The Economist

The World in 2021

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The World in 2021

[Tue, 24 Nov 2020]

From the editor

Ten trends to watch in the coming year

Steve Carroll

It’s not all doom and gloom

DO YOU FEEL lucky? The number 21 is connected with luck, risk, taking chances and rolling the dice. It’s the number of spots on a standard die, and the number of shillings in a guinea, the currency of wagers and horse-racing. It’s the minimum age at which you can enter a casino in America, and the name of a family of card games, including blackjack, that are popular with gamblers.

All of which seems strangely appropriate for a year of unusual uncertainty. The great prize on offer is the chance of bringing the coronavirus pandemic under control. But in the meantime risks abound, to health, economic vitality and social stability. As 2021 approaches, here are ten trends to watch in the year ahead.

1 Fights over vaccines. As the first vaccines become available in quantity, the focus will shift from the heroic effort of developing them to the equally daunting task of distributing them. Vaccine diplomacy will accompany fights within and between countries over who should get them and when. A wild card: how many people will refuse a vaccine when offered?

2 A mixed economic recovery. As economies bounce back from the pandemic the recovery will be patchy, as local outbreaks and clampdowns come and go—and governments pivot from keeping companies on life-support to helping workers who have lost their jobs. The gap between strong and weak firms will widen.

3 Patching up the new world disorder. How much will Joe Biden, newly installed in the White House, be able to patch up a crumbling rules-based international order? The Paris climate treaty and the Iran nuclear deal are obvious places to start. But the crumbling predates Donald Trump, and will outlast his presidency.

4 More US-China tensions. Don't expect Mr Biden to call off the trade war with China. Instead, he will want to mend relationships with allies to wage it more effectively. Many countries from Africa to South-East Asia are doing their best to avoiding picking sides as the tension rises.

5 Companies on the front line. Another front for the US-China conflict is companies, and not just the obvious examples of Huawei and TikTok, as business becomes even more of a geopolitical battlefield. As well as pressure from above, bosses also face pressure from below, as employees and customers demand that they take stands on climate change and social justice, where politicians have done too little.

6 After the tech-celeration. In 2020 the pandemic accelerated the adoption of many technological behaviours, from video-conferencing and online shopping to remote working and distance learning. In 2021 the extent to which these changes will stick, or snap back, will become clearer.

7 A less footloose world. Tourism will shrink and change shape, with more emphasis on domestic travel. Airlines, hotel chains and aircraft manufacturers will struggle, as will universities that rely heavily on foreign students. Cultural exchange will suffer, too.

8 An opportunity on climate change. One silver lining amid the crisis is the chance to take action on climate change, as governments invest in green recovery plans to create jobs and cut emissions. How ambitious will countries' reduction pledges be at the un climate conference, delayed from 2020?

9 The year of déjà vu. That is just one example of how the coming year may feel, in many respects, like a second take on 2020, as events including the Olympics, the Dubai Expo and many other political, sporting and commercial gatherings do their best to open a year later than planned. Not all will succeed.

10 A wake-up call for other risks. Academics and analysts, many of whom have warned of the danger of a pandemic for years, will try to exploit a narrow window of opportunity to get policymakers to take other neglected risks, such as antibiotic resistance and nuclear terrorism, more seriously. Wish them luck.

The coming year promises to be particularly unpredictable, given the interactions between the pandemic, an uneven economic recovery and fractious geopolitics. This annual will, we hope, help you improve your odds as you navigate the risks and opportunities ahead.

And it's not all doom and gloom. Our special section, "Aftershocks", considers some of the lessons, and chances for positive change, that have emerged from the crisis. So let the dice fly high—and, whatever cards 2021 may end up dealing you, may the odds be ever in your favour.

Tom Standage Editor,
The World in 2021

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Leaders

Leaders

Joe Biden is an improbable architect of a bold new era. But he could be just the right person

After the crisis, opportunity

Zanny Minton Beddoes considers the forces that will shape the post-Trump, post-covid world

SOME YEARS loom large in history. Usually it is the end of a war or the onset of a revolution that punctuates the shift from one chapter to another. 2020 will be an exception. The defeat of Donald Trump marked the end of one of the most divisive and damaging presidencies in American history. A once-in-a-century pandemic has created the opportunity for an economic and social reset as dramatic as that of the Progressive era. The big question for 2021 is whether politicians are bold enough to grasp it.

Covid-19 has not just pummelled the global economy. It has changed the trajectory of the three big forces that are shaping the modern world. Globalisation has been truncated. The digital revolution has been radically accelerated. And the geopolitical rivalry between America and China has intensified. At the same time, the pandemic has worsened one of today's great scourges: inequality. And by showing the toll of being unprepared for a low-probability, high-impact disaster, it has focused more minds on the coming century's inevitable and even higher-impact disaster, that of climate change. All this means there is no going back to the pre-covid world.

That will not be obvious at the start of the year. Amidst the misery of a resurgent second wave, attention in many countries will still be focused on controlling the virus. As the New Year begins a vaccine will be on the horizon, though not yet widely available. Only as 2021 progresses, and vaccines are rolled out, will it become clear how much has permanently changed.

And that will turn out to be a lot, particularly in the West. The post-covid world will be far more digital. From remote working to online retail, the pandemic has compressed years' worth of transformation into months, bringing with it a dramatic shake-up in how people live, what they buy and where they work. Winners from this bout of creative destruction include the tech giants (whose profits and share prices have surged) and large companies more broadly (which have the biggest troves of data and the deepest pockets to invest in digital transformation). Big cities will have to reinvent themselves. Expect a flood of closures, especially among small businesses and in the retail, travel and hospitality industries.

Although globalisation will still be about goods and capital crossing borders, people will travel less. The Asian countries that controlled the virus most effectively were also those that shut their borders most strictly. Their experience will shape others' policies. Border restrictions and quarantines will stay in place long after covid-19 caseloads fall. And even after tourism restarts, migration will remain much harder. That will dent the prospects of poor countries that rely on flows of remittances from their migrant workers abroad, reinforcing the damage done by the pandemic itself. Some 150m people are likely to fall into extreme poverty by the end of 2021.

Global commerce will be conducted against an inauspicious geopolitical backdrop. Mr Trump's mercurial mercantilism will be gone, but America's suspicion of China will not end with the departure of "Tariff Man", as the president was proud to be known. Tariffs, now levied on two-thirds of imports from China, will remain, as will restrictions on its technology companies. The splintering of the digital world and its supply chain into two parts, one Chinese-dominated and the other American-led, will continue. Sino-American rivalry will not be the only fissiparous influence on globalisation. Chastened by their reliance on imported medical supplies and other critical goods (often from China), governments from Europe to India will redefine the scope of "strategic industries" that must be protected. State aid to support this new industrial policy has become and will remain ubiquitous.

All this will leave the world economy divided and diminished. The gap between strength in China (and other post-covid Asian economies) and weakness elsewhere will remain glaring. China's was the only big economy to grow in 2020; in 2021 its growth rate will exceed 7%, substantially faster than the pace of recovery in Europe and America. And unlike Western economies, its recovery will not be underpinned by gaping budget deficits or extraordinary monetary stimulus. China's economic success and quick vanquishing of covid-19 will be the backdrop for a year of triumphal celebration in Beijing, as the Communist Party marks its centenary.

The contrast with the West will be stark. America will start the year with wobbly growth, not least because of the failure to pass a sufficient stimulus package in the last days of the Trump administration. Europe's economies will be sluggish far longer, with generous furlough schemes tying people to jobs that no longer exist and zombie firms propped up by the state. On both sides of the Atlantic, the inequity of the impact of covid-19 will become ever clearer: the most vulnerable hit hardest by the virus; job losses concentrated among the less skilled; educational disruption harming poorer kids' prospects the most. Public anger will grow, particularly in America, which will enter 2021 still a deeply divided country.

With the West battered and China crowing, plenty of pundits (including in this publication) will declare the pandemic to be the death knell for a Western-led world order. That will prove premature. For all its "vaccine diplomacy", China inspires fear and suspicion more than admiration. And for all his determination to bring China centre-stage, its president, Xi Jinping, shows little appetite for genuine global leadership. Although Mr Trump's contempt for allies and forays into transactional diplomacy have shaken trust in the American-led global order, they have not destroyed it.

That means America, once again, will have disproportionate ability to shape the post-pandemic world—and the man most able to set the tone is a 78-year old, whose political career began closer to the presidency of Calvin Coolidge than today. Joe Biden, a consensus-building moderate whose own political positions have always tacked close to his party's centre of gravity, is an improbable architect of a bold new era.

But he could be just the right person. Mr Biden's policy platform is ambitious enough. Behind the slogan of "build back better" is a bold, but not radical, attempt to marry short-term stimulus with hefty investment in green infrastructure, research and technology to dramatically accelerate America's energy transformation. From expanding health-care access to improving social insurance, the social contract proposed by Bidenomics is a 21st-century version of the Progressive era: bold reform without dangerous leftism.

In foreign policy Mr Biden will repair relations and reaffirm America's values and global role. A veteran of diplomacy and instinctive multilateralist and institution-builder, Mr Biden will send strong signals quickly: America will re-enter the Paris climate agreement, stay in the World Health Organisation and join COVAX, the global coalition to distribute a covid-19 vaccine. He will head quickly to Europe to reaffirm America's commitment to NATO and the transatlantic alliance—though his first stop will be Berlin or Paris, rather than Boris Johnson's Brexit Britain. Mr Biden will reassert the importance of human rights and democracy to American foreign policy. Expect tougher criticism of China for its treatment of Uyghurs in Xinjiang and its oppression in Hong Kong; there will be no more palling with dictators.

On the most important issues, however, Mr Biden's presidency will offer more a change of approach than of direction. America will remain concerned about the threat posed by a rising China: the Trump administration deserves credit for focusing attention on it. But rather than attack with unilateral tariffs, Mr Biden's team will focus on building a multilateral coalition to counter China. Expect talk of a transatlantic grand bargain, where America assuages European concerns about its tech giants, particularly the personal data they gather and the tax they don't pay, in return for a joint approach towards Chinese tech companies. Expect talk of a new global alliance, binding Asian democracies into the Western coalition to counter China—the basis, conceivably, of a new kind of American-led world order.

The opportunity is there. The question is whether Mr Biden will grasp it. The risk is that, both at home and abroad, a Biden presidency proves to be long on soothing words and short on effective action; that, whether or not he is constrained by a Republican Senate, Mr Biden himself is too focused on repairing yesterday's world rather than building tomorrow's, and too keen to protect existing jobs and prop up ossified multilateral institutions to push for the kind of change that is needed. The biggest danger is not the leftist lurch that many Republicans fear—it is of inaction, timidity and stasis. For America and the world, that would be a terrible shame.

Zanny Minton Beddoes: editor-in-chief, The Economist

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Covid-19 will not suddenly disappear, but it will start to fade into the background

Needle and spread

Vaccines are coming, but their deployment faces many obstacles, says Edward Carr

FOR A WORLD that desperately needs to be vaccinated against SARS-CoV-2, the virus that causes covid-19, 2021 will be a frustration sandwich—two thick slices of good news, wrapped around a layer of conflict, delay and disappointment. Policymakers should try to make that filling palatable. Many thousands of lives will depend on their efforts.

The first slice of good news is that the next six months will see lots more new vaccines to complement the successful candidate from Pfizer-BioNTech. That is a testament to the power of scientific collaboration. Vaccines used to take 10-20 years to create, but today there are more than 320 projects, including dozens in advanced clinical trials. What's more, this work is yielding valuable advances in vaccine research, as teams attack the virus from different angles. Some vaccines take the old-fashioned route of using an attenuated virus. Others, like the Pfizer vaccine, are breaking new ground by, for example, priming the immune system using viral genes (see Science section). Such vaccines are easier to manufacture at scale.

The second slice of good news is that, all being well, by the end of 2021 enough vaccines should be available in sufficient quantities to mean that the spread of covid-19 can be slowed substantially. Vaccines may also protect infected people by making their symptoms less severe. Covid-19 will not suddenly disappear, but it will start to fade into the background.

In between those layers of good news, however, will be plenty of bad. The wave of winter cases in the northern hemisphere has been severe. And certifying, making, distributing and administering billions of doses of competing vaccines is sure to present problems.

Time saves lives, so regulators are rightly in a hurry to approve vaccines. But Russia and China have given the green light to medicines that are yet to pass through large phase-III trials. Their products fail to work or cause complications. Vaccines that receive emergency authorisation in the West will need watching too, because they may work differently in different groups, or provide only transient benefits. Expect lots of sniping about regulators cutting corners and lots of theories—many conspiratorial—about why vaccines should be avoided.

Production of several vaccines has started. Pfizer says it will have 50m doses ready by the end of 2020. Even so, scaling up vaccine production will be a mammoth task. The Serum Institute, the world's largest manufacturer, has warned that there will not be enough doses to inoculate the entire world until 2024 or beyond. Shortages of medical glass, and of the "cold chains" that are needed to keep some vaccines, including Pfizer's, at -70ºC or even colder, could cause delays. So could a shortage of people trained to administer vaccines. Given that the pandemic cost the world about 8% of GDP in 2020, a reluctance to invest in such things for fear of wasting money would be wantonly short-sighted.

