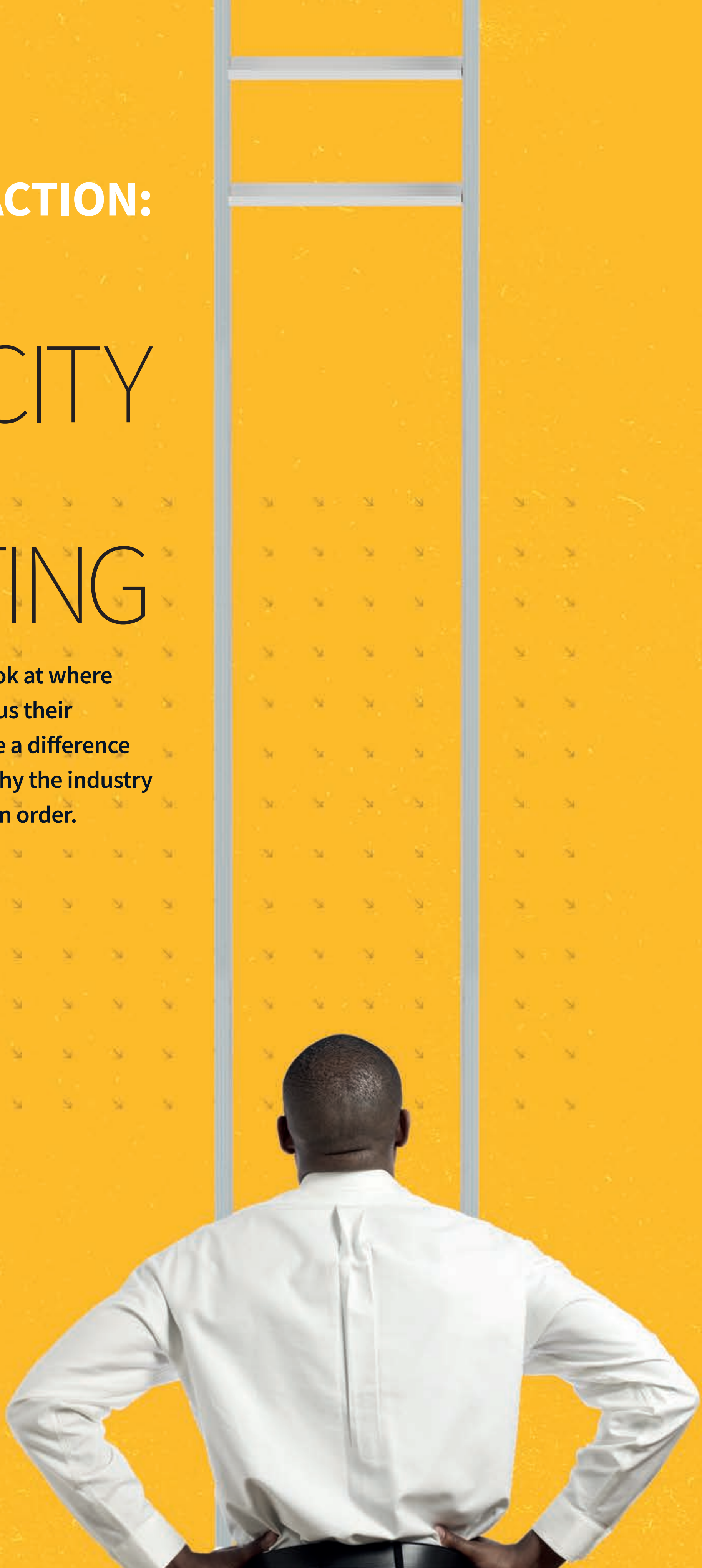
These questions around measurement are complex, but it is important they do not detract from the issue they are intended to address – speeding the transition.

"We can get better at measuring outcomes, but it has to be in a way that doesn't distract from the doing," says Faith Ward, chief responsible investment officer at Brunel Pension Partnership. "The most important thing is to deploy the capital in the first instance"

A TIME FOR ACTION:

RACE, ETHNICITY AND INVESTING

In a two-part feature, we look at where asset managers need to focus their engagement efforts to make a difference on anti-black racism, and why the industry needs to get its own house in order.



PART 1: ENGAGEMENT

Worldwide demonstrations following the brutal deaths of three black Americans, George Floyd (46), Breonna Taylor (26) and Ahmaud Arbery (25), have been a wake-up call for many companies, opening the eyes of white employees – and senior management – to the fact racism is still present in most businesses.

Although investor engagement has helped drive change on many fronts in recent years, from climate change to gender diversity, the harsh reality is that it has had far less impact on racial inequality. But why is this, and what needs to change for engagement to have a more substantial and lasting influence?

"The first thing is to recognise we have a problem and a collective responsibility to work towards a solution," says Mirza Baig, global head of governance at Aviva Investors. "We need to ensure the diversity agenda is expanded to fully reflect the spectrum of marginalised communities."

Ignorance is no excuse

Diversity has been on the corporate agenda for years, with companies keen to talk up their equal opportunity hiring and diversity and inclusion (D&I) initiatives. Yet while overt racism is perhaps less prevalent in the workplace than it once was, racial discrimination has not been eradicated.

This is evident in the way black people are underrepresented at senior levels in many businesses. And yet many white employees of those same businesses will be unaware of the problem.

Four main factors are at play in maintaining this state of ignorance. First, it can be extremely hard for black employees to speak out. Because they can be few and far between in some companies, and tend to occupy junior or middle management positions, they may struggle to make themselves heard.

Second, many white people remain unaware of their white privilege – the ability to live their lives without having to think about how their skin colour affects the way they are treated. They may become uncomfortable and defensive when talking about racism and discrimination – US academic Robin DiAngelo sees this response as evidence of "white fragility" – preventing open dialogue on the issues.

Third, ethnic diversity has often been left behind as D&I projects have focused on gender, and black people have been categorised alongside Asian minorities in inclusion initiatives under the BAME acronym. This has hidden the ongoing underrepresentation of black employees, particularly at senior levels. As of October 2019, there were only six black CEOs among S&P 500 companies, and 37 per cent of those firms did not have a single black board member.[1]

"We need to ensure that when we say black, we mean black, not BAME," explains Elizabeth Atoyebi, associate for infrastructure equity at Aviva Investors. "There are a lot more 'palatable' demographics in BAME, and some people say they want to see more BAME representation because they don't want to say 'black'."

Fourth, the issue is compounded by class discrimination in many blue-chip companies. Class is another critical barrier to being hired and promoted, and black minorities in Europe and the US are, on average, from less privileged backgrounds.[2]

These factors help explain why, despite well-meaning talk at a high level, there has been no real progress in the participation and promotion of black employees.

"Whether it is specifically in terms of black people or more broadly people from ethnic minorities, few companies have set targets," says Marte Borhaug, global head of sustainable outcomes at Aviva Investors. "A good example was the Parker Review in 2017, which said every FTSE firm should have at least one ethnic minority board member by 2021 – not the most ambitious target, but at least it made some recommendations. Yet 59 per cent of FTSE 350 company boards still have no ethnic minority representation today. That's not good enough. We need to see firms being clear about what they're aiming for and when they will deliver."[3]

Helping to remove the "kinks in the hosepipe"

Dawid Konotey-Ahulu, co-founder of the investment consultancy Redington and the #TalkAboutBlack initiative in the investment industry, likens the difficulties faced by young and talented black professionals to "kinks in the hosepipe" that stop their careers from flowing. These range from socioeconomic differences to entry-level barriers, discrimination in career progression and the fact the problem has traditionally been low on company boards' agendas.[4]

"In the past, I had never had a conversation about the B in BAME, and even the broader BAME conversation was a bit of a tick-box exercise. Companies certainly didn't take it as seriously as focusing on margins or their strategy for developing new products. This needs to be elevated to the same level," says Konotey-Ahulu.

He advocates two key actions to help change company culture. First, companies should open the discussion on race internally across the firm. Second, and perhaps most importantly, those in senior management positions should take it upon themselves to understand the problem and what they can do to address it.

"Senior management has to go on a learning process, understanding what it is like to be black, and what the kinks in the hosepipe are. It's like anything; to be an expert on climate or a strategic initiative, you've got to go and learn about it," explains Konotey-Ahulu.

RACE, ETHNICITY AND INVESTING

continued

While the investment industry itself has considerable room for improvement, as we highlight in part 2, asset managers also face increasing pressure from clients to demonstrate effective engagement with companies in other sectors, as well as governments, non-government organisations and industry bodies.

This is crucial; to effect change, senior executives need to connect the issue of racial discrimination to their own business. According to Baig, many companies simply don't recognise their power to be an agent for change through relations with suppliers, staff, consumers and society.

"We need to help them – and us – recognise their role, understand where they are on the journey, set targets and ambitions and translate those into policies and initiatives," he says.

It will be a learning process, but Borhaug says we can take a lot from what has been done on gender. "We didn't make real progress until we started taking meaningful action, for example with countries imposing quotas of women on boards and investment firms changing their voting policies. We now need to take the same kind of action for black representation in the workforce and the boardroom," she says.

Five key areas for engagement

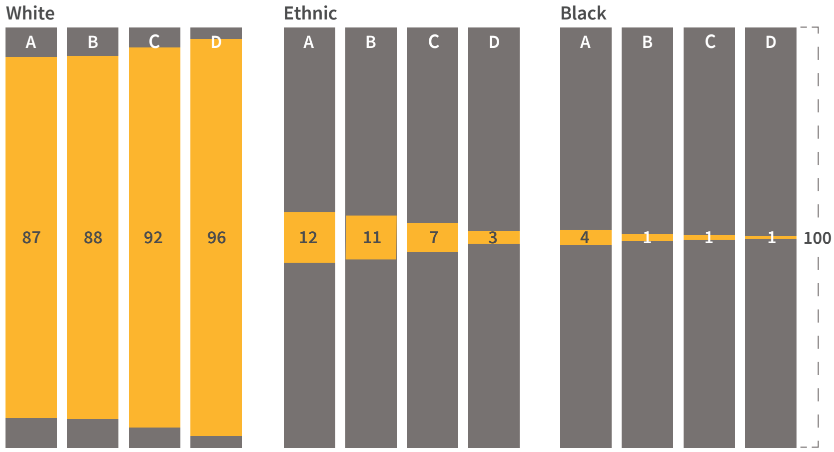
To incorporate black representation more explicitly into Aviva Investors' own engagement strategy, Borhaug and Baig have identified a framework around five key areas.

"First, we expect companies to create an inclusive culture for black employees. Firms should commit publicly to a D&I agenda that includes a focus on ethnic minorities, with policies in place to promote inclusion and tackle discrimination of all kinds, including on race," says Borhaug.

"More specifically, firms should commit at board level to zero tolerance of harassment and bullying. In the UK, for instance, we expect companies to sign up to the Race at Work Charter, which has seen more than 190 companies in the UK sign up since its launch in October 2018," she adds.

Figure 1: **Ethnic minority representation in FTSE 100 companies in 2019**

A: British population **B**: FTSE 100 top 100 **C**: FTSE 100 top 20 **D**: FTSE 100 top 3



Source: 'Leadership 10,000 2019,' Green Park, December 4, 2019. Note: White: white; Ethnic: black African, Caribbean, black British, Pakistani, Bangladeshi, Arab, Indian, Chinese, any other Asian. Black: black African, Caribbean, black British; Top 3: Chair, CEO and CFO; Top 20: Board, including Chair, CEO and CFO plus the Executive Committee; Top 100: senior leaders who report into the Top 20.

This may not seem like much, but research shows not all leaders are ready to take even this minimal step. The UK *2018 Race at Work Report* found only one in three employees surveyed said there was at least one senior leader or champion in their organisation who actively promoted equality, diversity and fairness, showing no change since 2015.[5]

In addition to public commitment and policies, research and stakeholder interviews frequently highlight the need for financial support for initiatives aimed at tackling racism at work, including dedicated job roles, programmes, events and other activities. Although employee networks play a crucial role, companies should ensure they are properly resourced. To that end, Aviva Investors is encouraging investee companies to dedicate time and money to such initiatives.

The second point focuses on representation at a senior level. "We will be asking companies to commit to ethnic minority representation, including black representation, on boards and in senior management teams," says Borhaug. "We need to rethink how we are holding those companies to account in terms of representation."

Aviva recently became a founding member of Change the Race Ratio, a campaign led by the Confederation of British Industry to encourage companies to improve the representation of black and ethnic minorities in their organisation. By signing up, companies commit to setting targets for their boards and senior management teams.

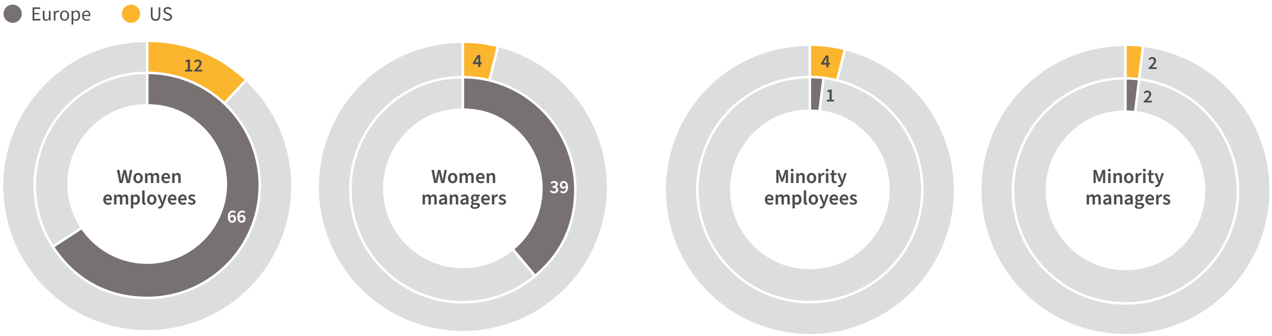
The third area involves diversity proofing business strategies. Across the globe, but even in white-majority countries, black consumers form a large part of the customer base, and firms should be thinking about how to satisfy their needs with products and services.

Research by PwC demonstrates the value of this approach. In 2018, it analysed the D&I strategy of 50 businesses, including leadership tone, HR policies and whether there were any D&I initiatives. The research found that the most successful firms had a D&I strategy alongside a closely aligned corporate strategy.[6]

Another aspect is the importance of embedding the risks stemming from racial discrimination into the enterprise risk management framework. Companies manage a variety of business-related risks, including climate change and staff retention. It is good practice for firms to include risks associated with racial discrimination, enabling them to recognise, measure, understand and tackle them.

The fourth area of engagement involves putting pressure on companies to review HR policies and practices, from identifying and recruiting talent to creating a level playing field for promotion and improving retention. In a 2018 update to the McGregor-Smith Review, over half of BAME employees felt they would have to leave their organisation to progress their careers, compared with 38 per cent of white employees.[7]

Figure 2: **Percentage of European and American firms disclosing**



Source: JP Morgan, Bloomberg. Europe: Bloomberg Europe 500 firms; USA: S&P 500 firms.

Finally, companies will be called on to collect relevant data, set targets and measure progress. "You need data to be able to hold companies accountable: when engaging with companies, we are somewhat hamstrung by the lack of it," says Baig. This is true for diversity in general, but even more so for black representation.

Holding companies accountable

While there is an ethical imperative to act, companies that fail to address the issues in their own organisations could quickly find there are financial consequences. David Cumming, chief investment officer for equities, and Colin Purdie, chief investment officer for credit at Aviva Investors, believe companies that don't change will be shunned by consumers and investors.

In a recent BBC interview, Cumming cited Facebook as an example of a company that has seen a hit to its reputation and advertising revenues through failing to address hate content on its platform. Up until last year, content from white supremacists could still be posted, while racist adverts were still appearing until recently.

He said: "They have got no real HR framework to govern their approach to free speech at the moment, and their current defence around impartiality and complaining about the lack of regulation is viewed as an abdication of responsibility."[8,9]

At least some businesses are waking up to the issue. Baig notes some retailers have started to proactively allocate 15 to 20 per cent of their shelf space to products supplied by black-run businesses.[10] Purdie says this will benefit the retailers, particularly if consumers get behind the move.

"These are the trends investors need to understand, support and position for. Companies that don't support them or change will suffer," he explains.

Culture shift

Borhaug believes asset managers also need to engage with governments and regulators to create and implement legislation, not just on broader diversity matters but specifically on the issues faced by black people.

"We need to push governments to face up to their own challenges and recognise institutional racism. It may seem like a non-business issue, but we can tell governments we don't want to live in a country where racial discrimination and police violence happen, and help support the organisations trying to tackle it," says Borhaug.

"We have a role to play, but can't change the world on our own," adds Baig. "When you are dealing with systemic institutional racism, it needs the strong hand of government. Industry bodies will also have to become more vocal and it is our responsibility to push them to take more action."

The best-run firms will not wait for direction from governments before doing the right thing. Konotey-Ahulu notes companies with strong leadership will be proactively making the profound changes needed.

"You need to take your whole firm on a journey. That is where real leadership comes in, where you stand up and say: 'This is the mountain we're going to climb. I want you to come with us on this journey, and if you don't want to come with us, you need to find another firm.'"

> *You need to take your whole firm on a journey. That is where real leadership comes in*

RACE, ETHNICITY AND INVESTING
continued

PART 2: WHY ASSET MANAGERS MUST GET THEIR OWN HOUSE IN ORDER

"The colour of my skin has already put up a mental barrier to what my aspirations are. I manage my expectations and my aspirations, telling myself this probably won't happen," says Aviva Investors' Atoyebi. "Things are achievable in this industry. There are ways to network and to move up. But it's hard to justify having such aspirations when I see nobody who looks like me in certain positions. I'm not even thirty, but I already know that."

The enduring presence of institutional racism and discrimination, particularly against black people, means all companies need to set themselves clear pathways toward proportionate inclusion of ethnic minorities. For asset managers, engaging with companies, as well as governments, industry bodies and NGOs, to effect change represents part of their stewardship responsibility. But for the demands to have teeth, the changes cannot be one-sided.

Redington's Konotey-Ahulu says progress has been painfully slow, with little change in his 30 years in the industry. However, he now sees a real intention to change from financial organisations – something he has been advocating through the #TalkAboutBlack initiative that he co-founded[11] – particularly through initiatives on intentional hiring and culture change.

"As often with progress, nothing happens for a long time and then things suddenly take off, similar to what we saw on climate change. I think this is what we are seeing on black minorities now," he says.

Asset managers need to seize the opportunity and ensure the momentum is not lost. "If you don't lead by example, you have no authority. We have to make sure people get an equal chance, and that people who don't have that equal chance receive more support," says Cumming.

Kinks in the hosepipe

The financial services industry is prone to all the "kinks in the hosepipe" Konotey-Ahulu described in his 2018 essay, *'So, can we talk?'.*

"[The kinks] run the length of the hosepipe: from very early childhood when, often, there is no-one telling black kids they can achieve something special in life […]; through to adolescence, when the dearth of high-achieving black role models means young black kids cannot look to the top of the judiciary or the medical profession, or the world of finance, or the arts, and think "That could be me one day!"; through to late teens when, if you do find yourself in higher education, no-one comes looking to hire you into their prestigious blue-chip organisations; through to the employment years, when the working corporate assumption often seems to be that you might, maybe, make it into middle management, but Partnership, Senior Management, the C-Suite, the Bench, the Board, the Chairman? – that's just not going to happen."[12]

The industry presents two specific kinks that make it even harder for black people to join and thrive in the sector. First is the complexity of the business, which requires strong technical skills that are often only gained through a university degree in STEM subjects or economics. Black students are underrepresented in such degrees, and not encouraged often enough to pursue them.

According to research by the UK's Social Mobility Commission, despite starting school with performance largely in line with national averages, black children are the ethnic group most likely to fail their Maths GCSE and among the least likely groups to achieve a good degree. The report attributes the relative underachievement to conscious and unconscious bias in the treatment of black pupils.[13]

These skills are also required further along the career path, meaning the pool of black candidates shrinks even further. The lack of black representation at the top of financial firms must be fixed, but it could be a slow process as the industry will have to do more around entry-level and junior recruitment, and then encourage career progression.[14]

This ties into the second issue, which is the barrier created by the prevalent – and perceived – corporate culture, of which class is a key element. Compared with white people, fewer black people in the UK have privileged upbringings and, to a large degree, people who succeed in financial services either come from upper-middle class backgrounds or have to give up part of their identity to fit in. In the UK, for instance, black children are the ethnic group most likely to grow up in poverty, with a quarter of students eligible for free school meals.[15]

This creates barriers in terms of recruitment, but also perception. Baig believes there is a misunderstanding across society of what asset management is and what its values are.

"Even before we get to issues about promotion and development, people of different backgrounds won't even apply because of the idea they won't fit in. It is monocultural versus multicultural," he says.

> We have to make sure people get an equal chance

Figure 3: **Kinks in the hosepipe**

No one telling black children they can achieve something special.

Parents cannot always invest time to supplement school education and set their children up for long-term success.

Dearth of high-achieving black role models to inspire young black children.