This may hurt

There could be fights among countries. China and Russia are already using vaccine supply as the inoculated arm of their soft power (see China section). America and Britain may try to lock in supplies for their own citizens. Many lives are at stake. Modelling by Northeastern University in Boston suggests that if 50 rich countries receive the first 2bn doses of a vaccine that is 80% effective, it will prevent 33% of deaths from covid-19, whereas if the vaccine is distributed according to countries' population, the share of those saved almost doubles. Such insights are the inspiration behind COVAX, an initiative to ensure equal access.

There may be fights within countries, too. If limited supplies are to save as many as possible, health workers must be vaccinated first, followed by the most vulnerable. In health care, as in other areas, they often find themselves at the back of the queue.

Paradoxically, once the supply is adequate, the problem will switch to rejection by anti-vaxxers and by sceptics worried about rushed certification. Polls have found that a quarter of adults globally would refuse a vaccine. The hope is that, if the vaccines are more than 90% effective, as Pfizer's seems to be, governments will be able to persuade most people to turn up for a jab.

All this amounts to a daunting agenda for governments. They must communicate clearly about the scientific rationale for approvals and the criteria for distribution. They must invest in supply chains and training, knowing that some spending will be wasted. And they will need to explain to their citizens how the whole world gains if countries work together to distribute vaccines fairly.

Edward Carr: deputy editor, The Economist

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Too rapid a return to fiscal austerity is a risk as governments fret about deficits

Plotting the economic course

Watch these indicators to see where global growth is heading in 2021, says Henry Curr

NEVER IN RECENT memory has so much uncertainty hung over global growth. That is not just because the prospects for the world economy in 2021 depend on how much the virus spreads and the roll-out of a vaccine. It is also because it is unknown just how much lasting damage the pandemic has done as it has slowed economic activity, shut down some firms and left workers jobless. Its full impact has been obscured by massive emergency government intervention to bail out companies and support workers. Only when that support is withdrawn will the veil be lifted. Just as epidemiologists have had to learn about the virus as it advances, economists must judge its economic toll on the fly.

America's labour market is a good place to start. It lies at the heart of all global economic forecasts. In June half the monetary-policymakers at the Federal Reserve thought the unemployment rate would fall slowly from its peak in the spring to finish 2020 at a level above 9.3%. By October it was already down to 6.9%. A sign of a v-shaped recovery, say optimists. Yet in the same month there was more permanent joblessness than in October 2008, the month after the collapse of Lehman Brothers. Watch this measure, rather than the plummeting headline rate of unemployment, for signs of whether the jobs market has truly turned a corner.

A rapid recovery in labour markets might presage higher inflation. Some commentators warn of surging prices as the enormous monetary and fiscal stimulus injected in 2020 works its way through a global economy that remains disrupted by the crisis. Yet few investors buy this thesis. Financial markets are priced for central banks to undershoot their inflation targets for years. Japan seems to be at risk of a return to deflation, and the euro zone is stuck with sluggish price rises. Were inflationary pressure to emerge, it would probably do so first in America, and would require a swift adjustment to asset prices premised on the world staying disinflationary and interest rates staying low. Keep an eye not on inflation data, which at present are distorted by temporary changes in the economy, nor on bond yields, which are pegged down by central banks, but on inflation expectations.

Monetary policy is the most predictable part of the economic landscape. There is no question of rich-world interest rates rising soon. Rather, more economies will experiment with taking rates negative. The European Central Bank will review its monetary-policy framework but, with northern hawks breathing down its neck, seems unlikely to follow the Fed's promise to let inflation overshoot its target.

The real action will be in fiscal policy. Governments must judge whether the economic recovery needs more help. If America's Republicans retain control of the Senate after two run-off elections in January, President Joe Biden may find himself unable to pass more stimulus even if the economy turns sour. Across the rich world too rapid a turn to fiscal austerity is a risk, as governments fret about deficits, particularly if a rapid rebound in activity is mistaken for a full recovery. With monetary policy more or less fixed, the effect of tax and spending decisions will be amplified. Watching finance ministries will be more important than studying central banks.

Unconventional measures

Emerging markets have not faced the widespread financial crisis that seemed imminent at the start of the pandemic, despite concentrated and severe economic stress in the poorest countries. The pandemic has not put as much pressure on their exchange rates and foreign-exchange reserves as the past three instances of emerging-market stress, according to the IMF. As a result they, like rich countries, have experimented with unconventional fiscal and monetary policies, such as mass cash handouts and central-bank bond-buying. But it is unclear how long emerging economies can emulate the rich-world economic-policy playbook, even amid favourable global financial conditions. The currencies of Brazil, South Africa and India may show signs of trouble.

Finally, consider the issue that defined the outlook for 2020 before the pandemic: the trade war between America and China. Though the "phase one" trade deal between them remains in place, so do most of the tariffs imposed in recent years. Given the mutual suspicion that exists between the two countries, the truce is fragile. And as global manufacturing has rebounded rapidly, so too has China’s economy. The future of the trade war is unclear. But one economic variable is a reliable source of alarm in Washington and has grown in 2020. Watch out for China’s trade surplus.

Henry Curr: economics editor, The Economist

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The pandemic will eventually weaken populists

Mountebank medicine

The pandemic showed that populists are no good at governing, argues Robert Guest

POPULISTS IN POWER have handled the coronavirus ineptly. President Donald Trump downplayed it, promoted quack cures and disparaged face masks. Thanks partly to his incompetence, Americans were more likely to die of covid-19 than people in almost any other rich country. Curbing a pandemic requires sober communication, patient organisation and respect for science. Mr Trump offered none of these, which was perhaps why voters rejected him in November.

Other nationalist-populists have performed dismally, too. Narendra Modi, India's prime minister, was so eager to seem tough and decisive that he failed to consider the consequences of imposing one of the world's tightest lockdowns on a country with so many poor people. Millions of rural migrants in cities lost their jobs and thronged back to the countryside, turning packed bus stations into covid-19 hotspots and spreading the virus across India. Brazil's president, Jair Bolsonaro, dismissed covid-19 as "the sniffles" while touting bogus cures. And President John Magufuli of Tanzania declared his country to be covid-free, thanks to divine intervention—even as bodies were being secretly stacked in cemeteries at night.

In all these cases, an ignore-the-experts approach at the top led to widespread death and needlessly severe economic damage. But populists are good at finding excuses and changing the subject. Mr Modi blames Muslims for spreading the virus, and maintains a stellar approval rating. Mr Bolsonaro has handed out truckloads of public money to cushion the shock to Brazilian livelihoods. This has helped him remain more popular than Mexico's left-populist president, Andrés Manuel López Obrador (known as AMLO), who has also done a shoddy job of stopping the virus but has been reluctant to give people money. Mr Magufuli won re-election in October by muzzling the media and locking up opponents.

Populist leaders claim to know the will of "the people" and vow to defend them against a shadowy, wicked "elite". But the people have a range of views, and the "elite" includes doctors, scientists and epidemiologists. The populist tendency to dismiss expertise is harmful at the best of times; during a pandemic it is disastrous. From Mr Trump's decision to pull America out of the World Health Organisation—the main global body for fighting pandemics—to Belarusian despot Alexander Lukashenko's suggestion that people treat the virus by drinking vodka and driving a tractor, populists have favoured soundbites over science, with lethal results.

Unfortunately, the pandemic itself makes some voters more susceptible to populism. People are scared; populists are adept at exploiting fear. People are confused; populists offer narratives that are easy to grasp, such as the suggestions that China or globalisation are to blame. There is sometimes an element of truth in these stories: China's initial cover-up of covid-19 was indeed grossly irresponsible. But that is in the past. Governments everywhere have to fight the virus now, and probably throughout 2021. They can do so effectively only if they are guided by evidence.

Happily, there are reasons to predict that the pandemic will eventually weaken populists. Voters notice when their leaders fail to deliver. A survey by More in Common, an NGO, found people were far more likely to blame their governments for mishandling the pandemic in America, Britain and Poland, all run by populist or somewhat populist governments, than in Germany or the Netherlands, which are not.

Electoral calendars mean that not many voters in 2021 will have a chance to sack or restrain populist governments. Russia's legislative elections will not be free or fair. Indians will elect a new upper house, but Mr Modi will maintain his grip. Mexicans will elect lawmakers, but AMLO will stay in charge.

Vote the rascals out

Yet the pandemic has shown that the populist toolkit—fearmongering, scapegoating, appeals to emotion—is useless against a virus that fears nothing and does not respond to divisive rhetoric. By hitting the global economy, covid-19 has also made it harder for demagogues to keep bribing voters with their own money, especially in developing countries that cannot borrow cheaply.

Defeating the virus will require virtues that populists disdain: reason, openness and international co-operation. The task for liberals in 2021 will be to make this case more eloquently, and drive the populists back.

Robert Guest: foreign editor, The Economist

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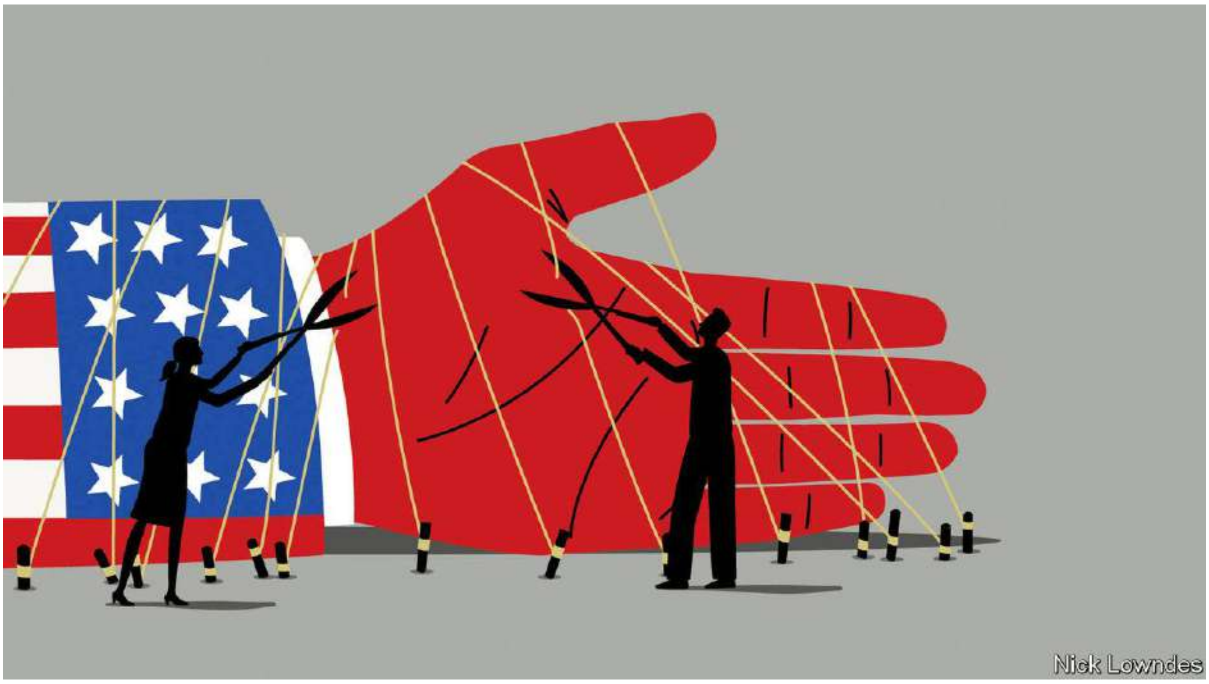

A great power has let its foreign service slip, to a dangerous degree

Sorry state

America needs to invest more in diplomacy, argues Daniel Franklin

WHO WILL run the world in 2021? International institutions such as the United Nations have been weakened by great-power rivalry. Russia will be a spoiler, not a leader. In Europe, Boris Johnson will have his hands full with the aftermath of Brexit, Germany's Angela Merkel will leave the stage and France's Emmanuel Macron has limited means to pursue his grand ideas. China is the rising superpower, and an increasingly assertive one, but not yet keen, let alone able, to take on the burdens of world leadership. The question is whether America, under President Joe Biden, will be prepared to step back into the role.

For some years now America, weary of its "endless wars", has been in retreat. Barack Obama believed it was time to focus on "nation-building at home". Donald Trump took to withdrawal with gusto, pulling the country out of a long list of international arrangements, including the Paris climate agreement, the Iran nuclear deal and—in the middle of a pandemic—the World Health Organisation. As America has stepped back, emboldened authoritarian leaders have stepped forward, posing a challenge to democracies everywhere.

Look ahead, however, and further withdrawal is scarcely an attractive option. Global threats will multiply, from pandemics to climate change to space weaponry. And in an increasingly multipolar world, America cannot count on simply getting its way. It will need to rely on the patient pursuit of its interests through persuasion, building coalitions and working with allies. In short, it will have to rely on diplomacy.

This is by no means a dismal prospect. America retains great advantages even in the more competitive geopolitical era ahead. It is still by far the mightiest military power and the world's biggest economy. In contrast to rivals such as China and Russia, it has steady allies who can help amplify its influence. And at its best it is a champion of human rights and freedoms that can inspire people everywhere.

Americans are right to want to limit the flexing of their military muscle. The strength of America's armed forces will always be a vital part of its ability to exert influence. Yet since the terrorist attacks of September 11th 2001 the superpower's foreign policy has relied too much on force. It is time to put diplomacy first.

But just as the demand for sustained, sophisticated American diplomacy is rising, the capacity of the country's foreign service to supply it is dwindling. The State Department is demoralised and suffering from a hollowing-out of talent. That will be hard to remedy soon.

The troubles of the country's oldest federal agency did not begin with the Trump administration but they deepened dramatically under it. Mr Trump openly referred to "the Deep State Department", repeatedly (if unsuccessfully) proposed slashing its budget and publicly attacked experienced diplomats, such as those involved with policy towards Ukraine, whose only crime was to do their job. Career diplomats were virtually shut out of senior policymaking roles, and the share of political appointees to ambassadorial roles—their main qualification often being the size of their political donations—reached new heights. American diplomacy is in crisis.

What can be done? Three times in the past century—after the first world war, after the second world war and during the cold war—Congress passed legislation to shape a foreign service fit for the future. Yet in recent decades Congress has focused on the shape of America's armed services and on the organisation of the country's homeland security, not on diplomacy. Whether lawmakers are capable of agreeing on a new framework for the State Department is open to doubt. With or without a new act, however, America must rethink its diplomacy for a more contested global landscape.

America, rediscover your Excellency

Plenty of people are starting to do just that, including a group, led by former ambassadors at Harvard's Kennedy School, who have prepared a road map. Some of their suggestions involve changes to the way the State Department bureaucracy works. It is notoriously inflexible and risk-averse. It badly needs to modernise its career structure, including opening up to entry at all levels, not least to help it improve its dismal record on diversity: among America's ambassadors abroad, only three are

African-American and four Hispanic. But the big idea is simple and urgent. A great power has let its foreign service slip, to a dangerous degree. For the sake of its own future, and for the good of the world, in 2021 America needs to start reinvesting in diplomacy.

Daniel Franklin, diplomatic editor, The Economist

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The recession is shaking up the world of business—and the rules of capitalism

Shock and awe

Prepare to see the extent of the creative destruction left by the pandemic, says Patrick Foulis

RECESSIONS ARE capitalism's sorting mechanism. Weak businesses shrink or fail and stronger ones expand. But in 2020 the process of creative destruction did not take place in the typical manner. Because the downturn was the result of a health crisis rather than, say, a financial crash or inflation scare, there were some idiosyncratic corporate winners and losers: think of the boom in video streaming, or cruise-liner firms being wrecked. Meanwhile vast state handouts propped up companies around the world, masking the scale of the corporate carnage. In 2021 the toll will become clearer as stimulus tapers down and more firms fail. Healthy businesses will ramp up investment, giving them an enduring advantage. These top dogs will, however, face a new climate in which three tenets of modern business—the primacy of shareholders, globalisation and limited government—are in flux.

Downturns tend to be infrequent and swift: since the second world war America has been in recession only 14% of the time. But they have a profound impact on the structure of business. During the previous three slumps the share prices of American firms in the top quartile of each of ten sectors rose by 6% on average, while those in the bottom quartile fell by 44%.

This time there have been some obvious winners. Silicon Valley's prospects have soared as users have switched to digital services (see next leader). China Inc has had another great leap forward. Its domestic economy has outperformed most other countries' and a wave of initial public offerings, including the fizzy flotation of Nongfu Spring, a bottled water colossus, has highlighted the strength and depth of Chinese firms. Their share of world stockmarket value (including Hong Kong) is now 17%, up from 15% before the pandemic and 13% a decade ago.

Winners and losers

Some success stories have been more unexpected. The Poonawalla family in India, who until recently were as well known for their stud farms as for their vaccine business, have seen their fortune rise by 62% to $14bn, according to Bloomberg. The container-shipping industry has spent years merging into a more efficient structure: the effort has paid off, with Maersk, the largest firm, predicting solid profits in 2020 despite a slump in trade. SoftBank, a Japanese conglomerate known for its wild tech bets and huge debts, has turned a crisis into an opportunity by announcing $80bn of asset sales. Gold-mining companies, long viewed as dead money, are back in fashion because some investors think huge government stimulus will lead to a bout of inflation in which bullion is one of the few assets to hold its worth.

What about the losers? Judged by the bottom line, business is in worse shape than in the subprime crisis: in the first half of 2020 more than 40% of America's top 3,000 listed firms made losses, compared with just over a third in 2009. But default rates in America remained low, with only about 5% of junk bonds in default and about 4% of business credit cards in arrears.

In 2021 this unreal world won't last. Governments will reduce new aid and pivot away from keeping individual firms alive and towards making sure workers have help if they lose their jobs. The gap between companies will also widen because stronger ones will maintain investment as others cut back. By mid-2020, capital spending at the ten highest-spending listed American firms was still 3% higher than a year earlier, but had dropped by 82% at the smallest 1,000 firms.

The corporate winners from the slump of 2020-21 will tend to be big firms that benefit from technological disruption and have exposure to better-performing economies, notably in Asia and America. Yet they face a tricky post-pandemic environment as the rules of the game between business and society are recast.

Firms will be under pressure to pay less attention to shareholders and more to workers. The pace of global buybacks almost halved in mid-2020 and won't bounce back fully even as profits recover. The stagnation of globalisation means that more multinationals will have to operate as federations of national businesses and will be unable to reap the full efficiency gains from being run as a single globally integrated organisation. And as the size of government expands everywhere, the levels of regulation and taxes will inevitably rise. For the top 3,000 global firms the median effective tax rate paid has dropped from 33% two decades ago to just 22% now; the only way is up. At the end of this recession the world of business will have been shaken up—and so will the rules of capitalism.

Patrick Foulis: business affairs editor, The Economist

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The big question for 2021 is: how much will things snap back?

After the tech-celeration

New technological behaviours adopted during the pandemic will outlast it, says Tom Standage

WELCOME TO THE future—not 2021, as you might have been expecting, but 2025, or even 2030, depending on whom you ask. The adoption of new technological behaviours in response to the pandemic, from video-conferencing to online shopping, means usage has already reached levels that were not expected for many more years.

“Recent data show that we have vaulted five years forward in consumer and business digital adoption in a matter of around eight weeks,” declared McKinsey, a consultancy, in May 2020. And for online shopping in America, progress was even more rapid: “ten years’ growth in three months”. Netcomm, an Italian retail consortium, says shopping in that country, a laggard in e-commerce, has witnessed a “ten-year evolutionary leap” towards digital. In banking, experts canvassed by *The Economist* reckon that the share of cashless transactions worldwide has jumped to levels they had expected to see in two to five years’ time. In medicine, a British doctor told the *New York Times* that the

National Health Service had undergone a decade of change within a week, as doctors switched to remote consultations.

Call it tech-celeration. In all these cases, and in many others, the pandemic has accelerated existing trends of technological adoption. Shopping was steadily moving online; payments were slowly going digital; online learning was slowly becoming more prevalent; more people were working from home, at least some of the time. Now people in many countries have been abruptly propelled into a future where all of these behaviours are far more widespread.

This sudden shift has been painful. Many bricks-and-mortar retailers, already in difficulty, have been forced into bankruptcy, including household names such as J.C. Penney and Nieman Marcus. With bank branches closed, elderly people unfamiliar with online banking have been targeted by scammers. The switch to online learning highlighted inequality in broadband access and computer ownership among students.

But the transition has also sparked rapid transformation in fields, notably health and education, that are historically resistant to change. The enforced experiment of mass lockdowns has also destigmatised online learning and remote working, by demonstrating that with the right equipment and support, they really can work at scale. That is good news.

The big question for 2021 is: how much will things snap back? Clearly the world is not going to return to its pre-pandemic state. Many department stores have closed. Italian grannies have discovered the joys of online shopping. Home-workers are in no rush to return to commuting five days a week. But nor will all the lockdown behaviours of 2020 persist. Students and teachers are keen to return to in-person tuition. Workers miss the camaraderie of the office. So some new behaviours will stick, but not all, and the result will be somewhere in the middle. Exactly where will have enormous implications: for transport patterns, property prices and the layout of cities, among other things.

McKinsey reports that, by 2022, 15% of executives who took part in an international poll expect to allow a tenth of their employees to work remotely for two or more days a week, and 7% were willing to stretch this to three days a week. But those global averages conceal wide variations. In Britain and Germany, 20% of respondents were happy for at least one in ten workers to work remotely two or more days a week; in China, the figure was just 4%. And among technology executives the proportion stood at 34%, up from 22% before the pandemic. Companies in technology and financial services can function more easily without workers on site. But even in industries where fully remote working is possible, the most likely outcome is a hybrid future that mixes remote and in-person working.

The future is now

Some firms—like those that provide services in the cloud, or devices that support remote working—will get stronger. Others, like bricks-and-mortar retailers, will suffer. Many will fail altogether. But once again there is a silver lining, as these changes open up new arenas for innovation. Already companies big and small are devising fresh tools to improve the experience of remote working, collaboration and learning; to support new kinds of contactless and appointment-based retailing; and to provide new sorts of online social experiences, from virtual conferences to virtual tourism. There is no going back to the past that existed before the pandemic. Instead, covid-19 has propelled the world into a very different future.

Tom Standage: editor, The World in 2021

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It is almost as confusing as the rules of cricket. Almost

The year of déjà vu

Everything is better the second time around, right?—asks Leo Mirani

HERE IS A question for future pub quizzes: in which year were the 2020 Olympics held in Tokyo? An easy one—the answer is 2021. What about Expo 2020 in Dubai? An answer of 2021 would score a point, but so would 2022; it runs from October to March. How about Miss America 2020? That is a trick question. The event took place in December 2019, before coronavirus turned the world upside down. It is Miss America 2021 that has been cancelled.

Many other annual events will try to pick up where they left off in 2019. But organisers of less regular events are hoping to go ahead with the ones postponed from 2020, and hope the punters will put up with outdated merchandise. Some, such as Euro 2020, a quadrennial football tournament, have retained the same name. UEFA, the European football confederation, says this is “to keep the original vision of the tournament” and to “serve as a reminder of how the whole football family came together”. But it admits that “a lot of branded material had already been produced.” The same considerations no doubt apply to Expo 2020 and the 2020 Olympics.

A sense of déjà vu is already setting in, and 2021 has not even started yet. In July 2019 Tokyo held a celebration to mark the one-year countdown to its big Olympic moment. There were fireworks, celebrities and an unveiling of the medals to be awarded at the games the following year. But the only thing that happened 366 days later was a 15-minute event in an empty stadium to mark, well, another year to the 2020 Olympics. Call it a twice-in-a-lifetime experience.

In cricket, the 2020 Twenty20 World Cup has been moved to 2021, causing anguish to fans of linguistic reduplication everywhere (Twenty20 is a shortened form of the game involving 20 overs for each team). Worse still, the original 2020 Twenty20, which was to have been played in Australia, will be held in India instead—whereas the 2021 series, to have been played in India, will occur in Australia in 2022. It is almost as confusing as the rules of cricket. Almost.

Live music has been affected, too. Among the many stars who have had to postpone tours by a year are Pearl Jam, Green Day and Alanis Morissette, on her “Jagged Little Pill” 25th-anniversary tour. As if switching between 2020 and 2021 were not taxing enough, it is strange to be reminded that some people still live in 1995. Meanwhile, on the Isle of Wight, a quirky English holiday spot and festival venue, the “Experience 1970 Festival” was postponed, too—proving that time travel never quite works out as intended.

It is not just fun stuff that has been put off to a later date. The 2nd Global Policy Forum on Memory of the World, which was originally scheduled for May 2020, has been postponed—no one can say until when. An interdisciplinary conference on “Confronting Evil”, planned for June 2020, is “under review”.

Then there is politics, which never stops. Londoners who had hoped to ignore the 2020 mayoral elections will now have to extend their apathy for a further year. Hong Kongers preparing to vote in the city’s legislative-council elections will have had a particularly rough 12 months in which to make up their minds. And Somalis, having gone 51 years without elections based on the universal franchise, will have to wait yet another year.

No doubt 2020 will be chiefly remembered for the onset of the covid-19 pandemic. Yet here, too, the year gets short shrift. Like the absent father whose only contribution is one night of transmission and a surname, 2019 escaped the consequences, but left behind its legacy: covid-19 is so named because it was brought to the World Health Organisation’s attention on the last day of that year.

Let’s try that again

Even the very name of the virus evokes déjà vu. Back in 2002-03 the world confronted severe acute respiratory syndrome, or SARS. It was confined to fewer than 9,000 cases by 2004, and has happily not been heard of again. The virus that causes covid-19 is SARS-CoV-2—one of those unpopular sequels that nobody asked for.