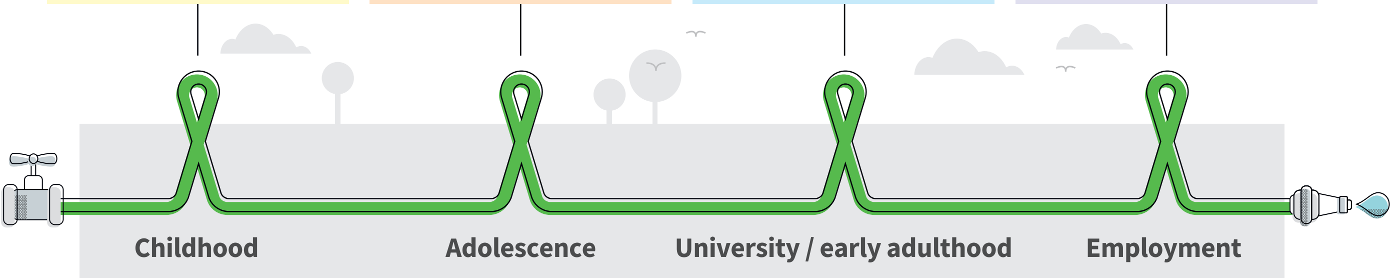
Blue-chip companies aren't proactive in looking to hire black students.

Recruitment centres on STEM degrees from top universities.

A lack of connections in the corporate world during university and early adulthood.

Pervasive corporate assumption that black employees are unlikely to progress beyond middle management.

Corporate monoculture hinders recruitment and discourages applications.



What asset managers can do to help unkink the hosepipe

Go speak in schools. Tell black children about asset management, and that your company wants to attract people like them.

Work with dedicated NGOs to reach out to the right people, in the right way.

Redefine what good looks like in terms of diplomas and background.

Promote opportunities to the black community, e.g. through #100BlackInterns.

Review recruitment processes.

Set up ongoing firm-wide dialogue, training and awareness-raising. This should not be a one-off.

Ensure senior managers actively learn about the issues and take the whole firm on the journey.

Review promotion and retention processes, not just for BAME but for black employees specifically.

Collect data and set timelines and measurable targets. Measure and report on progress.

Use mentoring and sponsorship to help black employees build networks and open doors.

Dedicate permanent resources, both financial and human, to tackle racism at work, change practices, reach out to black communities outside the company, and maintain momentum.

Integrate diversity into the company's business strategy in terms of product development, target audiences, suppliers, investment decisions and engagement with companies.

Source: Courtesy of Dawid Konotey-Ahulu.

RACE, ETHNICITY AND INVESTING

continued

Atoyebi believes there need to be more honest discussions within organisations about their commitment to ethnic diversity.

"What do they want to achieve? Are they just reacting to what is going on in the world or do they want to see change, do they want to see that diversity of thought, do they want to see different types of people? It is all well and good saying things like 'we have to think about unconscious bias', but it's all the same types of people coming in, it's all the same types of faces," she says.

Soft skills, hard targets

While talking isn't as tangible as changing policy, 'soft' areas like role modelling, awareness-raising and mentoring are crucial to showcase there is a place for people from diverse backgrounds.

However, timelines and measurable targets also need to be set: black representation on boards and in senior management needs to improve, business strategies must address the full array of customer types, recruitment and retention practices need updating and accurate data must be collected to measure progress.

But asset managers must also address the specific kinks of the industry in terms of educational and class biases. Training will be required, and awareness can be raised by encouraging people in the organisation to share their experiences.

Atoyebi thinks quotas can be helpful, if they are specific and measurable. "We need to be comfortable saying 'black' and put the mindset out there that it's not simply a quota for the sake of it," she says. "It is a quota to access qualified people who might bring different viewpoints and more diversity to the way the business is run and the way it thinks."

Broaden the search

At an entry level, asset managers need to engage with less-privileged communities and challenge the preconception that not everyone can fit in.

"When people say they don't know where all the black people are, what they really mean is they don't know where all the Eton or Oxbridge-educated black people are. It's not the same thing. Black people didn't all go there," adds Konotey-Ahulu.

He says there are black students who can offer cognitive diversity, determination and resilience. "They may not come in a nice, gift-wrapped box that says: '11 A-stars and a first-class degree in engineering from Oxford', but they may nonetheless turn out to be the most successful employee you ever hired," he says.

"The thing I keep going on about is the pipeline," adds Atoyebi. "Where are you recruiting from? What does the stream look like for people already in the business? Which universities and schools are you looking at? Are you looking at school leavers? Are you looking at people who aren't too sure about taking on a lot of student debt? Of course, people say it will just come out of your salary, but it's still quite daunting for a lot of people from certain backgrounds."

Borhaug points out one danger to this, which is the temptation to cut costs on outreach programmes and internships in a crisis. She says it is crucial to keep them, particularly at times like these.

"During COVID-19 we saw that as much as half of internship opportunities in the US were cut," she says. "These programmes should be a permanent part of companies delivering the change we want, not a cost that gets cut when times get tough."[16]

Although targets must be set and progress measured, other programmes such as mentoring and sponsorship will be vital. In part, this is because having privilege tends to come hand-in-hand with having a network – or at least being able to build one by dint of having a similar background – of senior people who can open doors.[17] As these doors don't typically exist for black or less-privileged employees, firms need to set up programmes to level the playing field.

"These are qualified people that don't get a chance because they don't relate that well to senior management. They don't have their rugby banter, or they don't talk about cricket, maybe, or something random like that. It's the same as with gender," says Atoyebi.

Fixing the supply kink

Beyond their own recruitment policies and culture, asset managers need to look at how they manage their investments, especially in the context of their fiduciary duty to clients. In real asset sectors such as real estate and infrastructure, shareholder engagement is not applicable, but there are opportunities to influence the supply chain.

"We deal with many suppliers, from construction companies to property service providers and power station operators. One of the areas we need to look at in more depth is diversity within those organisations. We can make a difference there," says Mark Versey, chief investment officer for real assets at Aviva Investors.

The lack of existing data and the fact the issue is rarely raised with providers mean the first step is to gauge the current situation and the potential impact of changes to procurement policies. Second is reviewing procurement processes, asking suppliers to change their diversity policies where relevant, choosing those with good diversity credentials and supporting black businesses.

Harnessing diversity of thought

Improving diversity – of which better black representation must be a central part – is not just a question of doing the right thing; having diverse investment teams can improve decisions and outcomes.

This is borne out by research that has found significant differences in people's attitudes to risk and investing, meaning a more diverse group would likely make different decisions than a uniform team.[18] Similarly, a 2014 article on price bubbles in financial markets by Sheen Levine et al found ethnically diverse markets were significantly more efficient than homogeneous ones.[19]

Making better investment decisions will also mean analysing companies' black representation and commitment to diversity as part of research.

"It should be part and parcel of any investment discussion, in the same way as regulation, litigation, demographics and climate change. It is not going to change the process, but it will change the outcome," explains Purdie.

The current momentum puts the onus on asset managers to change the composition of their teams and the way they make investment decisions.

Clients will demand change

Just as investors are likely to shun companies that do not adapt, clients and investment consultants will begin to take asset managers' diversity practices and black representation into account when assessing them. Now that it is something that can be talked about, it is becoming a powerful lens to look at the social dimension of ESG.

"In 12 to 18 months' time, it is going to be a question. The manager research team will start asking asset managers about their ethnic mix, not only on BAME as a very broad category, but more specifically asking how many black senior employees they have. When that happens, it starts to turn the dial, because asset managers want to have good answers to those questions. If you are a smart asset manager you will figure that out," says Konotey-Ahulu.

He acknowledges we can't "unkink the hosepipe" in a day, however, which is precisely why asset managers need to stay the course. It took a tragedy to shake the industry out of its complacency; it is crucial the momentum is not lost now

> *"There need to be more honest discussions within organisations about their commitment to ethnic diversity"*

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CUTTING LOOSE: COVID-19 DEALS GLOBALISATION A FURTHER BLOW

Globalisation's image problem may have been further tarnished by the pandemic, but can political leaders use the crisis to reform it for the better and resist the urge to abandon it altogether?

Zhang Qian was a Chinese official and diplomat who served as an imperial envoy to the outside world in the late 2nd century BC during the Han dynasty. He was first dispatched by Emperor Wu in 138 BC to build an alliance with the Yuezhi tribe, as Wu looked to deter raids by the Xiongnu, a powerful nomadic tribe to the north. Captured and enslaved by the Xiongnu, Zhang Qian eventually escaped, returning in 125 BC with news that sophisticated civilisations, rich in unusual products with which China could trade, existed to the west.

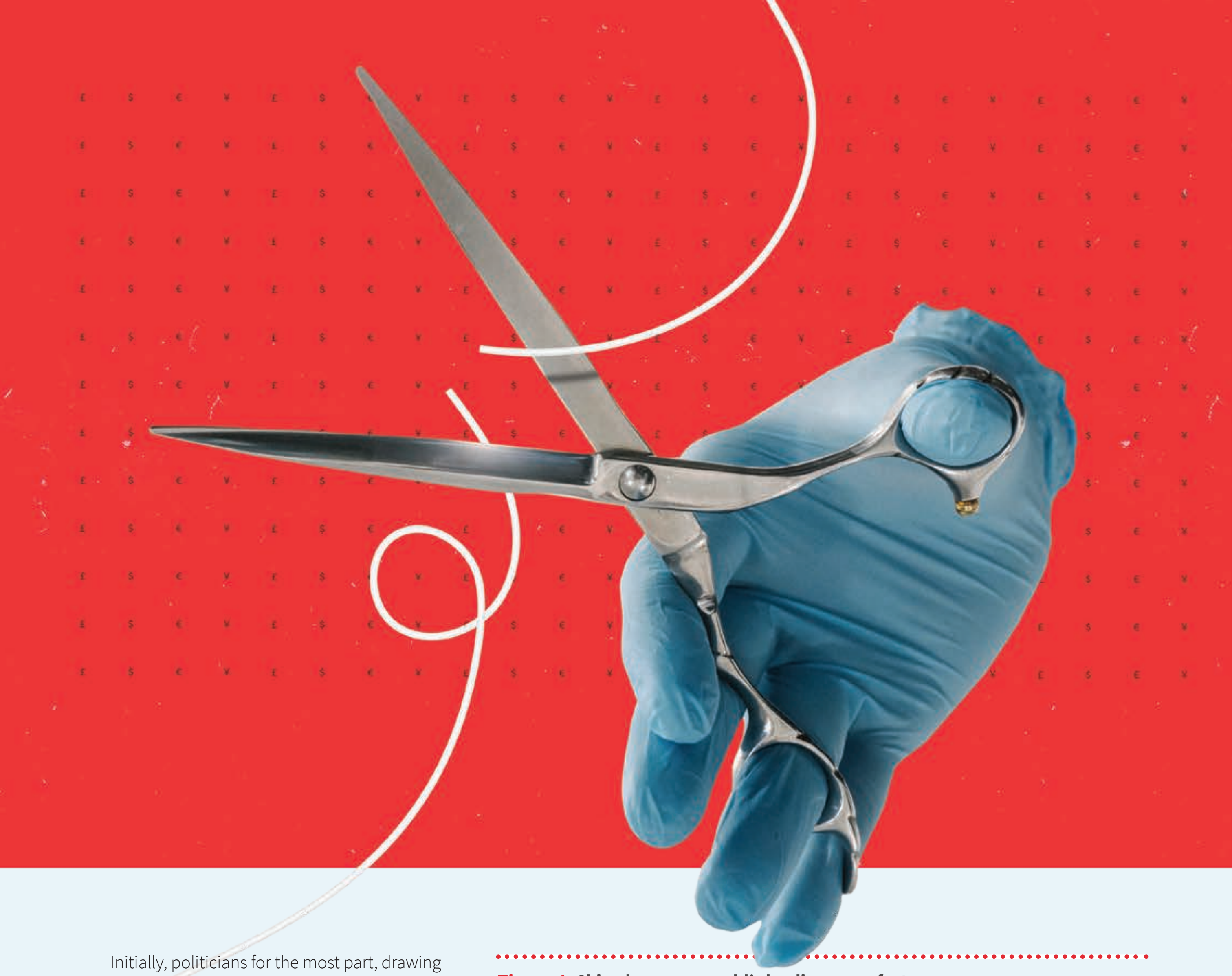
Over the next hundred years or so, the world's first transcontinental network of trade routes sprang up, connecting China and the Far East with the Horn of Africa, the Middle East and eventually Europe. It is today known as the Silk Road in reference to the most important item China exported along its length. In reality, a vast range of other goods, including paper and gunpowder, also began to be widely traded for the first time. With the Silk Road simultaneously leading to the exchange of ideas and technologies, and even helping to spread religion, most notably Buddhism, its development could be said to have marked the beginnings of globalisation.

The world went on to become ever more closely connected over the following two millennia, as transport and communication links steadily improved. However, it was only in the last half century that globalisation really took off. Whereas in 1972 international trade was the equivalent of 27.5 per cent of global GDP, by 2008 its share had more than doubled to 61 per cent.[1]

Made in China

The process of globalisation wasn't confined to cross-border flows of goods and services. By the turn of the century, China was beginning to find itself at the heart of increasingly globalised supply chains, having implemented reforms and gradually opened its economy to the rest of the world two decades earlier. Chinese manufacturing had by 2019 risen eightfold in the space of just 15 years.[2]

Trade liberalisation and the creation of global supply chains were accompanied by a surge in capital flows and foreign direct investment (FDI). Meanwhile, the advent of the internet meant technology, ideas and cultures crossed borders at an ever-faster pace, as did people, whether to work or study, or simply as tourists.



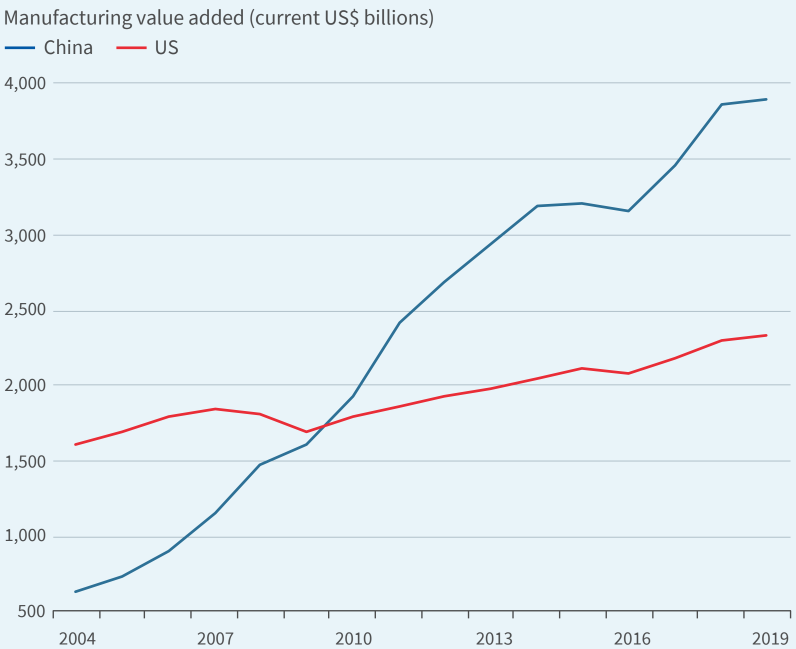
Initially, politicians for the most part, drawing on economic orthodoxy, viewed globalisation positively and were content to let it run its course. However, since one country's exports are another's imports, that began to change over a decade ago. The deep economic scarring left by the global financial crisis led to a backlash against ever freer trade as growing numbers of workers in richer nations, who had seen their jobs shipped overseas or wages stagnate, gave voice to their feelings. Suddenly, anti-globalisation sentiment was no longer confined to a disenfranchised group of protesters.

In country after country, sizeable constituencies began to vote for anti-free-trade policies, or candidates that promised to limit them, culminating with the 2016 election of US President Donald Trump. He has initiated several trade wars, pushing America's tariff rate on imports back to its highest level since 1993.[3]

"China virus"

With the arrival of COVID-19, globalisation looks to have been dealt a further blow. In 2008, many reckoned the free movement of capital

Figure 1: **China becomes world's leading manufacturer**



Source: World Bank, Federal Reserve Bank of St. Louis, Aviva Investors calculations.

COVID-19 DEALS GLOBALISATION A FURTHER BLOW

continued

worsened the global financial crisis as the bursting of a US housing market bubble reverberated around the world. Today, the relatively free movement of people is being associated with the rapid spread of what Trump has labelled the "China virus".

"'Let's blame somebody else' is a narrative that has gained considerable impetus over the last few years. It predated COVID but I think COVID will accelerate the protectionism and isolationism associated with it," says Stephen King, senior economic advisor at HSBC, former specialist advisor to the House of Commons Treasury Committee, and author of the 2017 book *Grave New World: The End of Globalization, the Return of History*.

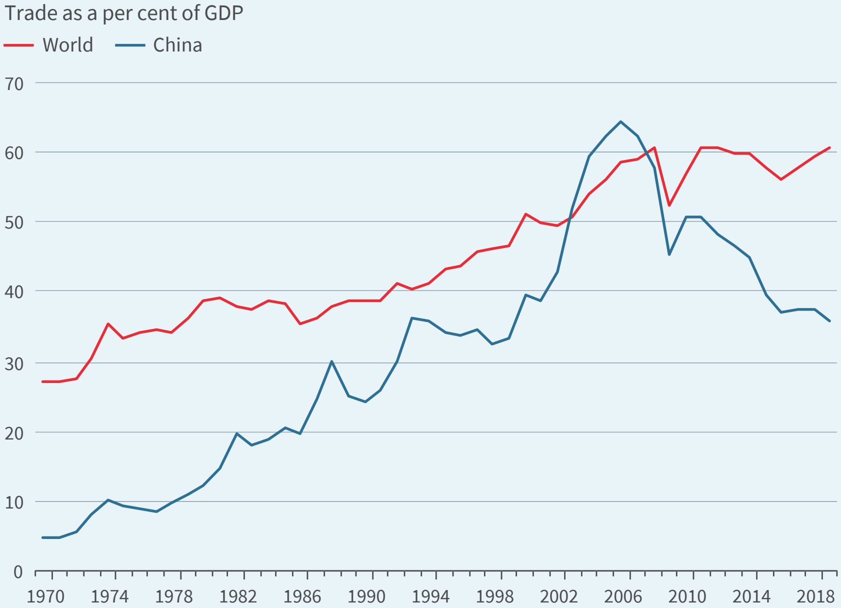
Globalisation's image was further tarnished when international supply chains fractured. A lack of cooperation, even among supposed allies, quickly led to shortages of essential products as nation after nation banned various exports. Vietnam prevented shipments of rice, Ukraine the export of alcoholic products used to make disinfectants, while India restricted sales of several key antibiotics and banned exports of generic anti-malaria drug hydroxychloroquine altogether.

People were especially disturbed in the spring, when countries entered cutthroat competition against each other in a desperate race to secure personal protective equipment (PPE) for healthcare workers. One former US official, specialising in disaster response, dubbed the unedifying spectacle: "Lord of the Flies: PPE edition". No sooner had shortages of PPE been alleviated than nations began vying with one another to secure supplies of future coronavirus vaccines.[4]

Home bias

World trade, measured as a share of overall economic activity, has been faltering for more than a decade. Perhaps surprisingly, this has had far less to do with the protectionist urges of politicians such as Trump than China's drive to become self-sufficient, as evidenced by its Made-in-China 2025 plan, initiated in 2015.

Figure 2: **World trade stalls as China turns inwards**



Source: World Bank.

Having peaked at 64.5 per cent of Chinese GDP in 2006, external trade last year accounted for little more than half that amount (35.7 per cent).

However, with the pandemic aggravating politicians' protectionist urges, international trade, for so long a bulwark of global economic growth, appears to be under threat.

"Some of the language around building up national champions and strategic industries is a throwback to the 1950s and 1960s. It seems likely we'll see much more home or regional bias to production going forward," King says.

Having largely abandoned them half a century ago in favour of free-market economics, some countries in the West appear to be toying with the idea of reinstating industrial policies. That could involve subsidies and tax incentives for industries deemed of vital national importance.

Somewhat perversely, this could mean it becomes even more important for companies to be well connected around the globe, believes Sir Dominic Asquith of Macro Advisory Partners, a consultancy.

"If you think of just how industrial policy might be changed by COVID, there are likely to be a lot more government contracts being handed out. That will potentially have an impact on where to relocate and what your supply chain will look like," he says.

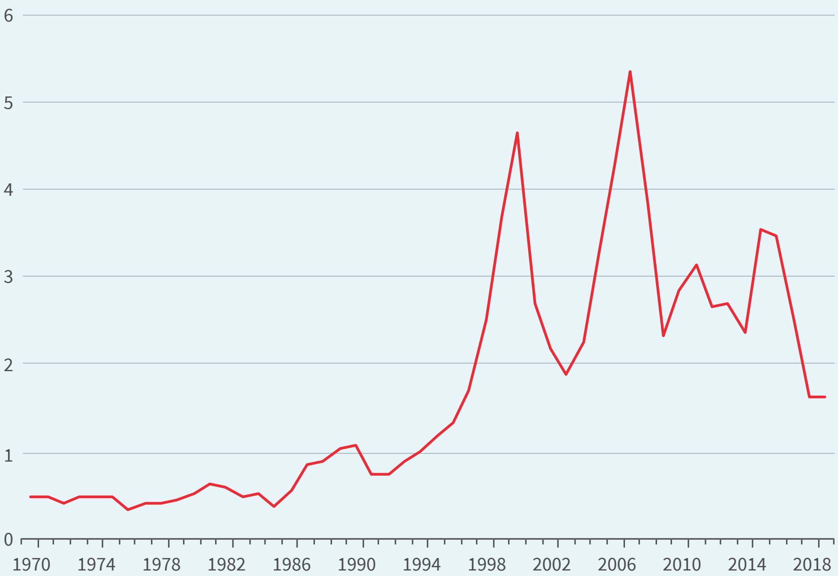
Protect your own

It is already clear many politicians now view public health capacity and the sourcing of essential supplies as a national security imperative. The pandemic has led many to conclude they had become too reliant on others for the supply of essential medical equipment. French President Emanuel Macron and German Chancellor Angela Merkel in May called for the European Union to take back control of medicine and vaccine production.[5]

The fact they had become too dependent on China is especially troubling for many in the West given growing distrust of Beijing. Prior to the pandemic, China made half of the world's N95 respirator masks, essential for protecting healthcare workers, while it supplied 90 per cent of the thermometers used in US hospitals. It also holds a key position in the global active pharmaceutical ingredients (API) industry, which produces ingredients used in the manufacturing of drugs.

In the UK, which only five years ago was pledging to be China's best partner in the West, Prime Minister Boris Johnson is said to have instructed officials to draw up plans to reduce the country's reliance on China for vital medical supplies and other strategic imports.[6]

Figure 3: **Foreign direct investment in decline**



Source: World Bank.

40%

of US multinationals have relocated, or are considering relocating, manufacturing outside of China

In an environment where alliances are uncertain, international cooperation lacking and unemployment skyrocketing, there are signs countries are looking to use the crisis as a pretext for greater protectionism in areas beyond PPE and vital medicines. Once a keen advocate of globalisation, Narendra Modi, India's prime minister, in May told the nation a new era of economic self-reliance has begun. His advice to Indians: "Buy local."[7]

A recent Deutsche Bank survey found 41 per cent of Americans stated they will no longer buy a product labelled 'Made in China', while 35 per cent of Chinese said they will boycott products made in the US.

China had already started to lose its manufacturing crown due to rising wages, and as Trump's tariffs further eroded its competitive advantage. For example, Stanley Black & Decker in 2019 moved production of its Craftsman wrenches back to the US from China, citing the raised cost of imports.[8]

Supply chain resilience

The virus looks like it might hasten the reconfiguration of global production networks by causing them to be shortened, diverted and in some cases re-shored. Quitting China is not a straightforward decision, however. Since manufacturers are often forced to leave behind intellectual property and tools and moulds, they run the risk of suddenly having a new Chinese competitor on their hands. There is also a danger of being shut out of what for many is an increasingly lucrative market.

Despite such problems, a survey of American multinationals in May 2019 found around 40 per cent were either considering or had relocated manufacturing outside of China.[9] A more recent survey suggested 20 per cent thought decoupling of the two economies would be accelerated as a result of COVID-19.[10]

By highlighting the need for supply chains to be resilient, not just cheap and efficient, the virus provided a wake-up call to many firms. In February, numerous international automakers had to halt production because the supply of parts from China was interrupted; Indian pharmaceutical companies warned output was at risk from disrupted shipments of Chinese ingredients; and Western manufacturers of industrial electronics complained they could not get the Chinese circuit boards they needed.

While some will no doubt follow Stanley Black & Decker's lead and re-shore production in its entirety, in most cases it seems more likely the virus will speed up plans to adopt what has become known as the 'China Plus One'[11] strategy. It involves continuing to use Chinese suppliers, not least to go on serving the lucrative Chinese market, but also having a second supplier located elsewhere.

In the wake of the outbreak, Microsoft reportedly accelerated plans to shift production of its Surface tablet away from China. Google, having already shifted production of some of its Pixel smartphones to Vietnam in 2019, did likewise.[12]

Even where companies see no commercial benefit in cutting ties with China, the virus has given governments an excuse to both entice and pressure them to do so. Japan, for instance, in April earmarked 220 billion yen (US$2.1 billion) to help manufacturers shift production out of the country.[13] The same day, White House National Economic Council Director Larry Kudlow said the US should "pay the moving costs" of every American company that wants out of China.[14]

Cross-border capital flows

Rising flows of trade and the creation of global supply chains were facilitated by a surge in cross-border flows of capital as countries steadily abolished controls, allowing international capital markets to become ever more integrated. Foreign holdings of international capital stood at 25 per cent of global GDP in 1980, having changed little since the turn of the century. However, by 2000 that figure had risen to 110 per cent and by 2007 it exceeded 200 per cent. Once again, the financial crisis stopped that trend in its tracks.[15]

COVID-19 DEALS GLOBALISATION A FURTHER BLOW

continued

For instance, whereas trade has been stagnating for a decade, foreign direct investment (FDI) has fallen, as shown in Figure 3. Although this decline is not fully understood as the drivers of FDI are complex and hard to disentangle – for instance, Trump's tax cuts of 2017 encouraged US companies to repatriate a record amount of cash that was previously held overseas by subsidiaries – the pandemic looks certain to accelerate this trend, at least in the short run.

The Organisation for Economic Cooperation and Development forecasts FDI flows will plunge more than 30 per cent this year, even under the most optimistic scenario, as the pandemic causes companies around the world to hoard cash and scale back investment.[16] Looking further ahead, there are signs anti-globalisation sentiment will make it harder for firms to complete cross-border mergers and acquisitions.

"We need to protect our security and economic sovereignty… The EU is, and will remain, an open market for foreign direct investment. But this openness is not unconditional," European Commission President Ursula von der Leyen said in March. She called on EU governments to protect critical European companies from foreign takeovers or influence. [17]

Elsewhere, Australia made all foreign takeover proposals subject to up to six months' scrutiny,[18] while Japan tightened rules governing foreign investment in listed companies.[19] Capital flows could be depressed in other ways. For example, the US Senate has proposed stiffening regulations that apply to foreign companies listing shares on US exchanges.[20]

The rapid advance in digital technologies has been integral to globalisation in myriad ways. Whereas it took a thousand years for the invention of paper to spread from China to Europe, with the advent of the internet vast amounts of information and data now cross national borders at the stroke of a keyboard. By allowing companies to interact ever more cheaply and efficiently with far-flung suppliers, that has enabled fragmentation and offshoring of production. And by facilitating ever cheaper cross-border payments, it has helped fuel a surge in e-commerce too.

Tech cold war

However, in recent years the US and China have become deeply embroiled in what has been dubbed a tech cold war as they battle for supremacy in areas such as semiconductors, telecommunications and artificial intelligence. Once again, it looks like the pandemic could hasten this trend.

HOW DE-GLOBALISATION IS ALTERING THE INVESTMENT LANDSCAPE

Globalisation has been in trouble for several years. With the advent of the coronavirus pandemic, the centripetal forces pulling people, companies, and governments apart look to have been given extra momentum.

That threatens to have a big impact on the world of investment. However, determining just how financial markets are likely to react is far from straightforward, not least because some of these trends are likely to take years to play out and will vary in terms of how they impact different nations, sectors and companies.

International trade, for so long a major driver of global economic growth, has been under pressure for some time having plateaued, as a percentage of economic output, during the financial crisis. With protectionism seemingly rising in the wake of the pandemic, it is likely to be further damaged.

Sunil Krishnan, Aviva Investors' head of multi asset funds, is wary of reading too much into the risk of a further drop in trade. At the same time, he says it is one of several reasons why investors may wish to protect their portfolios against the risk of higher inflation in the longer term, while they also need to be aware of the threat it poses to economic growth.

"Just as the opening up of the world economy led to lower prices and stronger economic growth, it would be natural to expect de-globalisation to do the opposite," he says.

However, he says while weaker growth may reduce the overall size of the economic pie to be shared between households and companies, the outlook for profits and inflation will crucially depend on "how the remaining pie is divided", something that is only likely to become apparent over time.

> *In recent years the US and China have become deeply embroiled in what has been dubbed a tech cold war*

"With COVID hardening anti-globalisation sentiment, the fault lines of the global tech cold war look set to emerge dramatically different," says Deutsche Bank's global head of technology investment strategy, Apjit Walia.

The world's reliance on technology-enabled connectivity was thrown into stark relief by the pandemic as employees were forced to work, children to learn, and consumers to shop, online. With technology widely expected to go on playing an ever-bigger part in people's daily lives and given the growing menace of state-sponsored cybercrime, Walia reckons the technology cold war is set to intensify.

Washington has been steadily ratcheting up pressure on Chinese telecoms equipment maker Huawei, which it has accused of technology theft and sanctions busting. It says the company's place at the heart of much of the world's 5G telecoms networks means it is a threat to Western security. It is making it ever harder for Huawei to access the semiconductors it needs to continue operating.

The US assault on China's technology sector has intensified recently. Trump said he will ban US companies and individuals from undertaking financial transactions with two major Chinese tech champions: ByteDance, which owns the video sharing app TikTok, and WeChat, the messaging platform.

Exodus

While international migration is nothing new, recent years have seen a sharp rise in the number of people flowing across borders. The United Nations estimated in 2019 there were 272 million people living in a foreign country, up from 153 million in 1990. Furthermore, the rate of increase has been accelerating, with 80 million people having emigrated since 2005, compared with 39 million in the previous 15 years.[21]

While much of this increase in migration is explained by natural and man-made disasters such as famines, floods, wars and terrorism, globalisation has also played an important role. Indeed, given liberalisation policies associated with it tend to erode the sovereignty and autonomy of nation-states, many would argue migration is an integral part of globalisation.

It is beyond doubt that migration has been greatly facilitated by factors such as better communications, the dissemination of information through mass media and improved transport, which lie at the heart of globalisation. The development of global communications networks has

For many companies, the upending of global supply chains has been the most damaging aspect of de-globalisation. Once again, this is a trend that looks likely to accelerate as a result of the pandemic.

Krishnan says it is reasonable to expect companies with the most stretched global supply chains, or whose sales growth depends on reaching from one economic sphere to another, to be the most challenged.

"Major automakers, other industrial groups and technology companies are perhaps the ones with the most thinking to do," he says.

Credit portfolio manager Chris Higham sees a danger some of the companies forced into restructuring their supply chains will be those that can least afford it.

"Shareholders will not want to see returns falling. If companies can't pass the cost increases on to customers, which seems plausible given the economic backdrop, the risk is they will try to take on more debt to support shareholder returns," he says.

That would be especially problematic, Higham says, given the big deterioration in credit fundamentals caused by COVID-19 means many companies' debt ratios are "already close to, or at, the limit of what is sustainable".

Giles Parkinson, global equity portfolio manager, says in the wake of a pandemic that caused many supply chains to seize up, companies with flexible and diversified production lines, which have been proven to be resilient, suddenly look more attractive.

Protectionist forces are threatening to impact financial markets in other ways. For instance, one of the defining features of globalisation has been the phenomenal rise in cross-border capital flows since the early 1980s, when financial markets began to be liberalised and opened to international investors.

Since the onset of COVID-19, various countries have tightened the rules regarding cross-border mergers and acquisitions and the listing of foreign companies' shares on national stock markets.

Krishnan says the internationalisation of capital markets has enabled economic actors to reduce risk. For instance, investors have been able to diversify their portfolios more easily, while those looking to raise capital, most obviously governments, have been able to attract a broader range of investors. Less integrated capital markets would imply more risk, both for those looking to invest and those looking to raise capital.

However, much as this may be an unwelcome trend, it could be a benefit to some. Alistair Way, Aviva Investors' head of emerging market equities, believes one such winner could be local stock exchanges.

"Hitherto, a lot of big Chinese internet companies like Alibaba and JD.com have just been listed on Nasdaq. With the US tightening listing requirements, they're now listed in Hong Kong. Over time, we're expecting liquidity to flow back towards the natural investor base of most of these companies," he says

COVID-19 DEALS GLOBALISATION A FURTHER BLOW

continued

> *Globalisation has arguably worsened man-made climate change*

meant images of Western lifestyles can be beamed into the most remote villages, relaying a potent message about the advantages of living in a richer country.

Globalisation has led to more highly skilled workers being lured abroad too. Foreign technicians, managers and other workers have often moved with FDI flows and multinational investments, while countries have competed with one another to attract IT professionals from India. As for the health services of countries like Britain, they would struggle to function without doctors and nurses from Africa and Asia.

In the short term, this trend looks set to slow. After all, many countries took emergency measures to stop the spread of the virus by blocking national borders and restricting the internal movement of people, while international air travel has virtually ground to a halt. With unemployment skyrocketing, it would be no surprise to see countries looking to curb immigration further.

However, King says should the pandemic cause widespread and long-lasting economic damage and widen wealth inequality between nations, it will lead to higher migration in the long run as more people are encouraged to look abroad for work.

Inequality

Economists generally view globalisation favourably. After all, it helped lift billions of people in poorer countries out of poverty, significantly lowered income inequality between nations, provided cheap goods to consumers in richer nations and boosted profits of multinational corporations.

Nonetheless, few would deny it has also had several adverse consequences that for too long went ignored. For a start, it is partly to blame for a massive increase in income inequality within nations, especially richer ones. It has also arguably worsened an even bigger crisis than the pandemic, at least in the long term: man-made climate change.

According to a 2013 report commissioned by the OECD, the sharp rise in industrial production, consumption and energy usage in recent decades has been "nurtured" by globalisation.[22]

"The main sources of CO_2 emissions are industrial production, transportation and, more indirectly, deforestation. These three human activities exist independently of globalisation, but their considerable development during the 20th century, and in particular in recent decades, is partly linked to accelerated globalisation," the report said.

When asked about the lessons to be drawn from the pandemic, Macron recently responded: "It was clear this kind of globalisation was reaching the end of its cycle".[23] If that is true, one of the biggest questions exercising investors' minds is: What comes next?

King says answering that question is fraught with difficulty given China's challenge to US hegemony has created an "unstable equilibrium". While he remains hopeful the two sides can find a way to co-exist more harmoniously by modifying globalisation, it is hard to see that happening at present. US efforts to undermine bodies such as the World Trade Organisation and World Health Organisation are not helping.

"Globalisation, above all else, depends on common rules, values and standards. If the international institutions upholding them are undermined, then it begins to collapse," he says.

Economic decoupling

Charles Parton, senior associate fellow at the Royal United Services Institute, a defence and security think tank, says it has become increasingly clear the values and political systems of the US and China, far from aligning as leaders in the West once hoped, are diverging. That means their economies will inevitably diverge too.

"What the Americans refer to as decoupling is already happening. It's being pushed by the speeding up of technology, and the erosion of the distinction between military and civilian technologies," he says.

He believes unless Xi Jinping's China changes tack, two competing and, in certain areas, distinct forms of globalisation are likely to eventually emerge, with one set of rules established by the US and its allies and another by China.

The danger is that attempts by different countries to bend the rules to better suit their own needs descend into autarky. It already appears governments are treading a tightrope as an increasingly authoritarian Chinese regime grows more assertive in challenging Western interests. China in October banned shipments of coal, Australia's main export, having already imposed sanctions on barley, beef and wine. Canberra incurred Beijing's displeasure in April when it called for an inquiry into the origins of the pandemic.[24]

Even if autarky is avoided, and globalisation is simply amended in favour of more locally sourced production, it is important to recognise this will still come at a cost. While poorer countries that depend heavily on exports would be worst affected, even richer ones such as the US, with a highly diversified economy, world-leading technology and plentiful natural resources, would almost inevitably suffer.

"Once you start building borders and barriers and begin to cut countries' economies off from each other, you're likely to end up with lower growth and a squeeze in living standards," King says.

Fortunately, there are grounds for optimism that a similar episode to the 1930s, which ultimately led to World War Two, will be averted, and not just because politicians have learnt from history.

Economics and profits still matter

Michael Grady, Aviva Investors' head of investment strategy and chief economist, says the same economic forces that made it hard for Trump to cut the US's bilateral trade deficit with China and encourage the re-shoring of production on a large scale, offer countries a strong incentive to avoid taking protectionism too far.

"With the world once again having to deal with a period of economic hardship, governments can ill afford to do anything that damages growth or slaps extra costs on companies. For their part, companies, many strapped for cash, will continue to conduct their affairs in a way that is consistent with maximising profits," he says.

For example, French automotive parts maker Valeo says it has no plans to alter its supply chains even though it was forced to shutter operations in China at the start of the year, a move that had sizeable knock-on effects on European automakers.

"Our final customers and auto parts clients aren't ready to pay more if our supply chains were relocated… So, if neither of them puts a value on the risk, there is no chance supply chains will be relocated," chief executive Jacques Aschenbroich said in July.[25]

Even where companies do shift production out of China, that will take time. "You can't just flip the switch and go from China to Vietnam and produce the same products," Rosemary Coates, executive director of the US Reshoring Institute, said in February.[26]

Grady says globalisation was driven in large part by the idea trade between nations is economically efficient. The pandemic, by exposing the threat to people's health posed by complex supply chains based on just-in-time production and a single-sourcing model, has highlighted crucial shortcomings with respect to national security and safety.

Re-wiring globalisation for the better

However, it would be wrong to view the pandemic as vindicating those who have been arguing in favour of protectionism. Despite the obvious challenges and dangers globalisation now faces, Grady is optimistic it can be re-wired for the better.

"This is not really a problem with globalisation per se. It turns out we were too reliant on single suppliers, especially in China, for essential equipment. It is legitimate to make security more of a consideration in trade decisions," he says.

Even if it costs companies money to make their supply chains more resilient, it could make sense over the long run. For some countries, that could mean re-shoring the production of vital healthcare equipment and drugs, even if for the majority a more cost-effective solution will simply be to expand emergency stockpiles.

While re-shoring of some production may reduce the centrality of China to global manufacturing, it is unlikely to create as many jobs as politicians hope. According to one recent survey, 69 per cent of US manufacturers were looking into bringing production back home, up from 54 per cent in February. However, that appears to be less about patriotism than commercial interests. Of those firms surveyed, 55 per cent were likely or very likely to invest in new artificial intelligence and robotics technologies.[27]

It is possible to envisage a reformed form of globalisation paying dividends in other ways. Arguably its biggest single shortcoming has been its abject failure to keep carbon emissions under control. Environmental economists have long argued economic decisions all too often failed to allow for the impact of carbon emissions. For them, it made little sense for the US and Europe to be curbing carbon emissions while importing carbon-intensive products such as steel from China and other countries, which were simultaneously increasing their pollution levels fastest by building coal-fired power plants.

If, as part of their efforts to reform globalisation, countries were to agree to harmonise the taxation of carbon emissions, the world could make big strides towards tackling the climate crisis.

Where do we go from here?

While there is no shortage of commentators proclaiming the pandemic has put another nail in globalisation's coffin, such assertions may be premature.

"*If countries were to agree to harmonise the taxation of carbon emissions, the world could make big strides towards tackling the climate crisis*"

COVID-19 DEALS GLOBALISATION A FURTHER BLOW

continued

Globalisation evokes images of massive container ships transporting manufactured goods from Shanghai to Los Angeles or Rotterdam. Even if such shipments have peaked, the quantity and value of data now whizzing between countries shows no sign of slowing.

Moreover, many companies have now seen the benefits of videoconferencing via Zoom. It is possible that as firms get used to managing workers remotely, they begin to see merit in shipping more jobs overseas.

It is worth bearing in mind globalisation has been under threat before. According to one tale, Romans' craving for silk was such that by the late Han Dynasty, with China wanting nothing Rome could offer other than gold, the emperor Tiberius issued a decree against the wearing of silk, complaining: "Ladies and their baubles are transferring our money to foreigners."

In the years that followed his edict, Roman craving for silk continued to increase and with it the price of the fabric. By the late 4th century, the Roman historian Marcellinus Ammianus was reporting that the use of silk, "which was once confined to the nobility, has now spread to all classes without distinction, even to the lowest".

While reforming globalisation is arguably long overdue, it is to be hoped contemporary leaders looking to wreck it have no more success than Tiberius. As King says, it would be paradoxical if globalisation were now to be threatened by a pandemic that has shown "we are quite closely connected, need to share knowledge and have a series of common standards for dealing with such events"

> *It is worth bearing in mind globalisation has been under threat before*

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WHAT A CARVE UP!

THE FUTURE OF THE INTERNET

Commercial and geopolitical forces are threatening to fracture the internet into competing regimes, making it harder for companies to operate across borders and potentially limiting their growth. We explore the implications for investors.