Yet that also offers some reason for cheer. Humanity has already beaten a deadly coronavirus once. It can surely do so again, albeit on a bigger budget and with more drama, as is the way with sequels. Of all the things that will be repeated in 2021—including, quite possibly, the cancellation or postponement of events that were already delayed from 2020—containing a coronavirus is the one thing everybody would agree is even better the second time around.

Leo Mirani: senior Britain correspondent, The Economist

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United States

United States

The president's priorities

James Astill: Washington bureau chief and Lexington columnist, The Economist, WASHINGTON, DC

From tackling the pandemic to reviving the economy, Joe Biden has a lot of work to do

2021 in brief

The trial of four Minnesota police officers charged in the death of George Floyd opens in Minneapolis in March. Derek Chauvin is charged with second-degree murder, third-degree murder and second-degree manslaughter. Three others are charged with aiding and abetting

THE YEAR ahead in America will be a big improvement on its awful predecessor. The country was wracked by such a series of scandals and disasters in 2020 that, by the time voters limped to the polls, Donald Trump's impeachment trial ten months earlier barely warranted a mention. A quarter of a million Americans were dead of covid-19. Over 10m jobs had been lost. The racial grievances highlighted by the Black Lives Matter protests—some of the biggest in American history—had been inflamed by the president's race-baiting on the trail. Mr Trump's refusal to accept the election result then put even the country's democracy in doubt.

Many of those problems will carry over into 2021. The economy will be shaky as long as the virus remains rampant. The mistrust of the electoral process that Mr Trump has encouraged among his supporters will be long-lasting. Yet the simple fact of his ejection from the White House—after he became the fourth president in a century to fail to win a second term—has transformed America's prospects of managing its troubles. Mr Trump saw covid-19 as a communications problem to be spun into irrelevance. He saw America's racial divisions as a political opportunity. In Joe Biden, America will have a competent president who respects expertise and is committed to bringing people together.

Mr Biden will signal this in an opening flurry of executive actions. He will cancel America's withdrawal from the World Health Organisation, rejoin the Paris climate agreement and reinstate the Obama administration's protections for illegal immigrants brought to America as children. He will scrap Mr Trump's ban on travellers from some majority-Muslim countries. Mr Biden will end his predecessor's policy of separating illegal child migrants from their parents and launch a mission to find the missing parents of 545 migrant children in custody. He will issue a national mask mandate.

His administration will also take rapid steps to rebuild America's Trump-bruised institutions. It will restore credible scientists to the Environmental Protection Agency and reintroduce firewalls to protect the independence of the Department of Justice. Mr Biden's secretary of state will need to restore confidence and order to America's much-abused diplomatic corps as much as to its alliances.

These measures will have added significance because of the Democrats' failure to capture the Senate in November. They are unlikely to correct that by winning the two Senate run-off elections due to be held in Georgia in early January. That means Mr Biden will be unable to pass almost any of the economic, health-care, climate and tax policies he promised on the trail. One of his first priorities had been to pass an expansive $2trn economic stimulus package, including investments in green and other infrastructure. Getting a much skinnier stimulus package past Mitch McConnell, the veteran Republican Senate leader, will be a struggle.

Mr McConnell will try to deny the Biden administration any wins and re-establish his party's reputation for fiscal conservatism (a dogma that only seems to concern its lawmakers in opposition), with a view to making gains in the mid-term elections in 2022. Blocked on Capitol Hill, Mr Biden will have to take more ambitious executive actions to make progress at home, as did the Obama administrations in which he previously served. Expect him to institute further curbs on pollution from coal- and gas-fired power stations—though whether such measures will survive the scrutiny of an increasingly activist conservative majority on the Supreme Court bench is unclear.

In foreign affairs, the new administration will represent a dramatic change in tone from its predecessor—and more continuity than many expect. Mr Biden will soothe America's traditional allies and restore American leadership to the multinational efforts to contain climate change, Russian aggression and Iran's nuclear programme (see Middle East section). But he will maintain the Trump administration's adversarial posture towards China, and some of its tariffs. He will slow, but not reverse, America's disengagement from Afghanistan. And in America's accelerating shift in focus from west to east—which Mr Biden will not interrupt—those same old allies may detect more than a hint of Mr Trump's transactional style.

Despite the constraints on his power, 2021 could turn out well for Mr Biden. This will rest above all on his administration's ability to make a covid-19 vaccine quickly and widely available. If that goes smoothly, the economy will rapidly make up its lost ground and Mr Biden's popularity will surge. If it does not, the hope stirred by the end of Mr Trump's misrule will soon dissipate—to the former president's advantage.

The degree to which Mr Trump retreats from public life is another great question for the year ahead. Members of the Republican establishment fear that, by looming over their defeated party on Twitter and television, Mr Trump will be a barrier to reforming it. Their fears will probably be realised.

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Long division

Jon Fasman: Washington correspondent, The Economist, WASHINGTON, DC

America's culture wars will intensify

The fight goes on

Joe Biden will be unable to deliver the unity he promised

2021 in brief

America marks 20 years since the attacks of September 11th 2001. Hijackers flew aeroplanes into the World Trade Centre in New York and the Pentagon in Washington, DC. A fourth plane crashed in Pennsylvania. Nearly 3,000 people were killed

BERNIE SANDERS and Elizabeth Warren had more passionate fans. Kamala Harris and Pete Buttigieg were more poised speakers. But Joe Biden had something other Democratic candidates lacked: faith that he could bring Democrats and Republicans together. Many considered this naive and unrealistic. But it appealed to enough voters to propel him past his more strident challengers in the primary, and then to defeat the most divisive president in modern history.

It is not hard to see why. The past four years—and to a lesser extent, the eight before that, under Barack Obama—have been a period of intense cultural and political polarisation in America. Increasingly, Democrats and Republicans do not just hold different views on, say, gay marriage and tax rates. They inhabit different universes and increasingly distrust each other.

Two months before the 2020 election, a poll showed that over 40% of Americans of both parties believed violence would be justified if the other side's candidate won the election. Most presidents, including Mr Obama, saw such deep antipathy as damaging, both to national unity and to their political prospects. At least rhetorically, virtually all presidents have tried to broaden their appeal once in office.

Mr Trump never did. He exploited and inflamed division, like the reality-television star he was before entering office, rather than trying to heal it. Small wonder that over 75m Americans rallied to Mr Biden's plea for unity. Ordinarily such appeals would be routine for an American politician. But these were not ordinary times. With Mr Trump appealing to his base, and the woke left appealing to theirs, the vast American middle found its tribune in Mr Biden, an ageing career politician who ably met his moment.

Even so, he will be unable to deliver the unity he promised. That is not his fault: nobody could. Partisanship and division sell. Rush Limbaugh and "The Daily Show" are not going away just because Mr Trump lost and Mr Biden prefers unity. Social media lets Americans have their political views constantly confirmed rather than challenged.

Gone are the days of conservative Democrats and liberal Republicans regularly crossing the aisle. Today political parties are almost wholly aligned along cultural and ideological fault-lines. Most senators and representatives hold safe seats where they have more to fear from a more radical primary challenger within their own party than an opposition candidate.

Even if Mr Biden had won the landslide that the left hoped for, America would have remained deeply divided; he might just have had an easier time getting legislation through Congress. Soon after taking office on January 20th, he will urge all Americans to wear masks; adherence to that suggestion will almost certainly be greater in Democratic- than Republican-leaning areas. Several cases in the Supreme Court's pipeline may severely restrict abortion rights without directly outlawing it. The battles over those cases will be no less intense just because Mr Biden sits in the White House. No politician can force Americans to end their country's culture wars. They must decide to do that themselves.

Lingering pains

Callum Williams: senior economics writer, The Economist

An economy on the mend—but at a cost

2021 in brief

Construction work begins on a new high-speed rail line between Dallas and Houston. Trains travelling at speeds of up to 200mph (320kph) could reduce the journey time to 90 minutes

IN 2020 AMERICA faced an almighty economic shock. In January unemployment was at a five-decade low of 3.5%. Wages for the lowest paid were rising fastest. But within weeks the country experienced unemployment rates last seen at the end of the Depression of the 1930s, concentrated among the poorest. In the second quarter, GDP fell by 10% year on year. Yet since then the economy has rebounded more quickly than expected—and may outperform pundits' forecasts in 2021.

In June the Federal Reserve's forecasters reckoned that unemployment would reach 9% by the end of 2020. America's jobless rate actually fell below that level in August. That may be in part because consumer spending has remained more robust than many economists had expected. Exports have also performed reasonably well.

Much of this was due to a series of huge stimulus programmes agreed upon early in the pandemic. So far Congress has passed some $3trn-worth of fiscal support, more than in any other country both in absolute terms and relative to the size of the economy. People have received cheques of up to $1,200, for instance, while Congress bumped up unemployment-insurance payments by $600 a week. Many people's incomes are higher today than they were before the pandemic hit.

Unemployment will keep going down. The evidence from the aftermath of past recessions suggests that joblessness falls quickly when a large share of the unemployed believe that their job loss is only temporary. Being let go by a restaurant that is not allowed to serve customers because of a lockdown is different from being let go when the place has gone bust. Early in the pandemic, three-quarters of those who had lost their jobs believed their predicament was temporary.

Economists worry that Congress's failure to agree on extra stimulus in the summer will doom the economy in 2021. That is too pessimistic. Many people saved a large part of their stimulus cheques: they can now spend them, giving the economy a boost. A fresh stimulus package in 2021 cannot be ruled out. Republicans and Democrats strongly differ on precisely what the economy needs, but a majority would like to inject more money.

Though America may recover faster than many other rich countries, the effects of the pandemic will linger. Few economists expect the unemployment rate to return to 3.5% soon (analysts at Goldman Sachs predict it will not come down to 4% until 2025). A large and growing group of those who lost their jobs—if still a minority—believe that they were let go permanently. They will find it harder to find new work. The risk for these people, as they spend more time out of employment, is that they will lose the motivation to try something new and their skills will ossify or perish. For now, policymakers must focus on steering the American economy back on course. But at some point they will need to turn their attention to the pandemic's lost generation.

Police on the line

Jon Fasman: Washington correspondent, The Economist, NEW YORK

Change is necessary, but difficult

ON AUGUST 9TH 2014 Michael Brown, a young unarmed black man, was shot and killed by Darren Wilson, a white police officer, in Ferguson, Missouri. The circumstances of Brown's death remain disputed. Some claim he had his hands raised in surrender; Mr Wilson said that Brown punched him, charged at him, tried to grab his gun and reached towards his waistband, as if to pull out a gun of his own. Weeks of protests in Ferguson followed. And although a Justice Department investigation cleared Mr Wilson, police officers were all required to adopt body-worn cameras (bodycams).

On May 25th 2020 Derek Chauvin, a police officer in Minneapolis, knelt on the neck of George Floyd—an unarmed, handcuffed black man—for nearly nine minutes, asphyxiating him. The footage of Floyd's death sparked weeks of protests, and shifted national opinion on police reform. Protestors urged politicians to "defund the police" and, though those calls have died down, some Democratic governors and legislators have enacted policies to increase police oversight and transparency. The coming year will determine how widespread change will be.

Only a few of America's 18,000 law-enforcement agencies are federal; most are governed by states, cities and counties. But the federal government can do two things to advance police reform. First, it can change federal law. A bill that passed the Democratic-led House in June, for instance, made using chokeholds a civil-rights violation, and withheld federal grant funds from jurisdictions that do not ban them. It also eroded personal-liability protections for police officers, and conditioned federal funding on departments banning racial profiling. Joe Biden's progressive criminal-justice platform contains many of these measures, but his ability to enact them will depend partly on whether Democrats control the Senate, which will not be determined until after two run-off elections in Georgia on January 5th.

Second, the Justice Department can investigate police forces accused of persistent misconduct that contravenes citizens' constitutional rights. If it finds such a pattern, it usually enters into a "consent decree" with that force—an agreement that lays out a detailed plan for reform, overseen by a federal judge. Barack Obama's administration used consent decrees to encourage police reform in at least 20 jurisdictions. Donald Trump curtailed the practice. Joe Biden has pledged to revive it.

Some governors and state legislators have already sprung into action. Probably more than half of America's law-enforcement agencies equip some officers with bodycams, and at least six states have passed statewide laws; New York joined their ranks in June. New York also banned chokeholds like the one that killed Floyd, created an independent office to investigate misconduct allegations, required officers to report gun firings within six hours and repealed a law that kept police disciplinary records secret. The state required courts to collect and publish demographic data on low-level offences, so the public can determine, say, whether police departments stop a disproportionate number of non-white drivers. Colorado has also expanded reporting requirements. New Jersey has ordered departments to identify officers punished for misconduct. Other examples abound, particularly in Democratic-controlled states and cities.