THE FUTURE OF THE INTERNET

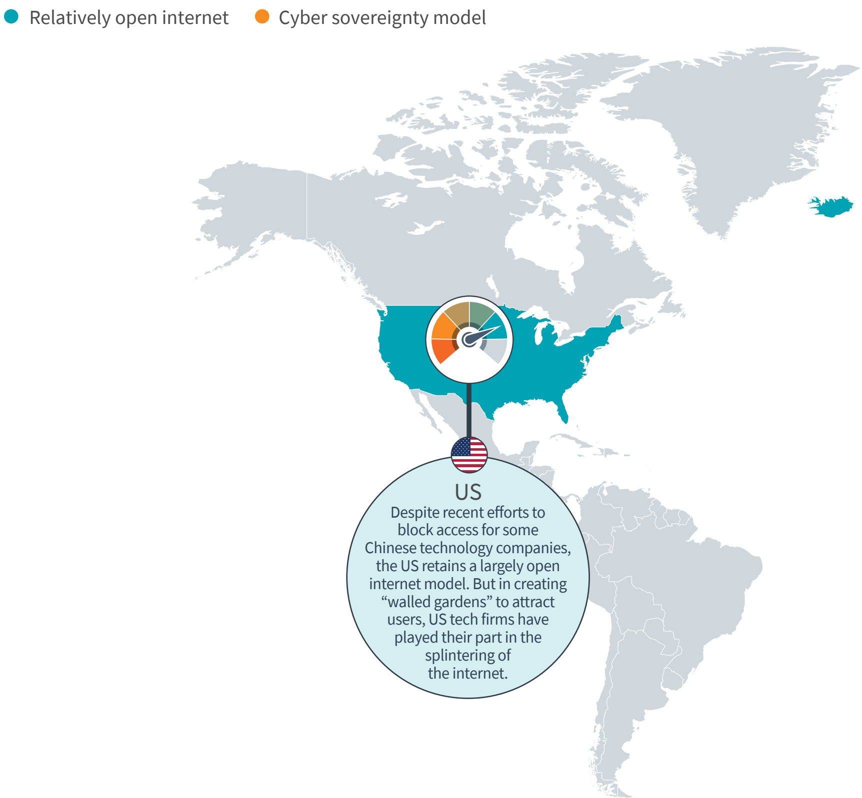
continued

John Perry Barlow was a classic American Renaissance man. After growing up on a cattle ranch founded by Mormon pioneers, he became a poet, essayist and political activist. In his spare time, he wrote lyrics for psychedelic rock band The Grateful Dead.

Barlow was also an early proponent of the internet. In 1996, he published a paper called "A Declaration of Independence of Cyberspace", which summed up the idealistic view of the internet that prevailed as the technology became mainstream.

"Governments of the Industrial World, you weary giants of flesh and steel, I come from Cyberspace, the new home of Mind," Barlow wrote. "On behalf of the future, I ask you of the past to leave us alone. You are not welcome among us. You have no sovereignty where we gather…Your legal concepts of property, expression, identity, movement and context do not apply to us."[1]

Figure 1: **Governments impose more restrictions on online freedom**



Source: Aviva Investors, 2020.

Cyber sovereignty

A quarter of a century on, Barlow's words look somewhat quaint. While the coronavirus pandemic has highlighted modern society's reliance on online tools, it is also clear that the freedoms of the early internet have been sharply curbed. Big tech companies have sectioned off cyberspace into "walled gardens", where users are corralled, profiled and bombarded with advertisements. Governments have wrested back control of online spaces with firewalls and surveillance technology.

The result is no longer a frictionless platform but an increasingly fractured and fragmented online realm. Global companies must adapt their operations to different regulatory regimes and may even be barred from some countries altogether, due to governments' efforts to protect their "cyber sovereignty". These trends bring new challenges and uncertainties for investors.

"Assuming the basic internet plumbing — the domain-name system, the protocols like http, and so on — remains universal, then the key disadvantages are that a company can't scale as it could in the old days, and companies have to be more answerable to national governments in terms of content, taxation and other sensitive issues," says Scott Malcomson, director at Strategic Insight Group and the author of *Splinternet: How Geopolitics and Commerce are Fragmenting the World Wide Web*.

Building the firewall

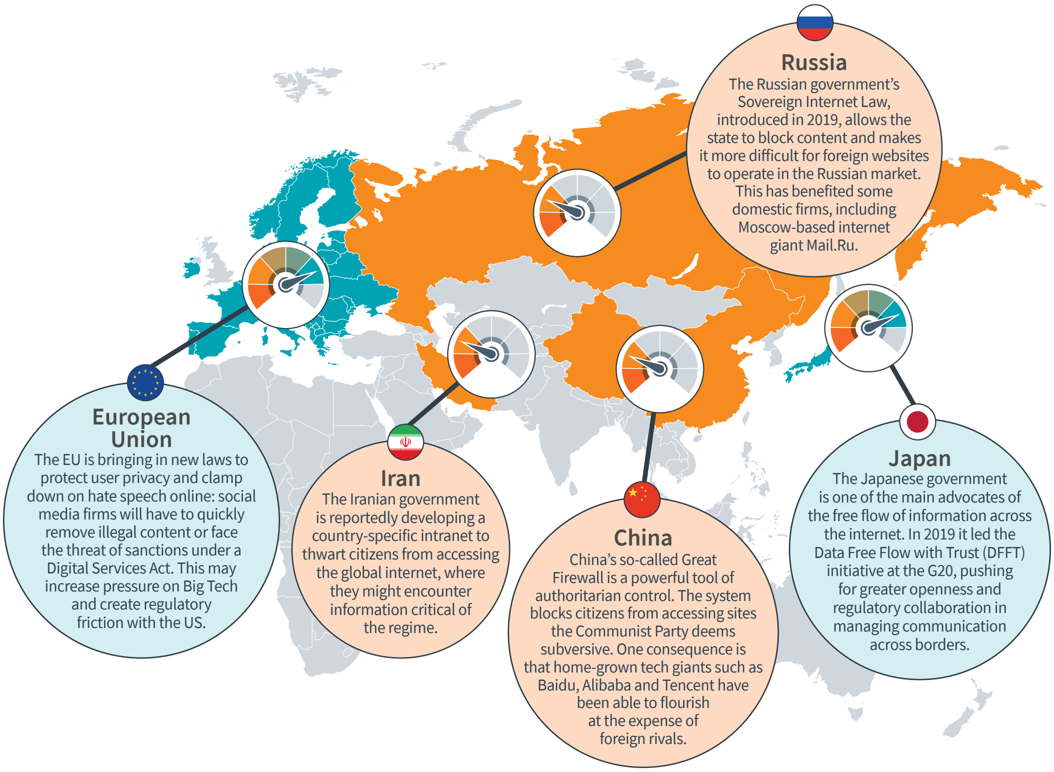
The infrastructure of the internet was built by Silicon Valley engineers, working with technology inherited from the US government's military projects.[2] But it did not become the global communications system we know today until computer scientist Tim Berners-Lee invented the World Wide Web in 1989, enabling billions of people to access the internet using web browsers and Uniform Resource Locators (URLs).

Berners-Lee wanted the web to be open and free, but before long big companies and states began to reassert control. The Edward Snowden revelations of 2013 showed intelligence agencies in the US and elsewhere had long been working with tech companies to monitor citizens' online activity.

It is not surprising governments would want to regulate the lawless spaces of the internet and crack down on criminal activity online. For authoritarian states, the use of online messaging in fomenting civil unrest – as was the case with the Arab Spring protests of 2010-'12 – posed a direct threat.

China developed its formidable "Great Firewall", which limits access to websites the Communist Party deems subversive, and other states, including Russia and Iran, have adopted similar methods (see Figure 1). Some governments have used the coronavirus crisis as a pretext to expand surveillance powers in 2020, according to research from Freedom House, a non-profit organisation that monitors political freedom and human rights.[3]

But companies also played a role in the balkanisation of the network. While they benefited from the globalisation of the internet and rising numbers of potential customers, technology firms sought to keep users on their own platforms, limiting the interoperability of software so they could monetise a captive audience using targeted advertising algorithms.



"The walled gardens that social media companies put up have contributed to this, and that's nothing to do with the Chinese government," says Jon Crowcroft, Marconi professor of networked systems at Cambridge University's Computer Laboratory. "There's no reason why you shouldn't be able to 'friend' somebody on a different platform or send a Weibo message from Facebook; the companies just block it. They don't want it to be possible."

Mapping the splinternet

A recent report from the Internet and Jurisdiction Policy Network, an international organisation that advocates for greater policy coordination, polled stakeholders from internet companies, technical operators, civil society and academia. Of the respondents, 95 per cent thought legal challenges across different online jurisdictions would become an acute problem in the next three years, while 79 per cent saw insufficient international coordination in policymaking regarding the internet.[4] The report concluded small- and medium-sized enterprises in all sectors – not just technology – could find it more difficult to operate across borders as a result.

As these findings suggest, for now the major concerns pertain to differences at the level of law and regulation. But Malcomson points to bipartisan support in the US and elsewhere for a bifurcation that would reach down into the technical standards that govern the global network, splitting the internet at a deeper level.

"That would take a while and be extremely jarring if it were at all extensive," he says. "One version could operate only for the mobile internet and pivot on alternative standards regimes. Another could dip into the protocol layer of the fixed internet. Another could construct itself around data centres. A fourth might create an alternative domain-naming system, which Russia has been toying with for several years. There are multiple possibilities."

In a 2019 paper, "The Four Internets: The Geopolitics of Digital Governance", academics Wendy Lee and Kieran O'Hara laid out a similar argument; in their view, the internet is being carved into four competing systems led by various governments or private entities. First is the "Open Internet" of Silicon Valley, where tech engineers and entrepreneurs retain an idealistic vision of a universal web system. Second is the "Commercial Internet", associated with policymakers and commercial lawyers based in Washington DC, who emphasise the need to protect corporate interests and intellectual property rights.

The other two regimes are spearheaded by nations outside the US. "Beijing's Authoritarian Internet" restricts user freedoms in the interests of political stability, while the big three Chinese tech firms – Baidu, Alibaba and Tencent – take advantage of loose rules over user data collection to create cutting-edge digital platforms. By contrast, the "Bourgeois Internet" of Europe puts greater emphasis on user privacy and looks on corporate monopolies with more suspicion than the other models. Each of the internets is threatened by "spoilers", such as hackers and Russian state-sponsored propaganda bots.[5]

THE FUTURE OF THE INTERNET

continued

As Lee and O'Hara argue, these different visions of the internet are presently "coexisting, and may continue in this way for some time. It is possible, however, that any of these internets may fall by the wayside, and also that any one of them might become dominant – or indeed, that the whole intricate system may collapse from these pressures."

US vs. China

The most prominent contest is between the US and Chinese models of the internet. Tensions between the two powers escalated in 2017, when the Trump administration slapped tariffs on Chinese goods, ostensibly to rectify a trade imbalance. But technology was also key to the dispute: China stood accused of "forced technology transfer (FTT)", or the theft of intellectual property from American firms.[6]

Despite the agreement of a bare bones trade deal in January 2020, under which the US cut some tariffs in exchange for a Chinese pledge to buy more American products and curb FTT, the relationship has soured further during the coronavirus pandemic.

These geopolitical tensions have caused trouble for Chinese companies with global aspirations, such as smartphone maker Huawei. The US has long sought to curtail Huawei's influence and sees the company's supremacy in 5G telecommunications infrastructure as a security risk. Recent sanctions that limit Huawei's access to American-made semiconductors have severely harmed the company's ability to develop competitive handsets, and it has already started to lose its domestic market share.[7]

Political concerns have also obstructed the international ambitions of two innovative Chinese mobile platforms: Tencent's WeChat and TikTok, a video streaming service developed by Beijing-based ByteDance. In August, President Trump signed an executive order that imposed commercial restrictions on both apps and ordered ByteDance to sell TikTok's US operations. ByteDance agreed to create a new US subsidiary, part-owned by retailer Walmart and tech multinational Oracle Corp, but the deal is in limbo; US legislators have yet to sign off on the agreement and China says it will not approve a sale (in September, the state-owned *China Daily* newspaper branded the TikTok situation a case of "bullying and extortion").[8]

"TikTok created a genuinely innovative artificial intelligence-driven platform and became the first emerging market internet company to make substantial inroads in developed markets. But this arguably happened at the wrong time given the geopolitical situation and the extra level of scrutiny now on this sort of business model," says Alistair Way, head of emerging market equities at Aviva Investors.

"TikTok does push the boundaries in terms of data collection from users, so it is no real surprise it has faced restrictions in the US, especially as it was taking market share from American firms as well. We may see more of this trend, with internet companies having to create local subsidiaries or sell off foreign operations, given the differences across jurisdictions and the growing resistance to data collection on privacy grounds," adds Way.

Proxy battles and national champions

With Chinese firms blocked from doing business in the US, they are increasingly looking for opportunities elsewhere. China's Digital Silk Road initiative offers cheap loan financing for poorer countries, many of them in Africa, to develop their internet infrastructure using loans from Chinese banks and hardware provided by Chinese companies such as Huawei.[9]

Huawei has also teamed up with Chinese state-owned organisations to press for a fresh technical standard for the internet, known as "New IP", at the United Nations' International Telecommunication Union (ITU). Huawei says this model for the internet's architecture would allow for faster internet speeds; critics say it is a more centralised, top-down system that would give nation states like China a more granular level of control over citizens' access to the network.[10]

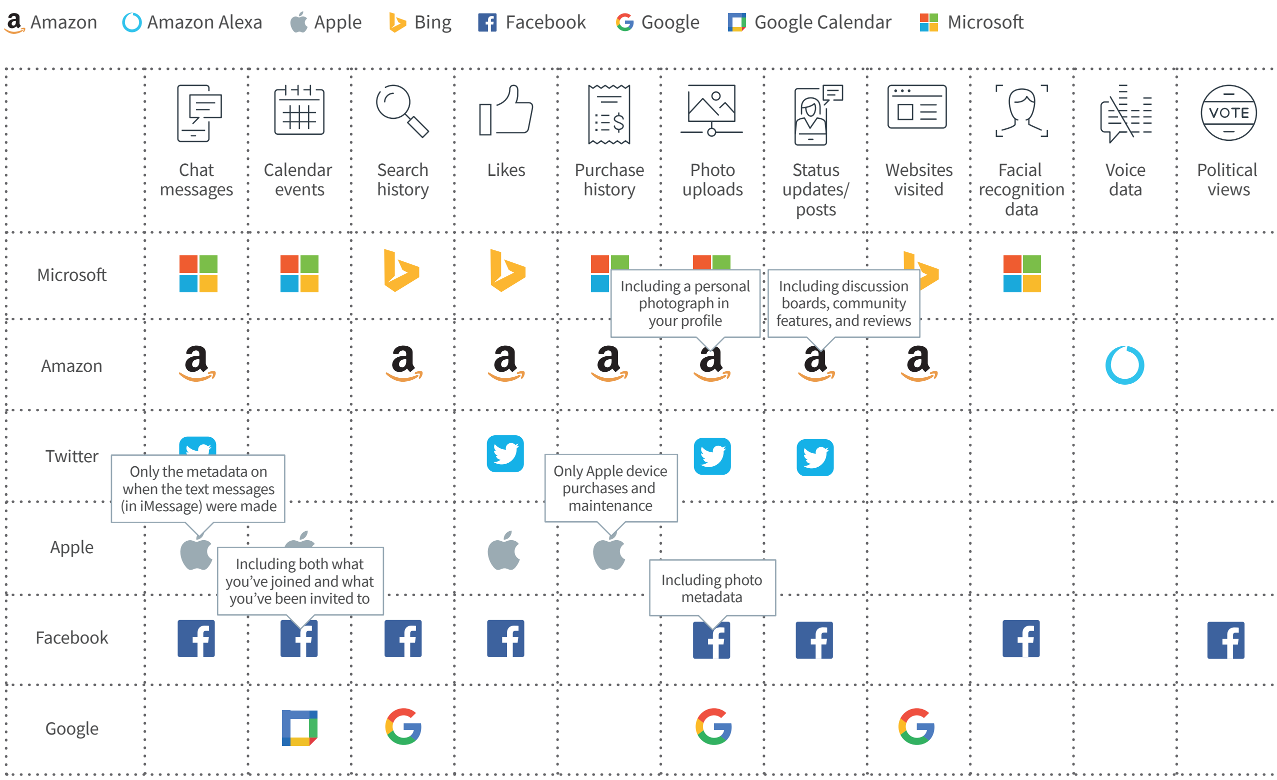
Meanwhile, both US and Chinese firms are looking to make up for their lack of access to each other's markets by vying for customers in third countries such as Indonesia, Thailand and Vietnam, whether through partnerships with local companies or by directly offering their own services. But in these markets, too, the splintering of the internet into national regimes is apparent, and domestic firms have been able to fend off competition by leveraging their local expertise in some sectors.

"In e-commerce retailing and logistics, local expertise is absolutely key; these are areas where local players have a decent chance of fighting off Amazon or Alibaba," says Way. "To a lesser extent, this is also true of other sectors such as gaming. Companies such as Singapore-based Sea Limited for example, which customise games for lower-spec mobile phones and tailor the software for local cultural preferences, have done well."

In social media, Western brands have retained an advantage due to global economies of scale, although there are exceptions. In Russia, Moscow-based Mail Ru has benefited from government efforts to create a "sovereign internet" by imposing barriers to foreign companies. Mail.Ru's social networking platforms are holding their own against Facebook.

"Facebook has always been present in Russia but struggled with domestic regulation and competition from the Mail. Ru-owned social network companies OK and VK," says Way. "These two platforms merged at an opportune time and have managed to hold off Facebook, which remains more of a way for Russians to connect with international friends rather than others in the country. Instagram has taken more share, but Mail.Ru remains pretty popular with users there."

Figure 2: **What Big Tech knows about you**



Source: Angela Moscaritolo, 'What does big tech know about you? Basically everything', PC Magazine, October 30, 2019.

The mobile internet and verticalization

The mobile-led internet model in emerging markets has powered a trend for "verticalization", which deepens the splintering effect. Rather than access an all-purpose search engine on a web browser, people in emerging markets increasingly seek out products and services using dedicated apps. This can create barriers for other tech companies hoping to generate advertising revenue, argues Mikhail Zverev, head of global equities at Aviva Investors.

"Take Baidu, which runs China's biggest search engine. Many investors have been disappointed with Baidu's performance in recent years, because they expected it to replicate Google's rate of growth. As it turned out, a lot of the pools of value Google accessed in the West weren't open to Baidu, as product advertising – the most lucrative form of advertising – had already been verticalized on the dominant e-commerce platform, Alibaba," Zverev says.

There could be opportunities for investors who are able to spot verticalization in its early stages in different sectors.

"One of India's leading online travel agencies (OTA) claims 70-80 per cent of traffic to its site is 'organic', because users tend to go straight to the product platform itself; by contrast, Western OTAs tend to have around 40 per cent organic traffic, and need to pay Google or other companies to attract the remainder of their customers. We are seeing similar trends for verticalization in sectors such as restaurant bookings, food delivery and financial services in emerging markets," he adds.

Younger generations in Europe and America, who access the internet almost exclusively using mobile phones, may start to act more like emerging-market consumers, migrating to vertically integrated apps and thereby cutting off advertising revenue streams from tech giants that operate more universal platforms.

The social dilemma

A more pressing risk to the West's tech giants may come from social and political shifts closer to home. In 2017, the Trump administration moved to remove so-called net neutrality protections, which ensure the free flow of information on the internet (although some states, including California, have since pledged to uphold the rules). Ending net neutrality would enable telecoms operators to limit access as they see fit, and charge more for faster connections.[11]

This could shift the balance of power between Big Tech and telecoms operators, which have seen little return on their investment in cable infrastructure in recent years, despite vast increases in internet traffic. (Canada, another country with strict net neutrality rules, provides a striking example of this: when Netflix launched in the country in 2010, internet traffic rose 25 per cent almost overnight, but the telecoms companies that administered the networks gained no extra revenue.[12]) An end to net neutrality would mean telecoms firms would be empowered to charge higher fees to tech companies that use their infrastructure.

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US President-elect Joe Biden is reportedly in favour of net neutrality, so the Democratic victory may have removed this threat for the time being.[13] But Big Tech faces other risks. Both major US political parties have been critical of the power of the technology giants and spoken openly about the prospect of breaking them up.[14]

On October 6, a report from the Democrat-controlled House of Representatives found Amazon, Apple, Google and Facebook had all abused their market power. It recommended antitrust law be rewritten so that technology companies can be forced to restructure if they wield dominance across multiple business lines.[15]

In the same month, the Department of Justice brought antitrust proceedings against Google, alleging it has engaged in monopolistic practices to favour its search engine. The proceedings are likely to take years to play out and the company claims the case is "deeply flawed".[16] But whether or not Google is found guilty of anticompetitive practices, policymakers appear to be newly emboldened to move against internet firms. This may reflect shifts in societal attitudes – potentially a more important hazard to Google than the antitrust case itself, which was barely registered by the market (shares in parent company Alphabet rose one per cent on the day of the announcement).[17]

One of the biggest Netflix hits of 2020 is a documentary called *The Social Dilemma*, which exposes the methods by which Big Tech gathers data on users and manipulates their behaviour to better target them with advertisements. Zverev draws an analogy with a similar documentary, Michael Moore's *Sicko* (2007), an indictment of the US healthcare system that encapsulated growing public anger at rising drug prices and insurance costs. The following year, Barack Obama was elected president after making healthcare reform the cornerstone of his campaign.

"If citizens are annoyed at what a company is doing, it doesn't matter whether it is actually breaking laws; society will find a way to make its life difficult. *The Social Dilemma* shows sentiment is turning against Big Tech, and that could be a precursor to legislation or new antitrust policies. Investors should be mindful companies need a 'social license' to operate," says Zverev.