To many activists, this is only the beginning. For all the ink spilled over inchoate demands to "abolish" or "defund" the police, many proposals are more concrete. Campaign Zero, a push for reform that grew out of the tragic events in Ferguson, advocates eight policy changes which it claims could reduce police violence by nearly three-quarters. The list includes banning chokeholds and shooting at moving vehicles, requiring de-escalation and warnings before opening fire, and mandating that police stop fellow officers they see using excessive force and report every time they threaten or use force.

These are common-sense reforms, but bitterly opposed by many police departments. The chances of such changes being implemented are far greater in places under Democratic rather than Republican control.

The children of covid-19

Idrees Kahloon: United States policy correspondent, The Economist, WASHINGTON, DC

The gap between rich and poor will widen

The repercussions will linger for years

MOST SPECIES of social scientists—be they economists, sociologists or psychologists—agree that adversity in childhood spells difficulty in adulthood. Though children are mercifully much less likely to die of covid-19, the impacts of increased poverty, family job loss and disrupted schooling will not be so easily avoided.

In-person learning is superior to virtual instruction, which, more than mere nostalgia, explains its persistence. This is even more the case for poor children without good internet connections or personal laptops, whose families cannot pay for supplemental tutoring, and for whom schools provide free meals and stability. Analysts at McKinsey, a consultancy, calculate that if schools resume in-person instruction in January 2021 (and that now looks unlikely in many cases), the average student would suffer seven months of lost learning. Black students would lose even more: ten months. Poor students would forego more than an entire year.

Home life is also increasingly disrupted. Surveys from the Census Bureau conducted in September—after enhanced unemployment benefits had lapsed—showed that 30% of households with children, headed by parents without high-school degrees, reported not having had enough to eat in the preceding week. Of less educated families (a proxy for the less well paid), 21% reported missing last month's rent and a similar share thought it very likely that they would be evicted in the coming two months. Partly because job losses have been more pronounced, indicators of parental mental distress, such as depression and anxiety, have also increased disproportionately. Food, housing and parental instability are harbingers of worse behaviour in schools, poorer testing outcomes and, eventually, lower rates of high-school graduation and college completion.

The sooner parents are able to return to work and children to in-person schooling, the less unequal the fallout. The sorts of insulating policies that the federal government might pass to cushion the blow—such as a national tutoring corps for those unable to afford such help, or wider access to laptops—are unlikely to become reality because of the usual partisan antipathy. State and city governments will be sidelined with their own budgetary crises. Instead, America's decentralised education system will have to tackle these problems piecemeal, district by district. As with much else afflicting the children of covid-19, the lack of a policy response will lead to even greater inequality. The repercussions will linger for years.

Winning the next ten years

Adam Roberts: Midwest correspondent, The Economist, CHICAGO

Could gerrymandering become a tiny bit harder to do?

2021 in brief

Horse-drawn carriage licences in Chicago cannot be renewed this year after the city council voted to ban the vehicles from the city's streets. The new rule marks a long-sought victory for animal-rights activists

FOCUS ONLY on elections and you risk missing how, once in a decade, decisions are made that greatly influence who gets to hold power in America. In the year after the 2020 census it is up to states—either through their legislatures or through special commissions—to redraw voting districts to adjust for population change. Where politicians or their appointees oversee this, they get a chance to gerrymander. By drawing lines craftily, such as by concentrating their own likely voters and dividing those of their opponents, they can lock in a partisan advantage that endures for ten years.

Last time around, Republican strategists did so skilfully. Democrats, clobbered by the Tea Party wave, did badly in elections for state legislatures and governors in 2010. Republicans won those easily in Midwestern swing states, such as Ohio, Michigan, Pennsylvania and Wisconsin, then got to decide on redistricting the following year. The result: such states have become some of the most grossly gerrymandered. In Wisconsin, for example, even if Democrats won 54% of the votes cast in legislative elections, Republicans could still expect to enjoy a nine-seat majority in the state assembly.

This is not just unfair. It also encourages extremism. In gerrymandered seats the incumbent knows that the risk of losing in the general election is slight. The greater threat is from in-party primary challengers who typically appeal to the political extremes (mostly it is ardent party activists who turn out for primaries). Less gerrymandering this time, therefore, could help encourage moderates in both parties.

There had been hopes that in 2021 matters would swing back a bit. Democrats had expected to win over more state houses in 2020, for example, but their efforts badly flopped. In some places where Republicans still control the legislature, such as Wisconsin, Democrats now occupy the governor's mansion, and can (usually) veto legislators' redistricting plans if they are egregious. A clash there is likely as legislators and the governor squabble before the courts intervene. That will look ugly but could result in less lopsided districts.

Just as importantly, several states have cleaned up the process of drawing boundaries by pushing politicians aside. In 2018 voters in Michigan, for example, overwhelmingly backed a plan for an independent commission, for both congressional and state district maps. Arizona, California and Colorado have all introduced independent commissions. Iowa already has non-partisan staff drawing its maps. In Pennsylvania courts have redrawn maps that were deemed too partisan, which with luck will ensure that future efforts are more restrained. Two years ago Missouri opted to reform its system, but voters undid that change in November. Even so, at least in the Midwest, there will be less chance for skulduggery.

Where will gerrymandering still happen? Keep an eye on two trends, suggests Michael Li, an expert in the subject at the Brennan Centre for Justice, a New York think-tank that focuses on law and policy. First, watch states where one party won the "trifecta": control of the assembly, the state senate and the governor's mansion. Republicans already have several and added two more, in New Hampshire and Montana, in November. And, second, see where sizeable population shifts are recorded, meaning that big changes to voting districts are due.

Democratic-run Illinois remains badly gerrymandered. More serious worries arise in fast-growing southern states, where Republicans often dominate all wings of government. Race is usually an underlying issue—maps are redrawn to weaken the influence of African-American and other non-white voters (who are more reliably Democratic). Conditions are ripe for bad behaviour in Florida, Georgia and Texas—and in North Carolina, where the governor cannot veto redistricting plans.

It is unlikely that a divided Congress would agree on federal plans to improve redistricting for all, but it could push for national standards both for congressional districts and for state legislative ones. Three representatives from California proposed such a bill in 2019. Congress has acted before. In 1842 it ordered that a district could have only one representative, for example. Nearly two centuries on, it might be time for it to act again.

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Block, stock and barrel

Alexandra Suich Bass: senior correspondent, politics, technology and society, The Economist, DALLAS

Gun control will make headlines

More guns were sold in 2020 than in any previous year

ACCORDING TO THE Chinese zodiac, 2020 was the year of the rat. In America it was the year of the gun. More guns were sold in 2020 than in any previous year. Amid widespread anxiety about the coronavirus and social unrest, 5m more guns were sold than otherwise would have been, according to Phillip Levine and Robin McKnight, professors at Wellesley College. In the first nine months of the year 29m federal background-checks were submitted for firearms, 84% more than in the same period five years earlier. (Not all background checks correspond to a sale.) First-time gun-buyers waited in queues more reminiscent of rock concerts than retail. On one Saturday in July, the wait to enter the gun show being held at a Dallas convention centre was more than two hours.

America already has the highest per-person rate of gun ownership in the world. It has more guns than people and more mass shootings than any other rich country. But if 2020 was the year of the gun, 2021 will be the year that gun control gets more attention. There are four places to watch.

First is the White House. As president, Donald Trump played to his pro-gun supporters and unwound existing restrictions where he could. Joe Biden, by contrast, will set his sights on gun control. As a senator in the 1990s, Mr Biden helped enact the current federal background-check system, and the assault-weapons ban, which expired in 2004. As president, he has promised to pursue another such ban, although it would be politically contentious. He is more likely to expand universal background-checks by closing loopholes for gun sales and transfers.

Second, pay attention to the Supreme Court. The newest justice, Amy Coney Barrett, could second-guess many long-standing gun-control laws, predicts Adam Winkler, author of "Gun Fight" and a professor at UCLA Law School. For example, she may call into question state laws that ban felons from owning firearms and that remove guns from people who are mentally ill. This is bad news for supporters of gun control. Historically the Supreme Court has been loth to take up new Second Amendment cases—in the spring of 2020 alone it turned down ten—but this will change with Ms Barrett on the bench.

Third, watch the states. Blue states, like California, will push for more restrictive laws, while red states will try to expand people's ability to carry guns without a permit. Americans' views on guns have shifted after so many mass shootings, and this is evident in the unprecedented attention politicians at the state and federal level are giving gun control, says Joseph Sakran, a surgeon and activist.

Fourth, keep an eye on on the National Rifle Association (NRA). A powerful force in American politics, the non-profit group has attacked gun-control efforts in the past but will be under attack itself in 2021. New York's attorney-general has sued the organisation and is trying to shut it down, and the Internal Revenue Service is reportedly investigating the NRA's president for possible tax fraud. This will reverberate in the fight over gun-control policy. No longer does a weaker NRA seem like a long shot.

All change, please

Jon Fasman: Washington correspondent, The Economist, NEW YORK

Cash-strapped cities will need to be nimble in managing distressed public-transport systems

The new normal

THESE DAYS, says Nicole Gelinas, a New York-based writer at a think-tank, working on a book about the history of public transport in her city, “when I ride the subway, I’m tempted to tweet, ‘The subway is great—you should come join me’.” But if everyone is taking the subway, she adds, “we shouldn’t be on the subway.”

Welcome to the paradox of public transport during a pandemic. Buses and subways have never been cleaner; masked, socially distanced riders never more quiet and considerate; and people never more frightened of riding. Ridership bottomed out with declines of more than 80% in New York, Chicago, the San Francisco Bay Area and Washington, DC. To make riding safer, cities innovated with deep cleaning, different routes and changed boarding methods for buses. Some of these innovations will survive and mature into 2021, and change how public transport sustains and shapes American cities—provided that transit agencies can find their way out of the financial pit into which the pandemic shoved them.

Ordinarily, agencies in financial trouble could turn to their regional or state governments for help. But local governments face their own revenue problems, for much the same reason: sharply reduced economic activity leading to a decline in revenue, and increased costs incurred by the need for more frequent and intense cleaning, and the provision of protective equipment for their employees. The federal government provided $25bn to public-transport systems in the CARES Act, enacted in March. That sounds like a lot, but parcelled out among America's hundreds of separate agencies, it was quickly spent. Pat Foye, the chairman of New York's Metropolitan Transportation Authority, which runs the city's buses, subways and commuter rail lines, warns that his agency faces "a hundred-year fiscal tsunami".

Without federal help, agencies may need to reduce service dramatically, resulting in less frequent and more crowded trains and buses—which, in turn, could mean more people choosing to commute by car, worsening gridlock. Service cuts take a long time to reverse, particularly when cities and states are digging themselves out of their own financial holes. Any expansions that looked likely in 2021 will almost certainly be pushed back.

Around 75% of New Yorkers commute by mass transit; a system slowdown will make the entire region less productive. The share of the workforce using public transport is lower in Boston and San Francisco, but shunting those users onto the streets will leave those cities more gridlocked. In Detroit around 7% of workers commute by bus; cuts may lead them to drop out of the workforce.

But covid-19 has also pushed systems to innovate and grow more nimble—and those habits may also endure into 2021. Many cities have rethought the bus-boarding process, for example. Rather than having everyone file in at the front, increasing the amount of time that buses wait at stops and making the system less efficient, some have experimented with all-door boarding.

Public-transport enthusiasts have long cheered dedicated bus lanes—and cities have learned that making them does not require lengthy approval processes and loads of capital: just a few cans of paint and a willingness to experiment. Some of these "pop-up bus lanes" may become permanent as cities take a more nimble, cost-effective approach to public transport in 2021.

An idea whose time has come

Guaranteed-income programmes can tackle inequality and build economic resilience, says Michael Tubbs, mayor of Stockton, California

Poverty and economic insecurity are choices of policy, not individuals

IN MARCH 2020 Tomas Vargas junior lost his job at a commercial airport because of covid-19 and became one of 40m Americans who applied for pandemic unemployment assistance. The money didn't arrive for weeks, but Tomas was able to fall back on the guaranteed income of $500 a month that he'd been receiving since February 2019, as part of an experimental programme I've been piloting in Stockton, California. He spent this unconditional cash on rent, food and bills. Building on this income floor, he gave back to his community, providing free car-repair services to essential workers and donating supplies to the local fire station.

Though Tomas's experience is specific to a once-in-a-generation pandemic, a sudden job loss for any other reason could also have forced him, and a majority of Americans, into eviction, food-bank lines, and crippling debt. Covid-19 has simply laid bare what has always been true: people are working, but the economy isn't. Economic insecurity in America is widespread, and structural racism has maintained racial wealth and income disparities that make it impossible for people to thrive. Tomas's story is one example of how an income floor can build economic resilience.

All of our neighbours are worthy of an economic floor, particularly because emergencies and economic disruption have become the norm. It might be a pandemic today, but it could be a hurricane or fire tomorrow. In the wealthiest country in the world, it is uncivilised for people to be contributing to the economy and their communities and still fall below the poverty line. There is nothing inherently dignified in working two or three jobs, yet still being unable to afford the basics; or to be deemed an "essential worker", but not be entitled to hazard pay, union protection, health insurance or personal protective equipment.