The Bourgeois Internet

In what Lee and O'Hara call the "Bourgeois Internet" regime in Europe, regulators have shown more willingness to crack down on Big Tech, notably in the area of content moderation, where US regulators have been wary of interfering due to concerns over freedom of speech. Social media companies have become notorious for allowing hate speech and disinformation to thrive on their platforms and European governments have introduced new laws to tackle the problem.

"The 24/7 nature of social media and the amplification of content through sharing clearly exacerbates the impact of these kinds of messages on wider society," says Louise Piffaut, ESG analyst at Aviva Investors. "From hate speech to bullying, extremism to misinformation, there is a lot of content here that damages communities."

The European Commission is drawing up legislation that will force tech giants to remove illegal content or face the threat of sanctions under a comprehensive Digital Services Act, due to be unveiled at the end of 2021. Germany has introduced the Network Enforcement Act (NetzDG), which forces large social media companies to review complaints and remove any content that is clearly illegal within 24 hours. In July 2020, Facebook was fined €2 million for under-reporting illegal activity on its platforms in Germany.[18]

"A tougher regulatory environment is long overdue," says Jennifer Cobbe, coordinator of the Trust and Technology Initiative at Cambridge University, an interdisciplinary research project that explores the dynamics of trust and distrust in relation to Internet technologies, society and power. "We are now acknowledging the reality: these platforms play such an outsized role in society that they need to have some kind of responsibility, and need to be brought under some degree of control."

Tighter regulations may force tech companies to spend more on technology or human labour to moderate content on their platforms. As operating expenses among tech companies tend to be high even before these added outlays – 40 per cent of total revenue in 2019, in Facebook's case – any increase in R&D and labour costs may have a material impact on the company's profit margins, says Piffaut.

A digital advertising bubble?

The European Union also looks likely to introduce new laws to protect individuals' data ownership and privacy, building on the General Data Protection Regulation (GDPR) of 2018. Pending regulation may compel big technology firms to allow interoperability, enabling users to shift their data easily between platforms, potentially punching holes in the "walled gardens" that contribute to the splintering of the internet.[19]

Past regulation has made it more difficult for companies to track customers' online behaviour using cookies. The new Digital Services Act will require further transparency from technology firms over why users are being targeted with adverts.

Previous legislation has actually favoured the biggest technology firms; the laws tended to apply to surreptitious, third-party tracking and data-gathering methods rather than those favoured by "logged-in" platforms such as Google and Facebook (these two companies increased their online advertising market share in Europe in the wake of GDPR).

But the sustainability of these firms' business models has been questioned on other grounds. In a recent book, *Subprime Attention Crisis*, author and former Google executive Tim Hwang draws an analogy between the risky collateralised mortgages that sparked the global financial crisis and today's market for digital advertising. Hwang assembles evidence to show microtargeted digital advertising often doesn't work, is subject to widespread fraud, and will be further curtailed by future regulation.
He argues that once companies grasp the

worthlessness of digital ads, they will withdraw their custom en masse, much as the bottom abruptly fell out of the subprime loan market.[20]

"While I don't think that we are looking at a subprime level problem, investors should monitor this potential risk to technology firms," Zverev says. "One could argue that with the decline of television and the lack of alternatives, advertisers have nowhere else to go than continue to use the large internet firms to market their products and services. But they may start to spend less money on ads if their effectiveness is called into question."

Decentralisation and the Internet of Things

US tech companies active in Europe may have to work on localising their offering as a result of the new regulation – a potentially costly and time-consuming process. And the divergence between the US and other Western regimes may go farther still.

Some European governments, alongside those in Australia and Canada, have begun to look at new methods of digital citizenship designed to put data firmly back in the hands of individuals. Estonia has already implemented a model whereby citizens can access a range of services using mobile apps, retaining complete control of their personal data in the process. An online dashboard shows them a log of everyone who has accessed information such as their medical records; they can report any intrusions to a data ombudsman.[21]

"One of the leading ways of building trustworthy digital citizenship is this decentralised model," says Crowcroft. "These projects are interesting because they create a world where the government and private sector are obliged to think much harder about what users' data is worth, because the user controls access to their data. Sometimes these projects are just distributed, highly federated, rather than fully decentralised, but the idea is gaining traction."

Crowcroft argues the debate over privacy may shape the next stage in the development of the internet: the so-called Internet of Things (IoT), which enables devices from refrigerators to industrial manufacturing equipment to communicate autonomously. If the IoT has user privacy "built in", this could improve standards for the internet as a whole; if not, the corporate surveillance of our everyday lives could reach another level altogether.

"I've worked on a study that tests privacy around the IoT, which has a bad reputation in that regard. I was cynical about it, but there are some interesting approaches to managing privacy and security in the 'cyber-physical' world," says Crowcroft.

"Because it is 'greenfield', building the systems to connect these devices together could be a place where you see these decentralised approaches take off. The research community is looking at this and making headway. Some of the platforms, such as those being developed by Microsoft and [UK semiconductor company] Arm, are secure systems to ensure data privacy and security. There's a chance those standards could be adopted by the rest of the industry in things like tablets and wearable gadgets," he adds.

A diverse ecosystem

From a commercial perspective, much depends on how far these different models of the internet continue to diverge. While few experts expect the deep technology of the internet to shift in such a way as to make regional networks incompatible, each regime is likely to continue to become more distinct in legal and regulatory terms.

For now, the direction of travel seems clear. In the US and especially Europe, Big Tech firms will need to tread more carefully as concerns over content and data ownership grow, potentially opening up opportunities for platforms that offer better security and data-privacy protections. Some of these alternatives, and communications apps built on the decentralised Matrix communications protocol, have already gained traction in some European countries.[22]

> *"The European Commission is drawing up legislation that will force tech giants to remove illegal content or face the threat of sanctions"*

THE FUTURE OF THE INTERNET
continued

These same concerns over privacy will limit the overseas growth of China's internet behemoths in the West. But behind the Great Firewall, they will continue to develop innovative systems and may outstrip Western firms in areas such as artificial intelligence thanks to their access to vast swathes of user data. In other emerging markets, companies that can attract mobile internet users to vertically integrated platforms will be able to resist incursions from global internet firms, whether they hail from the US or China. This could create a more diverse internet ecosystem globally.

Whether these trends are positive or negative in the aggregate largely depends on your point of view, argues Malcomson. Provided the underlying network remains global, the splinternet could bring benefits; while different markets are likely to offer different versions of the same platform, that could be advantageous to communities who receive a more tailored and localised service that suits their preferences. Such a system may look very different from the limitless universal space that John Perry Barlow envisaged – but that may be no bad thing.

"The key advantages of this fracturing, as compared to the universal system once imagined by Silicon Valley pioneers, are that local innovation can grow, and local content can flourish, in what amount to relatively protected virtual markets," says Malcomson. "A fractured Internet, in aggregate, could be much richer, in every sense, than a universal one"

"Provided the underlying network remains global, the splinternet could bring benefits"

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VIRTUAL REALITY:

HOW COVID-19 IS RESHAPING THE WORLD OF WORK

While the coronavirus pandemic has devastated livelihoods, it also presents an opportunity for companies and policymakers to reinvent the world of work. The future is full of possibilities – but no easy answers.

HOW COVID-19 IS RESHAPING THE WORLD OF WORK

continued

One of history's most horrific pandemics, the Bubonic plague of 1346-1353, killed as many as 200 million people globally. Entire communities were destroyed. Economies collapsed. Social disorder, which was already bubbling underneath European society before the outbreak of the disease, surged as issues such as wealth inequality were laid bare in the midst of the pandemic.

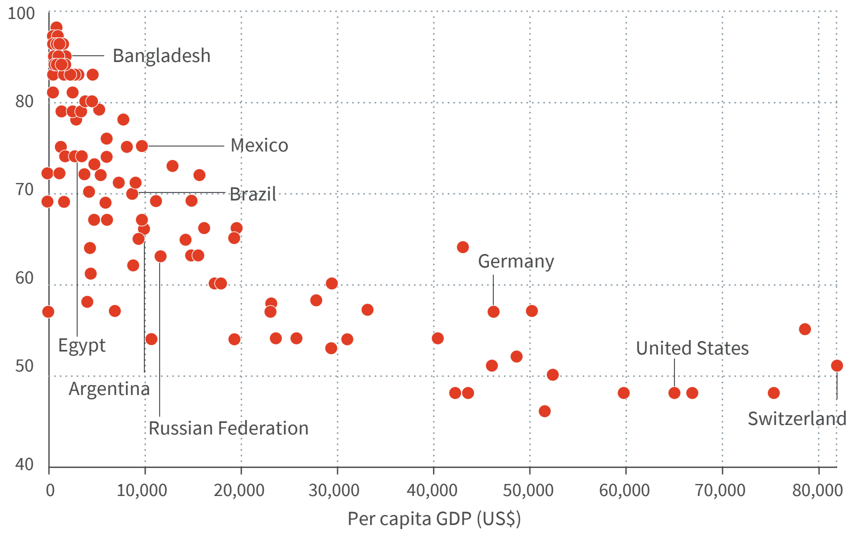
In the aftermath, however, a new reality emerged: one that shook hierarchies, modernised systems and transformed the socioeconomic order. A shortage of labour, for example, resulted in more efficient ways of working, such as an increase in the use of animals in farming. Higher demand for certain skills shifted more power to labourers, whose wages doubled in areas of Europe such as Florence between 1350 and the early 1400s. As wealth increased, so did social mobility.[1]

The COVID-19 pandemic is nowhere near as catastrophic as the Bubonic plague. Nevertheless, it has already changed the world in various ways, particularly the dynamics of labour supply and demand. Some of the trends we saw in 2020 – such as the rise of automation, cloud computing and artificial intelligence – were already underway well before the coronavirus hit.

However, COVID-19 is likely to accelerate the speed at which these new technological tools will be adopted. As Microsoft CEO Satya Nadella recently put it in a quarterly earnings call: "We've seen two years' worth of digital transformation in two months."[2]

In this article, we'll examine the workforce trends being accelerated by the pandemic and how they are likely to fundamentally shift the way companies, teams and individuals define their roles.

Figure 1: Share of workers unable to work from home, by per capita GDP



Source: World Economic Forum, October 20, 2020.

Rethinking work

The healthcare crisis may jolt us out of conventional practices that are no longer fit for purpose. Remnants of the industrial age, such as nine-to-five close monitoring of employees, a method originally used in factories to measure productivity, are not as relevant in today's knowledge economy. The kind of deep thinking required for creative problem solving is often better suited to environments outside the office. Then again, Zoom and Teams calls cannot replace face-to-face meetings when it comes to building relationships with teams or clients.

It took the pandemic for some executives to realise "different environments are appropriate for different kinds of work", says Jonathan Bayfield, head of UK real estate research at Aviva Investors. Old habits are being severely tested and forcing companies to re-examine how work works.

Other changes may appear temporary but nevertheless leave lasting scars on the labour market. In the first half of 2020, unemployment spiked across the world, hitting workers at the lower socioeconomic scale and those in developing economies particularly hard. While many of these job losses may be recovered in time, the longer-term challenges of inequality remain.

As a result, training a workforce to continuously adapt to the demands of the global economy is becoming more urgent. According to the McKinsey Global Institute: "Not only has COVID-19 thrown millions of individuals out of work, but the mix of jobs that emerge from this crisis is likely different than those that were lost."[3]

Virtually there

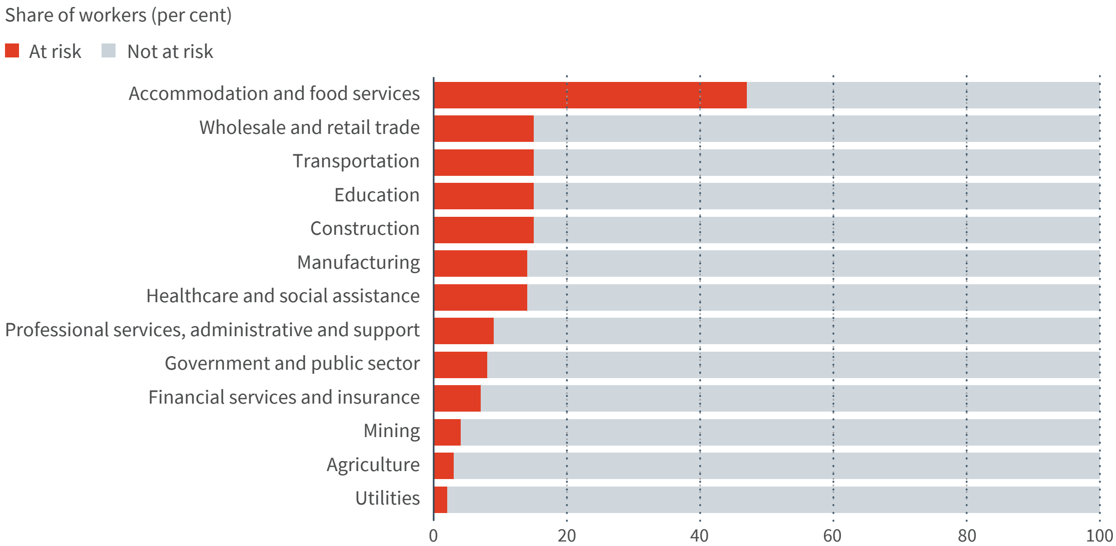
Just as national healthcare systems were not prepared for the pandemic, many companies struggled to accommodate their employees as governments locked down societies. Remote working, often reserved for a small fraction of employees before COVID-19, ramped up in short order to cater for entire workforces.

"We were pushed into it rapidly, randomly, with little preparation and without the kinds of skills required to manage from afar," says Marte Borhaug, global head of sustainable outcomes at Aviva Investors.

Borhaug says that in 2019, it took about six months to gradually transition one person in her team to work remotely full-time. Preparations included agreeing expectations around virtual collaboration and office presence when required for client meetings or presenting at conferences abroad, but also thinking about how to maintain communication and support across the team. "When you look at COVID-19, it was the opposite," she adds. "For many companies, it was unmanaged and abrupt."

Most companies are wrestling with questions around how long 'the new normal' may last, and what effects it might have on workforce engagement and management.

Figure 2: **Share of workers unable to work from home and at risk of unemployment, by sector**



Source: World Economic Forum, October 20, 2020.

"Everyone has a view because this impacts everyone," says Francois de Bruin, head of listed real estate and portfolio manager of a sustainable income and growth strategy at Aviva Investors. "Where will we go from here? It's not clear. But from my perspective, I feel the longer lockdown continues, the shorter the odds are that the future will be more online than in the office."

Chris Shipley, co-author of *The Adaptation Advantage: Let Go, Learn Fast, and Thrive in the Future of Work*, believes "without a doubt that nothing is ever going back to the way it was in the past". Despite the initial rollout of COVID-19 vaccines in some countries, challenges remain around manufacturing and distribution. There are also questions as to how effective the vaccine will be for certain groups, and how long immunity will last.[4]

"COVID-19 will be contained and understood, and there will be therapies and vaccines, and it can't happen soon enough," says Shipley. "But there will be the next novel coronavirus, and the next one, and the next one. The time between new virus outbreaks with the potential to become a pandemic is getting shorter and shorter. It would be naïve for us to think that we'll knock down COVID-19 and we're done here. We are now in a new place."

While some are referring to 'the new normal', Shipley encourages companies to manage 'the now normal'. Implicit in this is a realisation that the current environment is a moving target. Firms will need to adjust as circumstances change rather than wait for uncertainties to resolve themselves, adds Shipley, who has advised hundreds of early-stage tech companies on business strategies.

Work on different levels

WordPress founder Matt Mullenweg advocates a "distributed working" model, in five levels. Level one is when a business makes no deliberate investments in remote working, though some employees may be able to function a day or two from home in an emergency. Most companies currently operate on level two, in which they "recreate what they were doing in the office but in a 'remote' setting," Mullenweg wrote in a blog post.[5]

Level three involves investing in technology specifically for remote working, including robust cybersecurity systems. The COVID-19 crisis, for example, has highlighted security weaknesses in the technology infrastructure at many companies due to disruptions from remote working, job changes and cost cutting. The conventional 'perimeter security' approach of guarding entries and exits to enterprise systems are increasingly outdated, because threats can come from within as well as outside the organisation. A focus on a 'zero trust security model' should help ensure a more secure remote working environment for all.

While some are referring to the 'new normal', Shipley encourages companies to manage the 'now normal'

HOW COVID-19 IS RESHAPING THE WORLD OF WORK

continued

When teams can collaborate in a truly asynchronous way, that's level four. Mullenweg points to the ability to tap into a wider workforce geographically, with individuals contributing from different time zones around the clock on projects. At level five, productivity should go further than what can be accomplished in-person in traditional offices.

The impact of working remotely on productivity is not yet clear, but early evidence suggests an improvement under certain conditions. According to McKinsey research, businesses that adopt innovative processes to expand remote working may be able to reduce costs, boost efficiency and access a larger talent pool due to fewer geographical constraints. In a survey of more than 300 companies in the US, each with more than 2,000 full-time employees, McKinsey found 41 per cent of respondents said they are more productive than they had been before lockdown, while 28 per cent said they are as productive.[6]

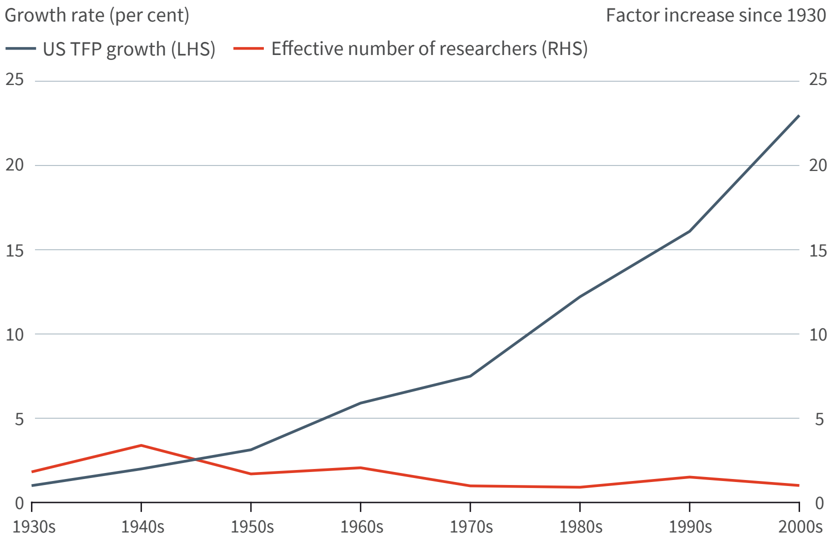
"Any company that can enable their people to be fully effective in a distributed fashion can and should do it far beyond this current crisis," Mullenweg adds.

What's missing from the office

Not all work can be done remotely, however. According to the World Economic Forum's *The Future of Jobs Report 2020*, about 60 per cent of employees in developed markets such as the US and Switzerland cannot fully work at home. In emerging markets such as Brazil, Mexico and Bangladesh, the proportion is even higher at 80 per cent or more.[7] (See Figure 1.)

The accommodation and food services industry has been perhaps the hardest hit, with about 47 per cent of workers unable to work from home, and therefore at higher risk of unemployment during lockdowns, according to the WEF report. Others in a similar predicament include workers in education, construction, and wholesale and retail. (See Figure 2.) Within these sectors, small and medium-sized businesses have generally suffered disproportionately: they are more likely to face bankruptcy, staff redundancies and higher costs relative to benefits when they are allowed to reopen.

Figure 3: **Aggregate growth versus research efforts**



Source: For the years since 1950, total factor productivity (TFP) is the Bureau of Labor Statistics (2017) Private Business Sector multifactor productivity growth series, adding back in the contributions from R&D and IPP. For the 1930s and 1940s, the measure is from Gordon (2016). The idea input measure, effective number of researchers, is gross domestic investment in intellectual property products from the National Income and Product Accounts (Bureau of Economic Analysis 2017), deflated by a measure of the nominal wage for high-skilled workers.

Markus Hällgren, management professor at Umeå University Sweden, is currently researching how teams work together in a crisis.

"It's easy to think most organisations will benefit from going more digital, but the reality is that a lot of work has to remain manual," he says. "Digitisation is not the solution to everything. The police force is just one example: they can't catch bad guys sitting at home."

At the other end of the spectrum, 74 per cent of workers in information technology and insurance have been able to work remotely. But even for those who can telework, the results may be suboptimal.

Kevin Gaydos, co-head of credit research at Aviva Investors, expects a majority of the workforce to eventually return to the operational environment that existed prior to the coronavirus outbreak. Currently, managers may have found that employees can work from home and still be productive, he adds. As the coronavirus puts more financial pressure on businesses, many may decide to cut costs by having a larger portion of the staff work from home, enabling them to reduce their office space.

However, the role of the workplace as a hub to "build cultures, connect through interpersonal interactions and enable collaboration – those types of things" will remain centre stage, adds Gaydos. "As we come out of this, maybe three or five years from now, I think we'll start to build back the office structure in such a way that won't really look that much different from where we were, with some marginal changes."