In the 1930s, the last American economic crisis of this scale was met by drastic social reform that brought about significant protection for workers, including the right to unionise and unemployment insurance. But in 2020 we need more. Unemployment insurance is necessary but insufficient, and even full-time employment does not mean economic security anymore. We need a social safety-net that goes beyond conditional benefits tied to employment, that works for everyone and begins to address the call for racial and economic justice.

In 2021 we will change course and build an economy that recognises the universal dignity of all people through a guaranteed income. Rooted in Martin Luther King's economic dream, a guaranteed income—in the form of a monthly cash payment given directly to individuals—embodies government at its best, trusting our constituents and giving them the agency to make the right decisions for themselves and their families.

The Stockton guaranteed-income programme, which started in February 2019, gives 125 residents $500 a month for 24 months. I trusted that recipients would spend the cash as they needed for themselves and their families, and that's exactly what the data have shown—40% of all spending has been on food, 25% on sales and merchandise, 11%

on utilities and less than 2% on tobacco and alcohol. And less than 2% of recipients are unemployed and not looking for work, thus helping to dismantle the malicious and racist tropes that those struggling with economic insecurity will squander money or stop working.

Building on the success of my pilot, in June 2020 I launched Mayors for a Guaranteed Income, a coalition of more than 25 mayors advocating a federal guaranteed income. Mayors have been on the political front lines of not only covid-19, but also the civil unrest that followed the killings of George Floyd, Breonna Taylor and others. Although these protests began in response to police brutality, they are also about the violence of poverty and economic insecurity and continue a conversation we've been having for 400 years: does the inalienable right to life, liberty and the pursuit of happiness truly apply to everyone?

Poverty and economic insecurity are choices of policy, not of individuals. Covid-19 and the global Black Lives Matter protests point to the simple and undeniable truth that we must chart a new path forward—a path that sees and acknowledges the dignity of all of humanity. The coming year beckons for a New Deal that puts poverty and scarcity in a museum and unleashes the degree of well-being and sense of belonging needed to create the beloved community in which we all deserve to live.

The Americas

The Americas

Bolsonaro battles on

Sarah Maslin: Brazil correspondent, The Economist, SÃO PAULO

Covid-19, fires and scandals will not bring down Brazil's president

2021 in brief

Costa Rica aims to generate 100% of its electricity from renewable sources by 2021. It has also extended a moratorium on oil extraction and exploitation from 2021 until the end of 2050

IN 2021 BRAZIL'S president, Jair Bolsonaro, will have to navigate a perilous path to save the economy without sacrificing his popularity. The coronavirus pandemic cemented his reputation as an international pariah. As Brazil's death toll climbed to the second-highest in the world, Mr Bolsonaro told a reporter, "So what?" At home, though, many seem to be getting used to their provocative president. Amid scandals in his family and fires in the rainforest, his approval rating rose.

That is partly because of big spending on poor people, who received 600 reais ($107) a month at the start of the pandemic and 300 reais from September until the end of 2020. This was an about-turn for the liberal economy minister, Paulo Guedes, who had promised to assist Brazil's recovery from a previous recession (2014-16) by slashing spending and red tape. Reforms were delayed to focus on covid-19. In 2021 markets will be less forgiving. Any new spending that does not come with cuts or reforms will push Brazil closer to fiscal insolvency. In 2020 public debt jumped from 76% of GDP to around 95%. A move by Congress to get rid of a federal spending cap imposed in 2016, though unlikely, would cause a crisis of confidence. Mr Guedes could quit.

Yet removing the safety net that was put in place during the pandemic will lead to an increase in poverty and a decrease in Mr Bolsonaro's popularity. With the municipal elections of 2020 out of the way, opposition parties will be turning their attention to the presidential contest in 2022. To avoid being cast as a miser, Mr Bolsonaro will therefore need to balance economic reforms with efforts to shore up his support.

A revamp of the byzantine tax code would reduce the cost of doing business, attract foreign investment and boost employment. Its success depends on chumminess with the *centrão*, a bloc of centre-right parties in Congress that started voting with *bolsonarista* legislators in 2020 (in exchange for the sort of patronage he had previously denounced). Mr Bolsonaro may also seek victories on his ideological agenda: expanding gun access, for example, and weakening environmental enforcement. That would satisfy his conservative base and the "beef, Bible and bullet" lobbies in congress.

The Amazon will suffer further in 2021. Fires will rip through the rainforest and the Pantanal wetlands for the third year in a row. That is the new normal, the result of climate change and rising deforestation. The high price of gold spurred a boom in illegal mining. Mr Bolsonaro's government will push Congress to legalise it on indigenous reserves, but as politicians debate the controversial bill, miners and loggers will invade more land. The few remaining isolated tribes will be further squeezed.

Pressure from international investors may force big beef and soya producers to crack down on deforestation in their supply chains. But Mr Bolsonaro will not adopt a greener tune. Joe Biden, less of a friend than Donald Trump, will criticise Brazil's environmental vandalism, though he will probably stop short of sanctions.

Brazil's Congress will again take the lead on passing ambitious policies. In 2020 these included long-awaited improvements to the regulatory framework for public sanitation, which now allows private-sector investment, and a reform of the main financing mechanism for public education, which will help poorer schools.

Unless Mr Bolsonaro's approval rating collapses, the *centrão* will shield him from dozens of impeachment motions. The presence of two new supreme-court justices, picked by Mr Bolsonaro, will increase his chances of slowing probes investigating him and his sons. Flávio, a senator from Rio de Janeiro, is suspected of money-laundering and connections with organised-crime groups called *milícias*. Carlos and Eduardo, who are also politicians, are under scrutiny for allegedly running an online misinformation network. Mr Bolsonaro faces an investigation in the supreme court for obstruction of justice. It was begun after the justice minister, Sérgio Moro, resigned and accused the president of firing the director of the federal police in order to shield his family.

Despite all the drama, polls suggest that if the presidential election were tomorrow, Mr Bolsonaro would win again. But the path is full of pitfalls, and Brazil is full of surprises. A lot could change by 2022.

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Taking it to the Mexican people

Sarah Birke: incoming Mexico and Central America bureau chief, The Economist

Andrés Manuel López Obrador proposes a referendum on his presidency so far

Mexico's mingler

AMLO may not pay at the polls for his blunders

MEXICO'S POPULIST president, Andrés Manuel López Obrador, has proposed a constitutionally dubious referendum to validate his presidency halfway through its six-year term. He says it could take place alongside mid-term elections in June, when Mexicans will be voting for the 500 seats of the lower house of the national congress and, in almost half the 32 states, for their congresses and governors.

Whether the recall referendum goes ahead or not, the elections could spell trouble for Morena, the party AMLO founded. Mask-free and hug-happy, months into the pandemic, AMLO and his government have badly mishandled it. Mexico entered 2021 trailing only the United States, Brazil and India for the number of deaths from covid-19. (The government admits the official figure may be a gross underestimate.) As children elsewhere returned to school in September, Mexicans started television education.

Mexicans are getting poorer, too. The economy is in its worst slump for 80 years. It probably shrank by at least 10% in 2020; more than 1.1m people lost their jobs between March and June. AMLO, a fiscal conservative, has continued to tout austerity, ignoring advice that he should ride out the covid-19 crisis with spending. Decisions taken before the pandemic hit, such as cancelling a new airport, worth $13bn and already half-built, have led to less investment and more capital flight.

Security is also worsening. In the first six months of 2020 Mexico registered a record 17,349 murders, a 1.7% increase on the same period in 2019—in other locked-down countries, crime fell. In June 2020 Mexicans were rattled by a drug gang's assassination attempt against Mexico City's police chief. It was unusually shocking both for being so brazen and for taking place in a posh area of the capital.

However, AMLO may not pay at the polls for his blunders. His approval rating dropped from 80% at the start of 2020 to around 60% by mid-year, and support for Morena has fallen, too. In May only 19% of people said they would definitely vote for the party in 2021, less than half the proportion in December 2018.

Yet AMLO's appeal, like that of other populists globally, rests more on personality and patrimony than prowess. Many Mexicans see him as one of them: he stops to eat tacos at roadside stalls and mingles with workers. Others see him as their saviour. Many credit him with projects such as the expansion of pensions and training programmes for youth.

AMLO's clean reputation helps. Even his detractors admit that he is not personally corrupt, a rare quality among the country's leaders. That has been conveniently highlighted by a huge continuing corruption scandal in which a former head of the state oil company has made serious accusations against high-level Mexican officials, including three former presidents.

The opposition parties could club together to wound Morena. So AMLO may emerge with less of a mandate and a diminished ability to proceed with his grandiose plan to purge corruption, erase wealth inequality and promote national self-sufficiency—dubbed "a fourth transformation" of Mexico.

One outcome in 2021 is clear: as in many countries around the world, not least Mexico's neighbour to the north, elections have little power to heal divisions amplified by a polarising head of state.

Optimism in the time of covid-19

The pandemic is speeding up social change, says Claudia López, mayor of Bogotá

THE BEGINNING of 2020 looked like the beginning of a great dream for me. After years of struggling, Bogotá gave me the opportunity to be the first woman, the first LGBT person and the first to come from a humble background, outside the elite class, to become mayor of Colombia's capital. I took office and proposed a new social and environmental contract for Bogotá, in which tackling inequality, the climate crisis and the gendered dimension of poverty would become real priorities.

In the following months Bogotá became the stage for public protests. Young people and the middle class took to the streets to express their discontent with the lack of opportunities and the risk of losing modest achievements in social mobility. On January 1st we thought our greatest challenge would be governing in the midst of such discontent while staying true to the platform on which we were elected. But covid-19 came to impose a new order.

Governance became about managing the pandemic. Other gaps became even more visible. The digital gap, for example, where 40% of students in public schools did not have a computer or an internet connection. Or the gender gap, where thousands of women who had managed to free themselves from unpaid care work were forced to stay at home and care for others. In addition to the health consequences of the disease, the worst part of the pandemic has been the social and economic setback, perhaps of a decade, for young people and women, two groups that I proudly represent. It seemed that the pandemic had come to make achieving the new social and environmental contract we proposed in the campaign even more difficult.

We had to take new actions every day. Health had to be managed, deaths prevented, income protected and hunger avoided at all costs. We had to modify government programmes. For example, we went from giving cash transfers to 20,000 households at the beginning of the year to giving a basic income and food aid to 712,000 households in a matter of seven months. We managed to provide internet connections and tablet computers to 124,000 students. We convinced university and higher-education institutions to reduce costs, shorten programmes and make them more flexible so that more people could have a better chance to go back to school, or to enroll for the first time. In short, the pandemic posed new challenges but it was also an opportunity to innovate and make transformative change happen.

The pandemic forced us to put into practice immediately the social and environmental contract we had outlined. It brought new ways of living, working, consuming and commuting—driving us towards a more sustainable city. As well as doubling ICU capacity, we also doubled the share of trips by bicycle in the city. We added 85km of bike lanes to the existing 550km. We pedestrianised streets and improved public space so that restaurants, stores and artists could go back to work. We now have the lowest levels of air pollution in years. An estimated 93% of Bogotá's people use facemasks and most still stay at home as much as possible, even out of lockdown.

Many of these improvements are here to stay. But just as the pandemic accelerated some things, it temporarily suspended others, such as the manifestation of social discontent. That pressure came back with the force of water that has been dammed.

Young people, women and the dissatisfied returned to the streets with problems aggravated by the pandemic.

Eventually citizens will not only take to the streets but to the polls (Colombia's next elections are in 2022). And at the polls we will have to defeat another pandemic: that of populism, which will prey on people's frustration. An authoritarian populism of the left, which is capable of turning what we have built of democracy into ashes; and an authoritarian populism of the right, which is capable of abolishing the higher courts and banning public protests. We need to consolidate democratic change without falling into the hands of passing messiahs who undermine the very institutions that are capable of sustaining the changes we have fought for.

I have more pride and optimism than ever. I have seen the best sides of my city and its people. In 2021 and beyond, we will emerge as better human beings and citizens, and we will achieve something that has been elusive for our country, which we have always strived for: a democracy that delivers a more equal and peaceful society.

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Between the virus and the vote

Michael Reid: Bello columnist; senior editor, Latin America and Spain, The Economist

A battle to revive economies and defend democracy

FOR LATIN AMERICA'S leaders 2021 will be about steering economic recovery while fending off a debt crisis and trying to persuade their citizens that democracy can still deliver results. What are the prospects around the region?

With populations ravaged by covid-19 despite long lockdowns, many countries may have some degree of "herd immunity". But the socio-economic consequences of the pandemic will linger: after economies contracted by 8% or so in 2020, Latin America will have some 40m "new poor", taking those living in poverty to at least one in three of the population. Frustrations will show up in street protests—watch Argentina and Colombia in particular—and the threat of populist victories in elections. Armies may be called upon to play a more prominent role in enforcing order and propping up governments, though many will be reluctant. Even so, democracy, predominant in the region since the 1980s, could succumb in some places. Look out for El Salvador's authoritarian president, Nayib Bukele, in that regard.

In 2021 most countries will struggle to claw back much more than half of the output lost. Recovery will be led by Brazil and some other South American countries. The damage will be greater in Mexico, where investors distrust the president, Andrés Manuel López Obrador. With public debt likely to start the year at over 80% of GDP, Latin America will be pushing for more aid from the IMF. Without it, the region will face recovery-crushing fiscal austerity or a debt crisis, or both.

Presidential elections in **Ecuador** (February), Peru (April) and Chile (November) could see populists winning, though conservatives have a chance, too. In Ecuador, Rafael Correa, a leftist populist who ruled from 2007 to 2017, is barred from running by his conviction in absentia for corruption. He hopes to return via a proxy candidate, Andrés Arauz, a young economist. Mr Arauz faces a tough fight against Guillermo Lasso, a conservative banker, and Yaku Pérez, an indigenous leader. **Peru's** election is wide open and may result in the triumph of a political outsider. In **Chile**, a bulwark of capitalist stability until it was shaken by protests in 2019, the election will take place in parallel with deliberations on a new constitution, which is likely to give a bigger role to the state in health care, education and pensions. The left will mount a strong challenge for the presidency but may lose to Joaquín Lavín, a mildly populist conservative. Mid-term legislative elections in **Argentina** (October) and **Mexico** (June) will provide an important pointer to the strength of the presidencies of Alberto Fernández, a moderate Peronist, and Mr López Obrador.

Will change come at last to Latin America's leftist dictatorships? In **Cuba** the Castro dynasty will formally come to an end after more than 60 years. At a Congress of the ruling Communist Party in April, Raúl Castro (aged 89) will step down as its first secretary, having handed over the country's presidency in 2019 to Miguel Díaz-Canel, a younger party bureaucrat. (Raúl inherited both jobs from his elder brother, Fidel.) Cubans will be watching to see whether Mr Díaz-Canel becomes head of the party too, or whether he will share leadership, and whether the Stalinist or reformist wing of the party comes out on top in the new politburo. The Castros aren't quite finished: Raúl's son, Alejandro, runs the intelligence services.

Nicaragua's dictator, Daniel Ortega, will use an election in November to inaugurate his dynasty, seeking to turn his eccentric wife, Rosario Murillo, into his successor as president. Electoral fraud is guaranteed, and so is a new wave of protests.

Venezuela's political conflict will enter a new phase in 2021. The mandate of Juan Guaidó, the opposition speaker of the National Assembly who is recognised as "interim president" by almost 60 countries, ends in January. Nicolás Maduro, the country's dictator, has divided the opposition. But he has run out of money, thanks partly to American sanctions. Having so far failed to oust Mr Maduro, the United States may negotiate with him to try to achieve a return to democracy. The United States is due to host the ninth summit of the Americas, involving all countries in the hemisphere, at some point in 2021. Venezuela will be at the top of the agenda.

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Asia

Between two giants

Dominic Ziegler: Banyan columnist, The Economist, HONG KONG

South-East Asia finds itself at the centre of the struggle between China and America

2021 in brief

South Korea's defence ministry plans to start building its first aircraft-carrier in 2021, and to acquire fighter jets to operate on it. It is expected to buy American-made F-35B jets, costing about $122m each

NO PART OF the world risks suffering more from the economic, strategic and military rivalry now playing out between the United States and China than the 11 nations of South-East Asia. And that rivalry will intensify in 2021.

On the one hand, many in the region are wary of President Xi Jinping's mission to reclaim for China the centrality it enjoyed in East Asia before the imperial depredations by the West and Japan in the 19th and 20th centuries. It is not just that China is aggressively challenging the maritime and territorial claims of Brunei, Indonesia, Malaysia, the Philippines and Vietnam in the South China Sea, through which the majority of China's seaborne trade passes. It is also that Mr Xi's call for "Asian people to run the affairs of Asia" sounds like code for China running Asia. As a Chinese foreign minister once told a gathering of the ten-country Association of South-East Asian Nations (ASEAN): "China is a big country and [you] are small countries, and that is just a fact."

On the other hand, while ASEAN members welcome America as the dominant military power in the region to counter China's growing heft, they know that conflict would be disastrous for them. South-East Asian diplomats did not loudly cheer the anti-China rhetoric of President Donald Trump's administration, which is unlikely to soften much under Joe Biden. And no wonder. Many of the region's governments are hostile to democracy, and few see America's political model as one to emulate.

Above all, China is too close and already too mighty to turn against. It is by far South-East Asia's biggest trading partner and its second-biggest investor, behind Japan. ASEAN's prosperity is as bound to China as its supply chains are. And as Sebastian Strangio, a perceptive observer of the region, points out in a new book, "In the Dragon's Shadow", South-East Asia has a powerful stake in China's growth and stability: historically, turmoil in China has spread instability southward.

So, how not to get caught between the two giants? The region's strategists remind themselves that, when it comes to great-power rivalry, things have been worse. At the height of the cold war, bloody conflict in Indo-China, along with communist insurgencies elsewhere, threatened to reduce South-East Asian autonomy to zero. Those concerns, and the need for a mechanism to manage their mutual mistrust, were catalysts for Indonesia, Malaysia, the Philippines, Thailand and Singapore to form ASEAN more than 50 years ago. And today? At least, the strategists say, with black humour, China and the United States have not carved up the region between them.

As for 2021, the region's experience in managing great-power rivalry will come to the fore. South-East Asia has lived under China's armpit for millennia, and ASEAN's member countries have dealt with the American presence since the second world war. The approach will be to "hedge, balance and bandwagon" between the two, says Bilahari Kausikan, formerly Singapore's top diplomat. Students of international relations are usually taught that only one of these three approaches is possible at any time. Yet pragmatic South-East Asians, Mr Kausikan argues, have a knack for doing all three. One example in 2021: just as the Philippines under President Rodrigo Duterte will keep wooing Mr Xi over Chinese investment, expect a rapid improvement in once-strained military ties with America. South-East Asia in 2021 will also do more to invite other powers, notably Japan, South Korea, Australia and India, to share in both regional prosperity and security.

Hedging, balancing and bandwagoning rests, admittedly, on one big assumption: that neither America nor China really intends to decouple their two economies entirely. That calculation is probably right, and even if hard-nosed competition and negotiation between the two powers reconfigures global supply chains, South-East Asians still intend to profit from that.

Even so, it is a gamble, and other risks loom. Not the least of them is maintaining ASEAN solidarity—China has already tried to drive a wedge into the organisation by turning Cambodia and Laos, for now, into client states. Mr Xi's increasing claims to speak for all ethnic Chinese overseas, including 30m South-East Asians of Chinese ancestry, raise the risk of nativist demagogues using anti-China feelings to whip up ethnic hatred.

Perhaps the most nail-biting risk of all is of some unintended clash between China and America over the South China Sea. In the event of military conflict, the hedge, the balance and the bandwagon will not get anyone very far at all.

Best of enemies

Charlie McCann: South-East Asia correspondent, The Economist, SINGAPORE

Vietnam has to balance more than most

Vietnam's relationship with China has always been tricky

2021 in brief

Five new sports take their place alongside the other categories at the postponed 2020 Summer Olympics in Tokyo. Athletes will be competing for the first time for medals in karate, skateboarding, surfing, sports climbing and baseball/softball

IN JANUARY 2021 the Communist Party of Vietnam (CPV) will convene its five-yearly meeting, the 13th national congress. The party faithful will rubber-stamp the victor of internal party jockeying to be the new secretary-general. He will then lay out priorities for the coming years.

China will loom large over discussions. Vietnam's relationship with its northern neighbour has always been tricky. In the coming year it will become even more so. China lays claim to a vast swathe of the South China Sea and will encroach upon waters that Vietnam claims as its own—sometimes forcefully, as it did in 2020 when Chinese boats rammed and sank Vietnamese fishing vessels. Such provocations could well bring

Vietnamese people out onto the streets, evoking memories of mass protests in 2014 and 2018, when anti-Chinese sentiment produced a spasm of rioting.

Public outrage over Chinese provocations will ensure that the government, on the surface, maintains a frosty attitude towards China. But Vietnam will not want to make an enemy of the superpower, says Carlyle Thayer of the University of New South Wales. There are few remaining communist countries to keep Vietnam company, and ties between the CPV and its Chinese counterpart run deep. More importantly, the economies of the two countries are ever more tightly entwined. China is Vietnam's largest trading partner, its biggest source of imports and the destination of most of its exports. What is more, says Tuong Vu of the University of Oregon, the CPV fears a confrontation with China.

The new leadership will therefore keep on hedging. This will mean deepening trade links with China in order to promote economic development, while also attempting to counter Chinese advances in the South China Sea by cultivating ties with America.

The two favourites for the top spot are Tran Quoc Vuong, head of the party secretariat and a loyalist of the current secretary-general, and Nguyen Xuan Phuc, the prime minister. Though both are dyed-in-the-wool communists, for whom party control will remain the priority, whoever wins will also need to be a dyed-in-the-wool pragmatist.

He will have to talk tough on China to keep domestic anti-Chinese sentiment under control, while resisting the entreaties of a faction within the party that wants to pivot more rapidly towards America. Showing China that this trans-Pacific relationship is growing stronger by, for instance, allowing more port visits by American warships would strengthen his hand. But in the end, Vietnamese leaders know that China will always be there and, in the long term, America might not.

Unlucky for some

Eleanor Whitehead: Australia and New Zealand correspondent, The Economist, SYDNEY

The fallout from Australia's first slump in 28 years

AUSTRALIA WILL be down on its famous luck in 2021. Its unbeaten run of recent economic growth—a record 28 years without a recession—made its people, on average, the second-wealthiest in the world. But the pandemic has brought that stretch to an unexpected end. As the country claws its way out of recession, Australians face a punishing year.

The government expects an unemployment rate of 8% as the new year dawns. By March, a wage-subsidy scheme, which has helped preserve 3.5m jobs, is due to dry up. Australia has closed its international borders in an effort to keep out the coronavirus, locking out the immigrants who normally help power its economy.

This sets the stage for a debate about the prosperity that has come so easily to Australia for so long. China has recently been the source of most of it. It gobbles up more of what Australia produces than any other country: almost 40% of its exported goods, in all. China is also the biggest supplier of tourists—1.4m of them in 2019—and foreign fee-paying students, accounting for 13% of all enrolments at Australia's largest universities.

Difficult adjustments await in 2021. The two countries are fighting over everything from the Beijing government's response to covid-19 to Australia's participation in naval exercises in the Indian Ocean. The list of Aussie exports boycotted by China grows longer by the month. Having banned beef from several big abattoirs and whacked tariffs on barley, it has ordered factories to stop buying Australian cotton, and threatened a catalogue of other goods, from timber to wine to lobster.

Those who play down the risks of Oz's exposure have always claimed that China cannot readily replace the vast supplies of Australian resources that fire its industrial revolution. Yet lately Chinese importers have been turning away Australian coal as well. Australia depends far more on China than the other way around. If the bigger country wants to play the bully, it has plenty of room to make the smaller one squirm economically, while hardly feeling a pinch at home. At stake is not only Australia's prosperity but the very assumption that has informed its place in the modern world: that it can rely on China to drive its economy while retaining America as its most important military and diplomatic ally.

At the same time, Australians are increasingly concerned about outsiders (and one in particular) meddling in their democracy. Politicians are seeking new powers to prevent such "foreign" interference, and want to air grievances about China's military expansionism and infringements of human rights. That leaves them facing uncomfortable choices.

In the year ahead Australians will have to work with other like-minded countries to stand up to their biggest trading partner. The harder line will spur vigorous debate about how much that will cost their lucky country—and where it should seek its fortune in the future.

Staying power

Noah Sneider: Tokyo bureau chief, The Economist, TOKYO

Japan's new leader faces electoral and other tests

Just add Suga

BETWEEN 1990 and 2012, Japan had 15 prime ministers. When Abe Shinzo took the job in 2012, few believed he would last much longer than the average of less than two years—indeed, his first stint in office in 2006 ended after just one. Yet when Mr Abe resigned because of ill health in September 2020, his term had lasted a record 2,822 days.

Suga Yoshihide, Mr Abe's loyal lieutenant, replaced him, promising continuity and stability. The ruling Liberal Democratic Party (LDP) elected Mr Suga in an emergency vote to serve out the remainder of Mr Abe's term. A full contest for the next three-year term as party leader, scheduled for September 2021, will indicate whether the LDP is back to its revolving-door ways. The public will have a chance to register its verdict on the party's post-Abe direction in a nationwide Diet election in October (or earlier in the year, if Mr Suga dissolves the parliament ahead of schedule, as many expect he will).

Although Mr Suga at first seemed to be a caretaker candidate, he will try to stick around. (Career politicians tend not to cede the top job willingly, even those like Mr Suga who prefer to operate in the shadows.) Voters appear ready to give him a chance: though less than 10% of Japanese named him as their preferred successor in polls taken before Mr Abe's resignation, support for his new administration began at nearly 70%.