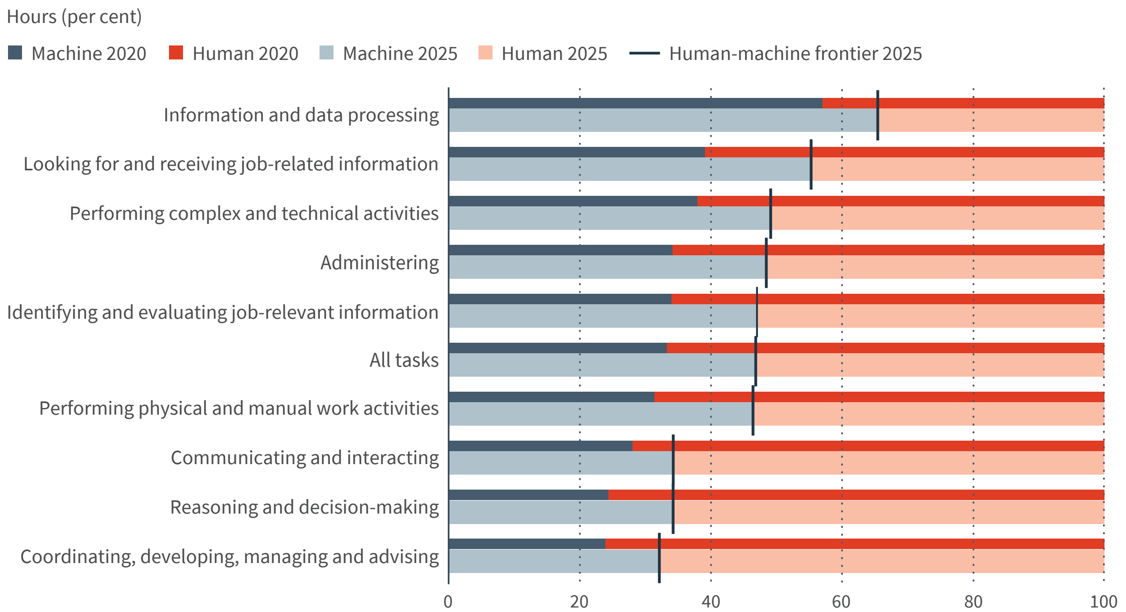
Can productivity be sustained?

At stake is whether any gains in productivity can be maintained from a more flexible working mix. Stanford University Professor Nicholas Bloom argues that while remote working can be beneficial, COVID-19 forced people to work from home who might not have been prepared for it, introducing four new variables: children, space, privacy and choice.

"We are home working alongside our kids, in unsuitable spaces, with no choice and no in-office days," according to Bloom, a senior fellow at the Stanford Institute for Economic Policy Research (SIEPR). "This will create a productivity disaster for firms."[8]

Establishing new client or supplier relationships, for example, may be more difficult in a remote working environment.

Figure 4: **Share of tasks performed by humans versus machines, 2020 and 2025 (expected)**



Source: World Economic Forum, October 20, 2020.

"We cannot judge whether we want to work with a certain contractor on a £120 million construction project without face-to-face negotiations," says Neal Pickering, real estate development director at Aviva Investors. "You need to see the whites of their eyes. There is no substitute for gauging the potential of a relationship than the interaction of a live meeting."

Bayfield believes professional networking also suffers in a remote working scenario. "I had a graduate and an intern working with me over the summer. In both instances, we had to put in a lot more time to build those relationships than we would have done in the office. Onboarding and training are just two examples of something that may be more effective in the office. Another is in-person collaboration, which is crucial for new ideas," he says.

Innovation – one of the key ingredients of success for companies in the knowledge economy – may also suffer, reducing productivity. Spontaneous interactions that happen when employees come together to share ideas, reflect on them and discuss new ideas, are difficult to replicate online.

Take cities. When people work in close proximity, they tend to innovate and create more wealth than their fair share, argues Geoffrey West in his book *Scale: The Universal Laws of Life and Death in Organisms, Cities and Companies*. Similar to the fundamental scaling laws around metabolic efficiencies of organisms (a blue whale, for instance, weighs about 100 million times more than a shrew, yet its heart rate is only about a hundred times slower), the larger the city, the greater the efficiency, including innovation. Doubling the size of a city, for example, results in about a 15 per cent increase in patents per capita.[9]

The structure of a city's network of relationships, according to West, could be compared to the behaviour of the networks within the body of an organism. In a city, these networks contain more people, more diversity and therefore more different perspectives from which to draw new ideas, leading to higher economic growth.[10]

This supports Bloom's research, which indicates new ideas already require an ever-increasing amount of resources. In a 2020 paper,[11] he argued an increasing level of research is required to generate a constant level of growth over time. This is true of both the economy as a whole and more narrow categories within it. (See Figure 3.)

"This analysis can be applied across different firms, goods, or industries," he wrote. "Research productivity is falling sharply everywhere we look. Taking the US aggregate

In a McKinsey survey,
40%
of employees said they had been more productive during lockdown

HOW COVID-19 IS RESHAPING THE WORLD OF WORK
continued

> *COVID-19 has disrupted every corner of the labour market. But it has also provided a glimpse into new possibilities*

number as representative, research productivity falls in half every 13 years: ideas are getting harder and harder to find." That figure may fall even further in a pandemic if in-person collaboration is severely limited.

Without the advantages of scale that in-person collaboration in urban offices offer, the problem is likely to worsen. In a 2011 Ted Talk, West neatly summed up the challenge: "You have to innovate faster and faster and faster. So, the image is that we're not only on a treadmill that's going faster, but we have to change the treadmill faster and faster."[12]

A hybrid model

COVID-19 has disrupted every corner of the labour market. But it has also provided a glimpse into new possibilities to change West's 'treadmill'.

Giles Parkinson, global equity portfolio manager at Aviva Investors, foresees a hybrid model that combines more efficient use of technology alongside deliberate and thoughtful in-person collaboration.

At least within the sectors in which people can work from home, teams may decide to meet in the office for two or three days a week rather than the conventional practice of commuting into the office five days a week. If that is not possible, they may decide to come together for a week every quarter or a few weeks every year depending on team preferences and the requirements of individual projects. The point is: individuals, teams and companies would have more autonomy over the way they choose to work.

"Online may work better in certain cases for certain tasks, but it's exceptionally difficult to operate exclusively in a virtual world," says Parkinson. "We're flesh and blood people, after all, and it's part of our DNA to socialise, to collaborate, to build a culture."

Louise Piffaut, ESG analyst at Aviva Investors, adds a company's culture is the glue that holds it together, keeping staff focused and motivated. A strong culture is more important as more full-time employees telework, and companies become increasingly dependent on a contingent workforce. Culture can provide a sense of corporate purpose.

"We have been used to having everyone come into work at the same time and sharing the same office space. Now that we are working from home, it is very different," she says. "There is a risk that some employees may feel isolated unless there is good team communication."

Online meetings can be stilted. When combined with what de Bruin described as a bifurcated environment in which some team members are in the office while others are working from home, communication can become even more challenging.

"The last thing we want is a ten-member team in which seven of those people are feeling as if they are not part of the conversation," he says. "That could be a tilting factor encouraging everyone on the team to get back to the office, whether or not it's the most efficient thing to do."

According to a Gallup estimate, disengaged employees already cost the US economy between $483 billion to $605 billion each year in lost productivity prior to COVID-19.[13] A lack of what Hällgren of Umea University calls "in-between" activities, such as casual coffees, after-work drinks and other non-work events may cause employee disengagement to rise even further.

"If we are working from home, we tend to focus on the work we have to do. We forget that we still need to develop relationships with our colleagues," says Hällgren, who has also researched the organisational dynamics of Mount Everest expeditions. "These connections are extremely important to understand each other and to get along. When they break down, it is likely to create conflict, causing employees to disengage."

Remote working may also take its toll on trust. The use of software such as Time Doctor, ActivTrak, Teramind and StaffCop to monitor employees has been rising globally since the coronavirus outbreak. Although these platforms vary, monitoring software tends to rely on tools such as screenshots, always-on video services and login times to gauge employee productivity.[14]

Some of these practices, which were already happening before the pandemic, are now being scrutinised under privacy rights laws. In October 2020, for example, Hamburg's data protection commissioner fined clothing retailer H&M €35 million for illegally spying on its employees in Germany between 2014 and 2019.[15] Amazon has also been criticised by UK and European trade unions for collecting sensitive information about its workforce during the pandemic.[16]

"It all comes back to trust," Piffaut says. "I don't think companies will be able to control everyone. And, viewed from a different perspective, companies may find that remote working can allow for more tangible results."

Hällgren puts it this way: "We can't see what people are doing – and we shouldn't if they are working from home – but this creates a need for leaders to increase command or control. Yet this is not necessarily the most efficient thing to do during a crisis."

In his analysis of how the Swedish police operated during COVID-19, Hällgren found frontline officers used to a hierarchical culture initially turned to their leaders for all decisions. But little by little, decision-making became decentralised – more fast-paced, adaptive to situations and, ultimately, more effective. Teams became more motivated and the level of trust increased. Trust is one of the key ingredients behind a decentralised leadership model in "high reliability organisations", where responsibility is clearly defined but decisions are delegated down the chain of command to create engagement at lower levels, he explains.

"With COVID, there is this great opportunity to reconsider the corporate structure," he says. "A bureaucratic, top-down approach is effective for incremental changes, but not for radical innovation."

Borhaug says rather than thinking about the future of the workplace as an 'either/or' question on whether to work from home or in the office, companies should aim to be fully flexible, giving people the technological tools, resources and empowerment to be in charge of how they can work most efficiently. "If they do that, companies might be surprised that productivity may improve," she adds.

Reality bytes

The role of machines in the workforce doesn't stop at spyware: they are encroaching into every aspect of employment. Businesses are likely to accelerate the pace of job automation and augmentation during the health crisis – at a time when between 80 and 90 million individuals, or roughly 15 per cent of the workforce across 35 countries, may be falling into poverty as a result of losing their livelihoods, according to International Monetary Fund estimates.[17]

As companies automate at greater speed, many of these jobs will not return. People in the lowest social strata with fewer educational opportunities have traditionally been disproportionately affected, further widening the inequality gap. However, automation and augmentation are also reaching higher into the corporate hierarchy.

Companies are increasingly laying the foundations for algorithmic management – the use of smart algorithms largely based on artificial intelligence, data analysis and machine learning to perform managerial tasks. Once the purview of the gig economy, algorithmic management is growing in almost all sectors, including banking, healthcare and legal services.

Diana Wu David, author of *Future Proof: Reinventing Work in an Age of Acceleration*, expects algorithmic management will increasingly be used to measure productivity, screen potential job candidates and make strategic decisions on where to deploy human capital.

"AI can provide a lot more information about who and what is available within and outside your firm to do a particular project, and do so in perhaps a more objective way," she says. "I expect management decisions that are at least partly based on AI to become more prevalent in future."

By 2025, the quantum of work hours performed by machines will match those by human beings, the WEF report estimates. However, humans are likely to retain their comparative advantage versus machines in roles including advice, communications and management. (See Figure 4.)

The digitisation of the workforce has implications for career paths, which may no longer fit neatly into traditional norms, says David, who is also adjunct professor at Columbia Business School EMBA Global Asia.

"Historically, there has been a linear progression of going to school, getting a job and progressing through the hierarchy of the corporate ladder, getting more and more pay and responsibilities as you go. And then you retire," she says. "This old paradigm – and so much of this is a legacy of industrial production – is no longer feasible for people, nor is it feasible for companies or governments, which now have huge pension deficits."

Workers will need to adopt a lifelong learning approach, supported by both governments and employers. "Learning is the new company loyalty programme," David says. Companies that are better at helping people identify their skills and filling in the gaps based on the companies' and employees' needs will have comparative advantages.

Shipley points to corporate universities at the likes of Apple, Pixar and Airbnb, creating an internal learning environment because companies recognise the need to constantly reskill. Google is taking this a step further: it not only provides its own staff with further education; it is also working with US community colleges to provide certificates in essential tech skills.[18]

"We've been given an incredible gift to rethink everything," Shipley says. For a start, she believes companies should stop treating workers like a balance sheet expense item and more like assets within an investment portfolio. Only when human capital can be viewed in those terms will employers and employees begin to work together to futureproof that portfolio.

> *"The digitisation of the workforce has implications for career paths, which may no longer fit neatly into traditional norms"*

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Portfolios, reworked

Companies that can reimagine the way teams can work together more efficiently are going to be more likely to outperform their peers in future, Parkinson believes. Fundamentally, they'll come out of this crisis as stronger businesses in a more competitive position, because they have adapted to the circumstances to become more resilient.

"What we're seeing in public markets – both in listed properties but also within multi-asset strategies, is that those companies enabling new ways for businesses to adapt their working practices are trading at significant premiums," adds de Bruin.

Perhaps benefitting the most from this trend are technology-related stocks helping to digitise the workforce, and they may continue to outperform for longer, adds Paul Parascandalo, multi-asset fund manager at Aviva Investors. While Zoom has been the poster child among software companies that connect employees remotely, others such as Microsoft have also shone. The company's CEO Nadella, for example, announced in an October earnings call that usage on its Teams platform increased by more than 50 percent in the prior six months, totalling 115 million daily active users.[19]

Those that can innovate faster to progress augmented and virtual reality platforms may also benefit. Mixed-reality headsets, for example, are being trialled by London-based traders at UBS to create a virtual trading floor.[20] Other tools can recreate a virtual office, enabling shared backgrounds so that colleagues feel as if they're in the same room, restoring the focus on facial expressions, body language and other nonverbal cues. Artificial intelligence is being deployed to help employees do everything from eliminate background noise during conference calls to manage their stress levels while working online.

According to Deloitte, at least 100 digital remote collaboration products were released in the first eight months of 2020.[21] Such tech collaboration tools have implications beyond the office, for sectors such as medicine, education and even entertainment.

"There's a clear reason why these companies have been beneficiaries during the pandemic," Parascandalo says. "Preferences are evolving, shifting more online, and that means many of these tech companies will continue to experience tailwinds."

Compare that with the central bank easing and government fiscal support globally that will likely suppress bond yields for longer. "It's not surprising investors may be willing to continue buying US tech stocks, even if they are looking more and more expensive," he adds.

Depending on how vaccine rollouts progress, there may also be opportunities to spot undervalued companies punished in the initial days of the COVID-19 crisis.

Businesses supporting travel, such as airlines and hotels, and leisure activities including entertainment, bars and restaurants, are among those that may outperform if an effective vaccine becomes widely available. However, these stocks could prove more volatile, at least in the near term, so investors should proceed with caution, focusing on companies with attractive valuations, strong balance sheets and effective managerial teams.

"Over the long term, people will want to interact to drive and develop businesses together," says Parkinson. "It is these relationships that really make a company valuable; it is these connections that lead to those differentiated insights that ultimately distinguish companies."

The state of play

Where governments choose to funnel fiscal support will also have a big impact on jobs – and investments. In the US, President-elect Joe Biden has said he wants to spend \$2 trillion on green infrastructure as part of a broader economic recovery plan.[22] In Europe and in the UK, campaigns targeting net zero emissions by 2050 are also likely to create jobs in clean energy.

The UK's ten-point plan for a green industrial revolution, for example, includes a £160 million investment that will eventually support "up to 60,000 jobs directly and indirectly by 2030 in ports, factories and the supply chains, manufacturing the next generation of offshore wind turbines and delivering clean energy to the UK".[23]

Such commitments should help pave the way for a more 'just transition' from fossil fuels. Overall, post-COVID stimulus programmes globally could create as many as 5.5 million more renewable energy jobs in the next three years, according to estimates by the International Renewable Energy Agency (IRENA).[24] For investors, green infrastructure may provide a predictable source of income, diversification and portfolio resilience, while also helping to lower their own portfolio's carbon footprint.

The need to chart a different course for the global workforce goes well beyond the energy sector, however, and perhaps nowhere is the effect more intensely felt than in commercial real estate, particularly offices. Here too, the decisions made by governments, businesses and workers will have significant long-term implications.

If workforce trends are shifting online, office space must also evolve. Research and advisory firm Green Street reckons the move towards remote working may reduce office demand in the long run, giving tenants more negotiating power.

Preferences are also changing. To spur innovation, office design should encourage spontaneous interactions, Pickering says. Future offices may have a less rigid layout with more capacity for spontaneous exchanges. Remote workers may have to be accommodated with facilities for meetings at satellite locations around a main hub. The working environment should also strive to facilitate the retention of employees, who will expect a range of on-site services.

The 'hotelisation' of the workplace will require an increasing amount of capital

> *History tells us societies that adapt to new conditions can emerge stronger and more resilient*

expenditure to provide similar amenities, flexibility and design flair as a full-service hotel, adds Pickering. Service provision will increasingly become a key element in building design at an early stage of the development process; outputs from this may include wellness centres, concierge services, catering and differentiated technology.

According to Green Street, age and building quality will become a more important indicator of future return expectations.[25] A portfolio with more ultra-modern offices, for example, may attract higher demand while requiring less additional cap-ex.

"This does not mark the end of the office. Experience has shown there is no substitute for the stimulus to new ideas that comes from team working and the added value originating in informal exchanges in the workplace," adds Pickering. "However, employers and developers will have to think differently to accommodate the changing needs of office workers. The offices of the future must be capable of meeting changing circumstances."

City-centre commercial buildings also matter for entirely different reasons. They support the local economy – restaurants, bars, retail shops and other businesses, so much so that many governments (including the UK's) began nudging people back into the office in 2020 before a resurgence in coronavirus cases halted their efforts.[26]

"The office dilemma isn't just an office dilemma, it's also a city dilemma," de Bruin says. "The two go hand in hand."

The City of London Corporation, which governs the Square Mile, recently outlined plans to inject more vibrancy into an area traditionally dominated by offices, which lacks the range of amenities available elsewhere to draw visitors. "Amenities-rich locations are much more desirable to office occupiers, and the City lags in that regard when compared to the West End, for example," Bayfield says.

In response, City officials are targeting a more diverse range of tenants, aiming for a fifth to be new to the Square Mile by 2025. They also want to increase visitor numbers during evening hours and weekends by 50 per cent. Green infrastructure that includes dedicated innovation spaces will also be expanded, according to the City's plans published in collaboration with consultants Oliver Wyman and Arup.[27]

These efforts highlight the need for policymakers and companies to collaborate in reinventing work in the wake of the pandemic. History tells us societies that adapt to new conditions and support their populations through periods of turmoil can emerge stronger and more resilient. This was true of medieval Europe during the plague, and it is proving to be the case in 2020 as the world starts to picture life beyond COVID-19. The more things change, the more they stay the same

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EMPIRE STATES OF MIND: IS THE AGE OF US EXCEPTIONALISM AT AN END?

As the world starts to emerge from the COVID-19 pandemic, the US's position as global hegemon will be under mortal threat from a resurgent China that looks to have escaped the virus relatively unscathed.

The roots of the term American exceptionalism can be traced back to an 1840 book entitled *Democracy in America* by Alexis de Tocqueville. In it, the French political scientist and historian described the country as "quite exceptional", having studied the township governments of New England, which had no parallel on his native continent.

It wasn't until a century later that the trope started to be widely used, by now in reference to the dominant position the US found itself in at the end of the Second World War. By then, it had 80 per cent of the world's gold, accounted for half of global economic output and had a monopoly on nuclear weapons. That enabled it, in conjunction with its victorious allies, to establish a framework of liberal political and economic rules, overseen by a variety of newly created international institutions.

Before long, the US regarded itself as the global standard bearer of liberal democracy and free-market economics and was looking to export its values around the globe. With the country by now embroiled in a Cold War with the Soviet Union, those efforts often went hand in hand with offers of military support, as it looked to guarantee the security of friendly nations.

Friend or foe

By the early 1990s, with the Cold War ending and the Soviet Union on the verge of collapse, the US's position as global hegemon appeared assured. So much so, the country began turning its attention to China. President George H. Bush became a vocal advocate for increased trade with China, a country with which the US had no diplomatic ties until President Richard Nixon's historic visit in 1972.

In the spring of 2000, the US effectively endorsed China's entry to the World Trade Organization (WTO), which had succeeded one of those global rule-setting bodies it helped found. The hope was that this would encourage Beijing to accelerate economic liberalisation and eventually lead to political reform.

Things haven't worked out as planned. While China has undergone a remarkable economic transformation – the country's economy grew 4,000 per cent in US dollar terms between 1989 and 2019 – political reform has failed to materialise. Far from embracing democracy, in November 2012 China selected Xi Jinping, its most powerful leader since Mao Zedong.

Worse still from a US perspective, Xi has made it abundantly clear he believes China is in a long-term struggle for the crown of global hegemon. In one of his first speeches as leader, he talked of "building a socialism that is superior to capitalism", whose economic and technological prowess will give it "the dominant position" in world affairs.[1]

US Secretary of State Mike Pompeo in July said 50 years of engagement with China had failed. "If we want to have a free 21st century, and not the Chinese century of which Xi Jinping dreams, the old paradigm of blind engagement with China simply won't get it done."[2]

China's economic strength means America now has a far more formidable adversary on its hands than it ever had in the Soviet Union. On current trends, its economy is set to overtake the US's to become the world's biggest in less than a decade.[3] With a population four times larger than the US, it is even possible to imagine the day China usurps the US militarily. According to the US Department of Defense, China already boasts a bigger navy, while it also has 50 per cent more regular military personnel.[4]

The COVID effect

The demise of American exceptionalism may be hastened by COVID-19. After all, the US has been one of the worst-affected countries, thanks in part to its chaotic handling of the pandemic as the federal government regularly clashed with state governments over how best to balance safeguarding public health and the economy. As of December 12, it had recorded 16.4 million infections, or 49,103 cases per million inhabitants, and 299,000 deaths. Ironically, given its origins, the pandemic has wreaked

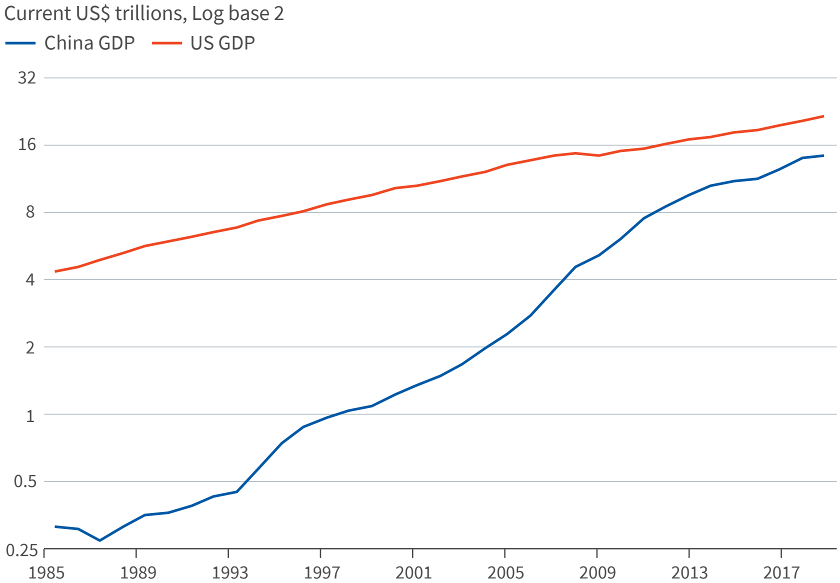
IS THE AGE OF US EXCEPTIONALISM AT AN END?

continued

far less damage on China, which has recorded 86,741 infections and 4,634 deaths.[5]

Although the US economy has held up better than many others, it is still set to contract by around three per cent in 2020, whereas China's is on course to grow by around six per cent, only marginally below the 6.1 per cent growth rate of 2019. Moreover, the US recovery could be enfeebled once the country emerges from the pandemic. The US fiscal deficit is expected to soar by around $3 trillion in 2020 after Washington was forced to rack up a record amount of debt to support the economy.

Figure 1: **China rapidly catching US**



Source: World Bank.

A fragmented world

Sir Dominic Asquith of Macro Advisory Partners says the pandemic will lead to an ever more fragmented world, by weakening the US and at the same time stoking fresh nationalist and populist urges.

"The next decade is going to see a continuing diminution of US influence and authority. The reality facing any US administration is the global landscape is going to be realigned," says Asquith, formerly Britain's top diplomat in India, Libya, Egypt and Iraq.

According to Henry Kissinger, one of Pompeo's predecessors, the US and China are "in the foothills" of a new cold war.[6] Initially, that manifested itself as a trade war, as Donald Trump looked to make good on a campaign pledge to shrink the US's record bilateral trade deficit with China by slapping tariffs on imports and pressuring US companies to rip China out of global supply chains. Amid signs his policy was backfiring by hurting the US economy, corporations and the stock market, while doing nothing to curb the bilateral deficit, Trump in January 2020 signed a partial trade accord.

However, many commentators always believed the trade war was no more than a sideshow, camouflaging a battle for technological superiority. No sooner had the trade truce been agreed, the US intensified its attack on Chinese technology companies such as Huawei, the TikTok app owned by Chinese internet company ByteDance and Tencent Holdings' WeChat.

Charles Parton, senior associate fellow at the Royal United Services Institute, a defence and security think tank, says rapid technological advances, together with the fact the distinction between civilian technologies and those used for military purposes is getting ever more blurred, is driving the US and China further apart.

Technological warfare

The US is trying to restrict the flow of technology to China, restructure global supply chains, and invest in emerging technologies at home. For its part, China is racing to develop semiconductors and other core technologies to reduce its vulnerability to US suppliers.

"It's clearer than ever that having technological superiority, whether it's from semiconductors, quantum computing, artificial intelligence or Big Data, translates into geopolitical strength," says Deutsche Bank's global head of technology investment strategy, Apjit Walia.

The US and China have long accused each other of using technology to carry out espionage and cyberattacks. Now technology is being blamed for political interference. The head of national counterintelligence for the US government, William Evanina, in August said China was among a number of countries trying to increase discord, undermine the American people's confidence in the democratic process and sway the outcome of the 2020 election.[7]

The world's reliance on technology-enabled connectivity was thrown into stark relief by the pandemic as employees were forced to work, children to learn, and consumers to shop, online. With technology widely expected to go on playing an ever-bigger part in people's daily lives and given the growing menace of state-sponsored cybercrime, Walia expects the technology cold war to intensify.

Mikhail Zverev, Aviva Investors' head of global equities, agrees. He says while Huawei, a privately owned company, has to date been the biggest casualty of this cold war, others are certain to follow. However, investors also need to be on the lookout for other opportunities. Nokia, Ericsson and Samsung Electronics could be beneficiaries of Huawei's demise, along with US telecoms equipment group Ciena.

"Western telecoms companies are under pressure to strip Huawei out of the core of their 5G networks. Leading players such as Ciena could take a disproportionate share of Huawei's business," Zverev says.

> *China will look to apply economic leverage to encourage others to adopt its rules and standards*

"We're going to build a wall"

While some reckon the ultimate outcome will be two digital ecosystems that to a large extent are incompatible with one another, Deutsche Bank's Walia believes neither side will be in a hurry to build what he calls a "tech wall". He estimates that could cost the technology sector as much as $3.5 trillion over the next five years.

"The feedback we've had from policymakers and investors is that such a divorce would simply be too painful," he says. Instead, he predicts a "lukewarm" war as calmer heads prevail, with the US and China taking tit-for-tat measures to block each other's access to key technologies, at the same time as pressuring other countries to align technologies, such as 5G telecoms networks and the internet, with their own.

Aviva Investors' head of emerging market equities, Alistair Way, sees a risk a broader range of Chinese technology companies could be targeted by the US. As a result, investors are already starting to distinguish between those that are heavily dependent on international suppliers and customers that could find themselves in the firing line, and others, such as Alibaba and Tencent, that are more focused on their domestic market.

Echoing Walia's remarks, he believes a technology war would be far from straightforward for either side to win given many policies are likely to have unforeseen and often adverse consequences. For example, US efforts to damage Huawei have aided Taiwanese semiconductor group MediaTek at the expense of Qualcomm, a US rival.

"Chinese companies are suddenly getting a whole lot more nervous about buying from US chip makers like Qualcomm. Even if Huawei goes out of business, MediaTek and not Qualcomm could hoover up a lot of market share from the Chinese companies that replace it," he says.

Zverev highlights the prospects for Taiwanese chipmakers such as Win Semiconductor for similar reasons. While it has been hurt as a result of the US banning it from doing business with Huawei, he believes there will be plenty of other Chinese companies knocking on its door.

Battle for control

It is increasingly apparent that a struggle for control of the international rule-making bodies erected after the Second World War lies at the heart of US and China tensions. Many commentators believe China's ultimate goal is to shape those bodies more to its own liking. Witness its recent appointment to the United Nations Human Rights Council, despite what most in the West consider to be a poor record on human rights.

"It's using economic leverage and implied threats with smaller nations to get their support. We need like-minded democracies to defend these bodies," says Parton, a former diplomat who spent 22 years working in or on China, Hong Kong and Taiwan, and advises UK lawmakers.

Pompeo admitted as much in his July speech. "If we don't act now, ultimately the Chinese Communist Party will erode our freedoms and subvert the rules-based order that our societies have worked so hard to build… The free world must triumph over this new tyranny," he said.

He added the US "can't face this challenge alone" and called for a new alliance of like-minded democracies.

Parton says his remarks make it all the harder to fathom why Washington has spent so much of the past four years "putting off" its natural allies and doing its best to undermine institutions such as the WTO, World Health Organisation (WHO) and NATO, which set the rules-based order Pompeo refers to.

"The US desperately needs to start repairing alliances around the world if it is to have a chance of winning this war over values," he says.

Return to the fold

US President-elect Joe Biden has signalled his intent to reset four years of isolationist US foreign policy under a new tagline, 'Restoring American leadership'. He has made it clear his administration would reverse Trump's signature foreign policy decisions by immediately re-entering the Paris climate accord and halting the country's exit from the WHO.

However, Asquith believes Biden faces an uphill struggle. He sees US hegemony being challenged in multiple ways as the country struggles to maintain its influence. Iran, for instance, is likely to strengthen alliances with Russia, China and others; Russia and Turkey will be ever more confident of flexing their muscles as they look to extend their influence; while an increasingly assertive and ambitious Chinese regime will look to become "much more hegemonic" by operating according to its own rules and standards, not those established by the US.

He says there has been a feeling for some time in countries such as India, Japan and Brazil that leading multilateral institutions needed "de-Atlanticising". He expects China to tap into this sentiment, sending a message to the US it has "the capability and the will to generate alternative groupings" if it blocks reform.

Asquith says China will simultaneously look to apply economic leverage to encourage others to adopt its rules and standards. Although Russian President Vladimir Putin is wary of giving too much away in his dealings with China, there is every chance Russia will adopt China's 5G technology. That would be "massively important".

Great-power overreach

Stephen King, senior economic advisor at HSBC, former specialist advisor to the House of Commons Treasury Committee, and author of the 2017 book *Grave New World: The End of Globalization, the Return of History*, also believes the days of American exceptionalism are drawing to a close.

IS THE AGE OF US EXCEPTIONALISM AT AN END? *continued*

Just as China is expanding its influence via programmes such as the Belt and Road Initiative, the US probably knows it cannot maintain its clout in lots of different parts of the world indefinitely, he says.

"If you look at the rise and fall of great powers, it strikes me the US has got to the point of what you might call great-power overreach. It is now left to wonder how far it can go before it is forced into some kind of retreat and has to find space for China to operate," says King.

In April 2019, former US President Jimmy Carter said much of China's success was down to its peaceful foreign policy. He noted China had not once gone to war since 1980, whereas the US, with troops deployed in 150 countries, had not spent a single day at peace, making it "the most warlike nation in the history of the world".[8]

"It [US war spending] is more than you can imagine… China has not wasted a single penny on war, and that's why they're ahead of us. In almost every way," Carter said.

According to a November 2018 study by Brown University's Watson Institute of International and Public Affairs, the US has spent $5.9 trillion on military operations in Iraq, Syria, Afghanistan, Pakistan and other nations since 2001.[9] China, meanwhile, poured more cement in just three years than America did in the entire 20th century.[10]

If the US's position as the world's undisputed hegemon is ending, predicting what comes next is less straightforward. A survey of global investors by UBS in January 2020 found 57 per cent expected China to replace the US as the world's biggest superpower by 2030.[11]

However, others believe it is premature to reach that conclusion. Even if China's GDP does surpass the US's in the next decade or so, Parton says the headline GDP numbers mask some worrying trends, notably worsening water shortages in the north of the country; deteriorating demographics; poor educational attainment across large swathes of the population; low productivity; and rising debt. According to the Institute of International Finance, China's debt was on course to hit 335 per cent of GDP at the end of June, putting it on a par with the US.[12]

Besides, China has a long way to go before it could be considered a wealthier nation. As of 2019, average GDP per capita was just

INVESTING IN THE AGE OF RISING US-CHINA TENSIONS

With US-Sino relations growing ever more fractious as the two nations vie for global dominance, it is increasingly likely the world's two leading economies will start to decouple.

What started out as a trade war has already morphed into a battle for technological supremacy with the US attempting to thwart Chinese efforts to overtake it in several areas, most notably semiconductors.

As China extends its sphere of influence and challenges the global economic order established by the US after the Second World War, other nations may have to choose sides. That could have major implications for their economies and companies.

Sunil Krishnan, Aviva Investors' head of multi-asset funds, says a growing number of countries are falling within China's economic sphere. He sees that trend continuing as the US, with few clear and bipartisan strategic ambitions for foreign policy, finds it increasingly difficult to project its power overseas.

"With diplomatic pressures being brought to bear on them, third-party countries are treading a tightrope, and investors need to be on the lookout for nations occasionally struggling to keep their balance, as we have seen between Australia and China," he says.

Michael Grady, Aviva Investors' head of investment strategy and chief economist, agrees. "What we saw between China and Australia was in some ways no different to the breakdown in relations between China and the US, but the reality is China can inflict a lot more pain on Australia," he says.

Although few countries will want to have to pick sides between the US and China, Grady argues the issue would be especially acute in Europe.

> *China and the US will vie to seduce other nations into their sphere of influence*

over $10,000, compared with $65,000 in the US. Most important of all, its authoritarian system means it would find it difficult to pick up the mantle as the world's leader if it wanted to. There is no indication it wants to, however.

A bi-polar world

Instead, many believe it is more likely the world divides into two blocks that over time become ever more distinct, with China and the US vying to seduce other nations into their sphere of influence. For instance, Parton and King believe that in the wake of the pandemic, China may accelerate efforts to pick off cash-strapped nations with its Belt and Road Initiative, as it did last year with Italy and Greece.

Asquith says this will present a dilemma to many countries, especially in Europe and Asia, which will be reluctant to pick sides. He cites India as a "classic" example.

"It already feels surrounded by China and is desperate to ensure there is no Russia-China clinch. Despite having a live border dispute with China, India will certainly resist being formally aligned to the US," he says.

While many other countries will be happy to continue relying on the US for security, they will be loath to give up their economic ties with China in a hurry. According to IMF data, 138 out of 202 nations already trade more with China than the US, while China provides a bigger export market for 84.[13] For some countries, the answer may be to strengthen regional alliances or form closer collaboration with other like-minded nations further afield as a means of growing their clout.

Given the level of mistrust between the US and China, some scholars have warned the two nations could be heading for military conflict. American political scientist Graham Allison of Harvard University says China's ascent is reminiscent of Germany's a century earlier, which ultimately led to World War One.

However, Parton and Asquith say while China's relations with neighbouring countries, in particular Taiwan, are an ever-present source of concern, all-out conflict between two nuclear powers is unlikely. After all, with their economies so heavily intertwined, the US and China have

"If Europe had to choose sides, it's hard to know which way it would go. From an economic growth perspective, the export growth markets for Europe are in China and southeast Asia, not the US," he says.

As part of its efforts to retain technological superiority, the US has looked to weaken several Chinese technology companies such as Huawei. Grady says China's "fairly restrained" response to date reflects its ability to play a long game. He believes it has been weighing up its options as it awaits the direction charted by a new US administration.

However, he believes it is unlikely to be so restrained indefinitely. Beijing has already threatened to block the export of rare earths, a vital component in the manufacture of multiple high-tech products, while its ultimate weapon would be to prevent US multinationals from operating in what has become a key market for many.

"China's now a very big market for a lot of US companies. If relations continue to worsen and the two economies separate, some US multinationals could start to see themselves unable to do business in China," Grady says.

The decoupling of the US and Chinese economies is already beginning to make life difficult for some firms. Credit portfolio manager Chris Higham says British banks HSBC, and to a lesser extent Standard Chartered, are two companies being caught in the crosshairs of the conflict.

"HSBC's in a difficult position. It may need to either pick Europe and the US or China and Asia, which after all is where all the growth is. At the moment, it's got three legs, but if it's forced to split up and you're only left with one or two legs, it's unlikely to be as good a credit," he says.

Krishnan says investors ultimately need to be on their guard against the risk that the souring of relations between the two superpowers spills over into military conflict. While that seems unlikely at present, the mere threat of it would be enough to unsettle markets.

Aviva Investors' head of emerging market equities, Alistair Way, sees a risk that, as China begins to flex its muscles by taking a more hawkish tone on Taiwan, it could start to damage Taiwanese companies.

"Taiwanese firms such as TSMC, its flagship semiconductor company, could be in an awkward position. It really doesn't want to have to choose sides, but it might have to. It has had fantastic results, but it feels like investors may want to start factoring in the risk of increased pressure from China," he says.

Giles Parkinson, global equity portfolio manager, agrees. "Some people may say this is the new Intel for the next 20 years, but its assets are pretty much all in Taiwan. I don't pretend to know what happens between Taiwan and China, but I do know if those two countries ever enter armed conflict, that share price could go down an awful lot."

IS THE AGE OF US EXCEPTIONALISM AT AN END?

continued

even more reason to avoid war than the US and the USSR did during the original Cold War.[14]

Market implications

The end of American exceptionalism is likely to have sizeable ramifications for financial markets. For a start, the current abundant demand for dollar assets depends heavily on the vast trade and financial system built up by the US following World War Two. If that begins to be dismantled, it raises questions over the ability of US companies and the US government to borrow as easily from foreigners as they have been accustomed to.

Whether this eventually leads to the US dollar losing its status as the world's reserve currency is another matter. "While that is plausible, it looks to be a long way off. If you really believe the dollar's in trouble, then it's chaos you should expect, not the sudden arrival of a new shiny currency," King says.

In an August 2020 op-ed for *Rolling Stone* magazine, Wade Davis, a Canadian-US anthropologist who works at the University of British Columbia, wrote: "COVID has reduced to tatters the illusion of American exceptionalism." He was referring to the damage done to the US's reputation and international standing by its chaotic handling of the crisis.[15]

However, the pandemic looks to have weakened the country in an equally important way, by causing a massive increase in inequality. While millions of Americans were losing their jobs and turning to the government for help, the richest were seeing their wealth soar. According to Bloomberg, the 50 richest people in America have seen their wealth grow $339 billion since the start of 2020 and are now worth almost $2 trillion, as much as the poorest 165 million.[16]

Such unprecedented levels of inequality have led to deep schisms emerging in recent years in American politics. By making the country increasingly hard to govern, they are undermining its ability to lead on the world stage. Billionaire investor Ray Dalio in November 2019 called on US politicians to declare the growing wealth gap a national emergency and take urgent steps to address it or face the prospect of a violent revolution where "we are all going to try to kill each other".[17]

In his 1840 book, de Tocqueville marvelled at the ability of American people to govern themselves responsibly and prudently, and above all to preserve their own liberty. The chaos surrounding the recent presidential election adds to the feeling the era of American exceptionalism is in its final death throes. It is fair to say there is a lot riding on what comes next

> *Demand for dollar assets depends heavily on the vast trade and financial system built up by the US*

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UNITED EUROPE: FROM DISCORD TO HARMONY?

Global politics are in flux as policymakers scramble to manage the pandemic and revive economies. Can Europe come together and carve a place for itself on the international stage, or will it end up a passive player buffeted by greater forces?

FROM DISCORD TO HARMONY?

continued

> *The bloc needs to find the political will for greater coherence to prosper over the long term*

On March 4, 2020, as Italy was battling the first wave of COVID-19 in Europe, the German government announced a ban on exports of all protective medical equipment. Coupled with Germany's refusal to consider joint bond issuance to support the bloc's economy, the move seemed to indicate a country acting in its own interests rather than those of the European Union (EU) as a whole.

Germany wasn't alone. In those first weeks of the coronavirus outbreak, countries across the EU unilaterally closed borders and tried to secure medical and protective equipment for themselves, ignoring calls for a joint response and support to the hardest-hit states, Italy and Spain.[1] The period was reminiscent of the European sovereign debt crisis that emerged at the end of 2009, fuelling speculation as to the EU's survival.

But, as in 2012, the bloc eventually reacted to the pandemic and pulled together. In July, the EU announced it would create a €750 billion 'Next Generation EU' pandemic recovery fund that will issue common debt, and a new seven-year budget, under which the bloc will be able to run a deficit during economic shocks and channel money to countries in need of support. The agreement was hailed as a landmark moment for European integration.

"The period of division was mercifully short and very quickly morphed into a more unified approach to the COVID-19 crisis. Those countries that suffered most began to receive reassurance assistance would be provided," says Stewart Robertson, senior economist at Aviva Investors. "Europe is always one to make the best of a crisis, and it has swiftly transitioned into a much more joined-up way of thinking, including on monetary and fiscal policy responses. Both are effectively in maximum stimulus mode and will continue to be so."

The European project has its origins in the European Coal and Steel Community of the 1950s, an inward-looking project between a small number of countries that gradually transformed into the broad but incomplete union we know today. Despite the promising steps forward in the collective response to COVID-19, the bloc still needs to find the political will for greater coherence to prosper over the long term.

1. TOWARDS A MORE COMPLETE UNION?

As the world begins to think about post-pandemic reconstruction, the EU is at a defining moment for its future. The way it comes together – or not – to decide on its ambitions and how to achieve them will shape the continent, and global geopolitics, for decades to come. Two key issues to consider are inequality and the environment.

"As we look forward, dealing with COVID-19 but also believing there is a post-COVID world, Europe has gone to great lengths to stress that the rebuilding has to consider the green agenda and a renewed look at inequality," says Robertson.[2]

On climate change, Europe is ahead of the game. Robertson compares the growing political consensus to the asset management industry where, after being an afterthought for many years, environmental, social and governance considerations are now integral to client expectations and the overall investment offering.[3]

"I find it interesting that, every time they talk about the future, senior European Central Bank officials like Christine Lagarde or Olli Rehn, governor of the Finnish central bank, mention the green agenda. It is clearly part of their programme, in a much more substantive way than in the past," he says.

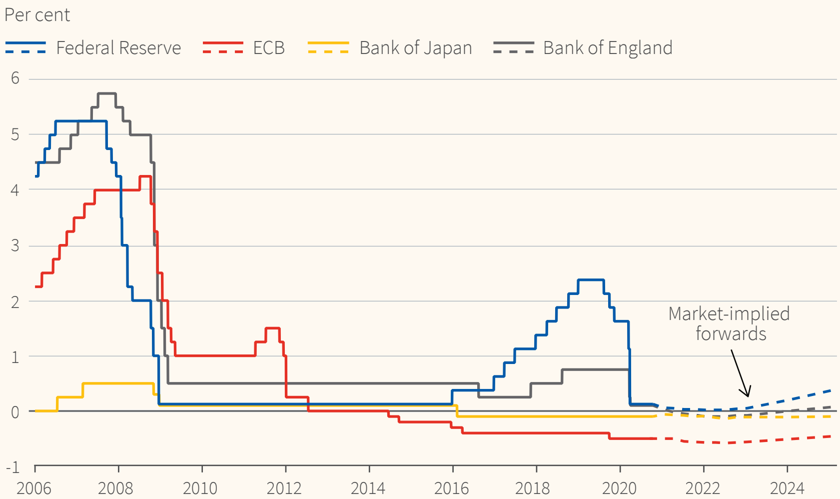
Striving for a just transition

Inequality has been similarly prioritised, forming part of Europe's Green Deal, an ambitious package of measures designed to make the EU carbon neutral by 2050. While inequality has been on the agenda for years, institutional attitudes only began shifting a few years ago, after the wake-up call of populist electoral victories across the EU and elsewhere. The disproportionate impact of COVID-19 on the most vulnerable has further increased the urgency to act.[4]

As Stephen King, senior economic adviser at HSBC Holdings and specialist adviser to the House of Commons Treasury Committee from 2015 to 2017, explains: "Thirty or forty years ago, west Wales was considerably richer in terms of per capita incomes than say, Bratislava. Bratislava today is considerably richer than west Wales. Massive regional disparities have opened up. It is true in the UK and the rest of Europe, and those regional inequalities have undoubtedly connected with some of the support for populist isolationist politicians. The idea globalisation was the reason people have been left behind has had significant resonance."

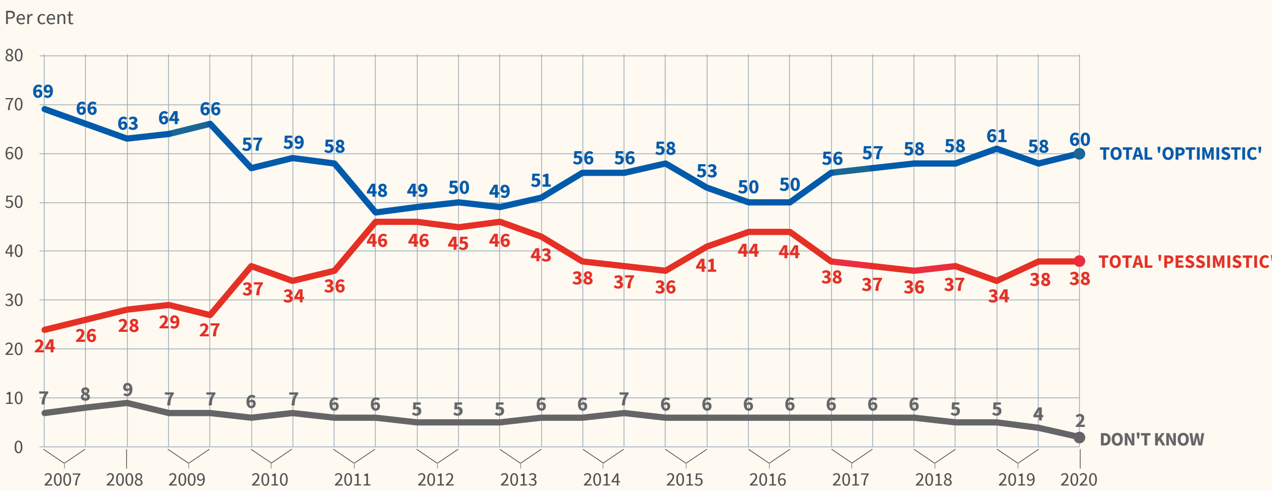
King also believes this feeling of having been left behind creates a sense that the supranational bodies setting the rules,

Figure 1: **Policy rates in major regions**



Source: Aviva Investors, Macrobond, as at October 1, 2020.

Figure 2: **EU citizens increasingly optimistic about the bloc's future**



Source: Standard Eurobarometer 93.

including EU institutions, do not represent people or their interests, particularly when their inner workings lack transparency.[5]

"You can see why some of these international organisations lose political support and lose the trust of their constituents in different parts of their member countries," he says.

In its October 2020 Fiscal Monitor, the International Monetary Fund (IMF) underlined the need to support the most vulnerable and bring back a sense of cohesion within societies: "New investments in healthcare, social housing, digitalisation, and environmental protection would lay the foundation for a more resilient and inclusive economy."[6]

The IMF's approach is not just about fiscal support and welfare protection; it is about creating an environment that provides more opportunities for everyone to thrive. The Fund has also highlighted that a premature withdrawal of fiscal support is one of the biggest dangers to the recovery.

"The IMF used to be this bastion of balancing budgets at all costs; that has changed," says Robertson. "One of the casualties of COVID-19 is the European Stability and Growth Pact, which used to stipulate 60 per cent debt, three per cent budget deficit. The EU may revisit some fiscal rules in future, but I would be very surprised if we returned to anything remotely resembling those."

Monetary and fiscal commitment

While not necessarily a 'Hamiltonian' moment, the Next Generation EU recovery fund is a key signal, despite ongoing discussions on its details.

FROM DISCORD TO HARMONY?

continued

"It is a very important step towards closer integration across the euro zone and Europe more widely," says Robertson. "It opens the door towards full debt mutualisation, a unified fiscal approach and common debt issuance at the EU level; in some places in Europe, that has often been shut. A lot of the building blocks are now in place or being constructed to move in that direction."

Giovanna De Maio, non-resident fellow at the Brookings Institution's Center for The United States and Europe, agrees. "Most importantly, this tool signifies the acknowledgment that the nature of this crisis will affect Europe as a whole, not just weaker EU economies. While details still need to be defined, this achievement and collegial effort should not be underestimated because its existence speaks to a sense of unity and a vision for the future towards further integration," she says.

In fact, October saw another emblematic event for the euro zone, with the first debt issuance related to its unemployment relief scheme, Support to Mitigate Unemployment Risks in an Emergency (SURE). The issuance of €10 billion of ten-year bonds and €7 billion of 20-year bonds were oversubscribed to the tune of €230 billion, showing the appetite for a European 'safe asset'.[7]

Whatever happens, the next few years will likely see ongoing fiscal and monetary support. Getting the recovery fund working effectively will be a priority, as will gaining acceptance for it as part of the institutional infrastructure – and a building block for the future.

"At some stage, we will have to return to sustainable public finances in every country, particularly the ones that look most vulnerable. But I think the EU and organisations like the IMF will take a more enlightened and slower approach to putting public finances back on sustainable paths," says Robertson.

Ongoing support should be possible if, as expected, interest rates remain low; the European Central Bank (ECB) has already said it will keep monetary policy loose for as long as necessary.

"I don't think it will explicitly adopt yield curve control like Japan, but de facto that is what its policy will mean," says Robertson.

The ECB is also conducting a strategic review under which it is widely expected to implement a symmetric two per cent inflation target, similar to the one recently adopted by the Federal Reserve, to replace the current inflation target of "close to but below two per cent".[8]

"Effectively, the bank will allow inflation to happen more than in the past. That means interest rates can stay lower for longer. The hope is that it will allow the longer end of the yield curve to stay low, keeping financing affordable," Robertson explains.

Time for optimism?

Closer cooperation and ongoing policy support should be welcome news to investors, especially those who have been underweight the region for a long time.

"Investors need to start seeing Europe differently from the fractious, potentially insolvent problem-child of the last decade. Despite the serious current challenges, there is growing recognition among member states that these would be much greater were it not for the existence of the EU," says Sunil Krishnan, head of multi-asset funds at Aviva Investors.

"Added to the EU's greater willingness to share the fiscal burden around and consider closer integration, all of these are big differences from how we have looked at Europe over the last ten or 15 years. It's a change to be looking for opportunities in Europe rather than deciding what to avoid or where to go short," he adds.

De Maio, meanwhile, sees opportunities for progress in political areas. "In future, there may be more frequent use of the 'enhanced cooperation tools' through which smaller groups of states can decide to cooperate on certain issues, or potentially a reform of voting procedures to reduce the scope of subjects to be voted unanimously. On migration, the European Commission has presented a new proposal for a 'migration pact' bridging security and solidarity," she adds.

Robertson is also optimistic. "While nationalist and populist movements could easily bounce back in a coronavirus-driven recession, for now they seem to be somewhat suppressed. And although Hungary and Poland have moved against European ideals in recent years, their desire to join the euro zone gives the Union a powerful bargaining chip," he says.

There may be room for compromise there, although De Maio believes a discussion on the respect for democratic values within the EU is urgent and needs to be addressed carefully but decisively.

Overall, she believes COVID-19 has been a turning point for Europe. Domestically, it has triggered broader support for the leaders in power. Internationally, China's lack of transparency and 'mask diplomacy' – its policy of sending medical supplies to those countries with which it wanted to form closer ties, which was viewed as cynical by many of Europe's leaders – prompted the bloc to take a tougher stance against it. Meanwhile, the lack of US leadership led EU countries to take independent initiatives on managing the pandemic, while also offering help to other countries in need.[9]

Brexit is giving the EU another reason to unify. "There were fears that, if the UK broke away from the EU, it might set an example to others; in fact, Brexit has strengthened the unity of Europe, and by and large the EU has stood firm," says Robertson.[10]

> *Nationalist politics are destabilising not just the EU's cohesion, but the broader multilateral order*

2. MULTILATERALISM REMAINS UNDER THREAT

Brexit may have unified political opinion within the EU, but on the world stage Europe remains caught in the middle of nationalist power plays that could undermine its cohesion and the rules-based multilateral order.

"Whether it's Russia with regards to the eastern fringe of the EU, or the UK trying to negotiate the best deal in terms of Brexit, a number of actors are trying to peel member states away from each other and prevent coordinated responses," says Krishnan. "Similarly, in wrangling over the use of Huawei technology in 5G, the US and China haven't been lobbying the EU for a coordinated response, they have been pressuring individual countries to act."

These pressures make it difficult for the EU to agree on a common response, although it is trying.[11]

Caught in the middle

As the US administration hardened its stance on China and eschewed resolution through bodies like the World Trade Organisation (WTO), countries were effectively being asked to pick sides. Joe Biden's victory in the US presidential election could herald a return to a multilateral approach, however.

Michael Grady, head of investment strategy and chief economist at Aviva Investors, says the big question now is whether Europe chooses to side with the US or China.

"The Democrats' approach would be quite different from the Republicans'. They would want to get the Europeans on board, working together to further isolate China," he says. "Whether the Europeans would get on board is another matter, because they could be put in a difficult situation economically if they did. China is a key export market for Germany and other EU countries. The Chinese authorities have shown in the past they can strongly influence consumer demand for foreign products."

De Maio adds Russia has been targeting Western democracies since the Ukraine crisis in 2014, engaging in a disinformation campaign with the aim of exacerbating tensions and undermining trust in the democratic model.

The latest war of words between the EU and Russia centres on Belarus in the wake of disputed elections in the Eastern European country. The EU and Russia have each claimed the other has inflamed the crisis.

"On Belarus, the EU and the United States have imposed sanctions on Belarusian officials and called for new elections. The EU also adopted sanctions against Russian officials believed to be involved in the poisoning of opposition leader Alexei Navalny," explains De Maio. "These actions underline Europe's strong support for human rights and democratic values."[12]

Nationalist politics are destabilising not just the EU's cohesion, but the broader multilateral order on which the bloc was founded.[13] King says when the institutions that uphold common standards are under pressure, as is the case today, the rules of the game begin to collapse and globalisation retreats.[14]

"Advances in technology certainly enable globalisation, but unless you have rules of the game, humanity has demonstrated time and time again it is more than capable, whatever the technology, to build walls and borders and barriers. We may be going through that process again," he says.

Diplomacy backed by action

To resist these centrifugal forces, the EU needs to step up cooperation on defence and diplomacy, developing credible approaches to dealing with the US, China and Russia, differentiating its response but standing firm to defend multilateral principles, as well as EU values and interests. It also needs to back its diplomatic efforts with action, particularly with countries at its periphery.[15]

As Josep Borrell, EU high representative for foreign affairs and security policy and a vice president of the European Commission, wrote: "If we want the fragile truce in Libya to last, we need to support the arms embargo. If we want the Iran nuclear deal to survive, we need to ensure that Iran benefits if it returns to full compliance. If we want the Western Balkans to succeed on the path of reconciliation and reform, we need to offer a credible EU accession process delivering incremental benefits."[16]

De Maio concurs with that view. "Europe needs to do more for its own security given US disengagement from the Mediterranean and Middle East region. In fact, Europe has scaled up talks and initiatives on European defence capabilities to be able to ensure security in its southern and eastern neighbourhood," she says.

FROM DISCORD
TO HARMONY?
continued

3. BUILDING A NEW FUTURE

In a strange twist of fate, the nationalist forces trying to undermine Europe's cohesion may be helping it gain more influence globally. With the rise of power politics around the world, Europe's 'soft power' has increased by default.

On the one hand, although China has been effective in projecting hard power, some of its diplomatic initiatives have been less successful. On the other hand, America's soft power has diminished as it has been unwilling to engage with multinational organisations, at times actively undermining their ability to function (although president-elect Joe Biden has signalled his support for institutions such as NATO, which President Trump often criticised).

"Europe has become an arbiter of certain social values. For example, when China wants to burnish its credentials on environmental commitments, its main interlocutor is the EU. Conversely, if the US was looking to build an international consensus to rein in China, the body it would turn to first is the EU," says Krishnan.

The EU could also serve as an arbiter of sorts between the two superpowers, not only in trade matters but also ideology. Rising in defence of the multilateral, rules-based global order, it could help restore the ability of bodies like the WTO to resolve disputes and encourage international cooperation.[17]

"The EU is making significant progress on regulating foreign direct investments and protecting crucial infrastructure. In this regard, Europe is well positioned to play a role in establishing high standards for trade with China and leverage its economic power, hopefully with the help of the United States, to push Beijing to play by the rules and engage in cooperation on global challenges like climate change, where Europe can also lead the way," says De Maio.

Taking the lead on climate policy and data protection

Climate policy is a good example of where Europe can use its soft power to lead, and environmental policies could also spur it to drive technological leadership. Creating a more favourable environment for innovation is high up the region's policy agenda, and it will be important to see whether that translates into the kind of support given to start-ups in the US.

"There are already leading green technology companies in Europe and there will be more. Whether the region can create a fertile environment for a broader range of technologies is an interesting question, and one which I think will reward investors to look at," says Krishnan.

Europe has already taken a lead in regulation, particularly of technology. Whether future innovations emerge in the EU or continue coming from the US and China, EU rules such as the General Data Protection Regulation (GDPR) have given individuals unprecedented control over their personal data and set the standard for data privacy rules.[18]

In its current state, data protection is as much a question of politics as technology and will undoubtedly be one of the key battlegrounds for European values and freedoms in the years ahead. The way Europe defends its citizens will be critical to establishing its great-power credentials.[19]

However, before it can consolidate its lead, the EU must think hard about how and where to invest to achieve the green and inclusive economy it envisions after COVID-19.

Investing for the future

First, an ageing population in Europe will mean lower GDP growth, as is happening in Japan.

"We get used to the 'natural' state of economies being one where they grow, and Japan has shown us that may not be the case in this world where populations are ageing. But that doesn't necessarily mean poverty. You can still be a wealthy economy, even if you are not growing," explains Robertson.

> *Europe can build a new, fairer and greener rules-based order"*

Raising the retirement age and increasing immigration are difficult political sells in most of the EU.[20] Therefore, to maintain per capita growth rates and keep Europe a wealthy economy, investment and productivity improvements will be crucial. Education, research and development (R&D) and infrastructure can all play a part.[21]

"Well-targeted education spending is one of the most obvious ways to improve long-term productivity. There are disparities within the region but Europe is competitive with the best in terms of education spending per head today," says Krishnan. "The real question for the future will be how that is targeted; this is perhaps even more important when you move beyond education to infrastructure spending and R&D."

The quality of investment will also determine Europe's long-term success.[22] Krishnan believes Europe needs to guard against the danger of transforming a potentially win-win situation into a white elephant by backing the wrong technology.

"It remains to be seen whether the governance structures in Europe are strong enough to limit that risk. A lot of the burden will fall on the European Commission and member states to maybe rein in the grander designs of the European Parliament," he notes.

Some are in fact calling for the EU to seize the current opportunity to redefine the way Europe operates.[23] Increasing support for local autonomy and decision-making is an interesting example. Localism has proven important in the daily management of coronavirus policies and could play a similar role in the longer-term reconstruction.

"Talking about the importance of avoiding misdirected spending, a localism agenda is very important as well. Most of the evidence suggests the more localised you make the decisions, the better they tend to be," says Krishnan. "This shouldn't start and end with the pandemic but apply to a much broader range of policies. Perhaps we are now going to create the dialogue and the structures to allow that to happen."

Europe as a global power

Although open borders and free trade have increased wealth within the EU and globally, the world may never fully return to the post-war multilateral order as we knew it. Europe was not created to play but to abolish power politics, yet it is now in a unique position to use its leverage to defuse existing tensions and, eventually, build a new, fairer and greener rules-based order.

Borrell contends that Europe's trade and investment policy, financial power, diplomatic presence, rule-making capacities and growing security and defence instruments give the EU many levers of influence.[24]

The question is not Europe's power; it is whether member states will be willing to wield that power jointly to create new possibilities for a more open future ●

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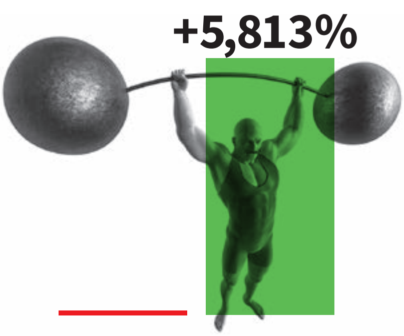
THE COVID NUDGE

Will COVID-19 achieve something that millions spent on public health campaigning has failed to do?

USE IT OR LOSE IT

Home gym equipment, UK sales



Demand for home gym equipment exploded, as lockdowns intensified and gyms closed. Exercise in the garden or front room has become the order of the day.

Source: Idealo, July 26, 2020.

ON GUARD

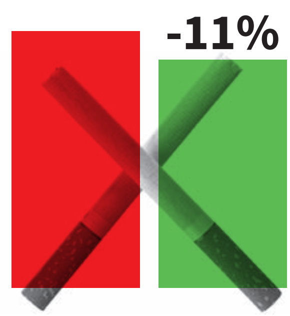
Vitamin D, UK sales

Appetite for supplements to boost the immune system increased. The sunshine vitamin – vitamin D – became the fastest growing vitamin supplement.

Source: Mintel, July 2020.

TIME TO QUIT?

Cigarettes, global sales

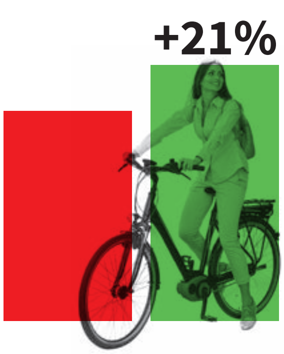


Smokers have abandoned the habit in droves, partly due to health concerns, and partly due to the income squeeze triggered by lockdowns.

Source: GlobalData, September 21, 2020.

GET ON YOUR BIKE

e-bike exports, Taiwan

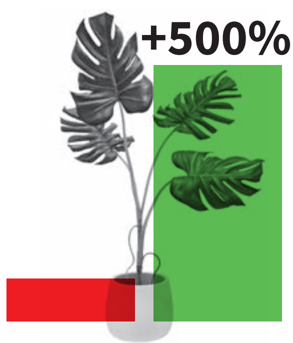


Ordered in, but keen to get out? E-bike sales have surged in 2020, with analysts asking: could an e-bike replace a car?

Source: TAITRA, BikeEurope, September 15, 2020.

BACK TO NATURE

Plants, UK online sales



With more time spent at home, millions have taken up healthy pursuits like gardening.

Source: Patch, October 31, 2020.

RAISE A GLASS TO THAT

No-alcohol and low-alcohol (nolo), UK H1 lockdown sales

While the stress of living through a pandemic has caused some to hit the bottle, others have reduced alcohol consumption significantly; 'nolo' has become a significant trend in the global drinks market.

Source: Neilson, October 2020.


For today's investor
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