Mr Suga will need to demonstrate quick results in difficult conditions. Covid-19 will remain a drag on Japan's economy, which had already fallen into recession before the pandemic hit. In the second quarter of 2020, GDP contracted by 28.1% compared with the previous year, the steepest drop on record. It will struggle to make up the lost ground. Amid sluggish demand the old menace, deflation, will haunt it again in 2021. The Olympic games could provide a boost—if the Japanese government and the International Olympic Committee can work out how to hold them safely.

Foreign-policy challenges will be no less daunting. Mr Abe made diplomacy a priority, using more than 80 overseas trips to forge close relationships with other leaders. Mr Suga will have to build his own credibility on the world stage, at a time when opportunities for personal contacts are limited. His first test will be to strike a new deal with America on host-nation support, the logistics agreement that undergirds the two countries' security alliance and stationing of 50,000 American troops (the current deal runs out in March 2021).

Yet the pandemic's disruption could also help some of Mr Suga's most prized reforms. He has promised to create a new digital agency to push the modernisation of Japan's archaic government services. In 2021 the *hanko*, a personal seal used on official documents, will become a harmless relic, rather than an essential tool of doing business. So too, with any luck, will the fax machine.

If he can stabilise the economy and contain the virus, Mr Suga may be able to sew up the LDP election by securing the support of the party's faction bosses before the vote even takes place, much as he did after Mr Abe's resignation. But if Mr Suga looks wobbly as a leader, an all-out war for the l LDP's presidency will break out.

Plenty of ambitious politicians are itching for a turn after Mr Abe's long tenure. Ishiba Shigeru, a former defence minister whom Mr Suga defeated in 2020, may resume his crusade; he will have a better shot in a regular election that includes the party's rank-and-file. Kono Taro, a Georgetown-educated former defence and foreign minister currently overseeing administrative reform, could emerge as the next-generation candidate (at 57, he is young for the seniority-minded LDP). Noda Seiko, one of a mere handful of women in senior LDP jobs, wants to become Japan's first female prime minister. Whoever triumphs will find winning the election easy compared with staying in office.

An Afghan mess

Daniel Knowles: international correspondent, The Economist

Will the Taliban get back into government?

Talking to the enemy

A bleak sort of peace may be possible

THE AMERICAN withdrawal from Afghanistan will not have a Saigon-style moment, with helicopters ferrying people out of its embassy as the Taliban encroach on Kabul. Yet 2020 was the year in which the war, at least as far as America is concerned, began to reach its end. In February President Donald Trump's administration signed a deal with the Taliban to withdraw American troops. In exchange, the militants promised to start talking to the internationally recognised Afghan government, which in turn was forced to release some 5,000 Taliban prisoners. By the end of the year the number of American soldiers in the country had dropped to fewer than 5,000. That is just about enough to ensure the security of international organisations' headquarters in Kabul, but not much more.

Does this mean that peace is about to come to a country that has known war since the Soviet invasion in the late 1970s? Sadly, that is less clear. Nobody really has a clue what

2021 will look like, says Ashley Jackson, a researcher at the Overseas Development Institute, a think-tank in London. The American withdrawal leaves behind a mess. But one thing seems likely: two decades after being pushed out of Kabul by a coalition of NATO and the rebels of the Northern Alliance, the Taliban have a good chance of returning to power. The question is what sort of a government they will join.

Talks were meant to start in March; eventually they kicked off in September in Qatar but they have moved slowly, and been dominated by arguments over protocols. The government wants the Taliban to agree to a ceasefire before moving on, but that seems unlikely. Afghanistan's government has rarely looked more feeble. Its army, never exactly effective, is much weaker now that it is deprived of American air support. The Taliban have forsaken spectacular attacks on American targets, but stepped up targeted assassinations of Afghan government officials. They have entrenched their control of some major roads, on which they collect tolls. As the siege of Kabul deepens, the government's negotiating power slips away.

The Taliban have contradictory goals. What they clearly want is to be the dominant force in a new government—an Islamic emirate, not constrained by the constitution written after the invasion of 2001. But they also seem to want the international aid on which Afghanistan survives. So a bleak sort of peace might be possible. The trouble for Ashraf Ghani, the president since 2014, is that this would mean in essence dissolving his administration in order to form a government with his former enemies. Having come to power promising to fix the failed Afghan state, he would find that a bitter pill to swallow. Whether or not he is willing to do so may prove the most important question of the coming year.

Pre-existing condition

Tom Easton: South Asia business and finance editor, The Economist

India's economy was ill before the coronavirus crisis—and will still be unwell when it has passed

AS INDIA'S PRIME MINISTER, Narendra Modi, likes to say, now should be India's moment. The West's disputes with China mean that trillion-dollar supply chains are up for grabs. India has the abundant land mass needed for manufacturing, the long coastlines needed for shipping, the millions of under-employed young people needed for labour and a vast pool of software engineers, all of which should make it a worthy alternative to the vexing communist state to its north, or at the very least a complement.

But even before the spread of covid-19 crushed India's economy, conditions were deteriorating as companies found its virtues more evident in theory than reality. GDP growth has been declining since 2016, and investment since 2018. Annual vehicle sales reported in March 2020 (ie, almost entirely pre-lockdown) were lower than they had been a year earlier. As the Centre for Monitoring Indian Economy, an independent research firm, put it, industrial production went "from down to downer".

Inevitably, there will be a rebound. Economists have begun suggesting the possibility of a slight contraction in GDP during the first half of 2021, tempered by a sharp increase in the latter half of the year, assuming a catch-up for lost sales. Privately, many speculate about a multi-year decline.

Years of bad financial management mean the government's accounts were stretched pre-covid, but disguised by fanciful expectations for tax receipts and windfalls from the divestment of government-controlled entities. Even previously plausible expectations are unfeasible now. Tax collections have tanked; nothing has been divested. Deficits, already huge, will swell even without further demands, which could arise from large-scale vaccinations and recapitalisation of the banking system.

The repeated delay of a necessary clean-up of government-controlled banks meant the financial system entered the crisis in bad shape. Things have got worse as emergency rules have allowed companies to defer repayments and banks to pretend they were being made whole. At the same time, inflation, fed in part by the cash-starved government's levies on petrol, has been rising, adding to borrowing costs. The challenge for 2021 will be to manage a national bail-out with money that (unlike richer countries) India cannot print cheaply.

Mr Modi has been on a global tour to attract needed foreign investment. The reaction has been public enthusiasm but private reluctance. There have been exceptions. Some overseas funds have taken minority stakes in banks and existing assets with strong franchises, such as Delhi's airport. Money has been flooding into Reliance Industries, India's biggest company, and (in far smaller amounts) into Adani Group, another conglomerate. Each has the great talent of being able to navigate the country's mercurial regulators and courts. The billions of dollars poured into these investments by Facebook, Google, and a host of private-equity giants, sovereign-wealth funds and multinational companies were hailed by the local press as expressions of confidence in India Inc. But they may be just the opposite. After years of trying to make it on their own, with decidedly mixed results, many foreign firms have concluded that the only way to get ahead in India is to team up with a well-connected local conglomerate.

For India to rebound, broad investment must recover and for that, foreign businesses must be persuaded that the deck is not stacked against them. There will be some exceptions: Apple, for example, is scaling up smartphone production in India, both to diversify away from China and to avoid import tariffs that push up its prices. Much of the investment Mr Modi is hoping for, however, will head to Bangladesh, Vietnam and other developing countries with more tolerable business environments.

Given these difficulties, a genuine economic crisis in India would hardly be a surprise. Credit-rating agencies debated downgrading India's sovereign debt to junk in 2020, but decided to wait and see if its prior high rates of growth will return. Though a downgrade would not mean much in itself—India has little foreign debt—it would shake already fragile confidence. Multiple financial institutions have failed over the past two years.

All is not lost. In August a returnee to the largely closed building in Mumbai that houses *The Economist*'s local office was delighted to be greeted outside by the familiar bookseller, phone repairman and *chaiwallah* (tea-seller), who were eager to resume business, plague and monsoon notwithstanding. They are part of a vast informal economy—responsible for perhaps 80% of India's employment and half its GDP—in which resilient entrepreneurism thrives, beyond the government's asphyxiating grip. It will keep India going in 2021.

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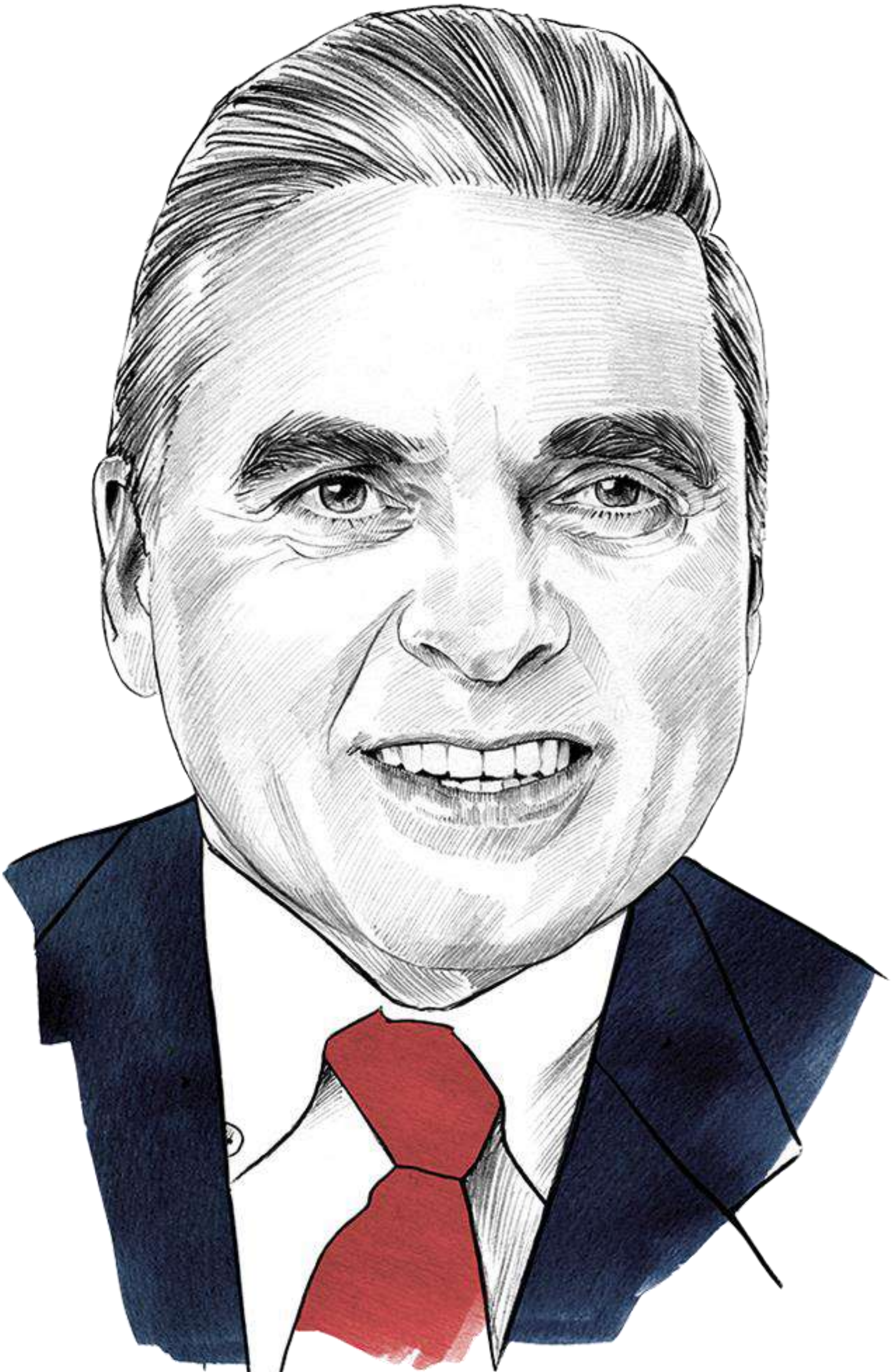
The dawn of the Asian century



The West’s incompetent response to the pandemic will hasten the power-shift to East Asia, argues Kishore Mahbubani of the Asia Research Institute, National University of Singapore

East Asian countries’ far lower death rates offer a lesson to all

HISTORY HAS turned a corner. The era of Western domination is ending. The resurgence of Asia in world affairs and the global economy, which was happening before the emergence of covid-19, will be cemented in a new world order after the crisis. The deference to Western societies, which was the norm in the 19th and 20th centuries, will be replaced by a growing respect and admiration for East Asian ones. The phrase has been bandied around for a while, but the pandemic could mark the real start of an Asian century.

The crisis highlights the contrast between the competent responses of East Asian governments (notably China, Singapore, South Korea and Taiwan) and the incompetent responses of Western governments (such as America, Britain, France and Spain). The far lower death rates suffered by East Asian countries offer a lesson to all. They reflect not just medical capabilities, but also the quality of governance and the cultural confidence of their societies.

What has shocked many in Asia is the reluctance of some Western governments to allow science and basic epidemiological modelling to determine sensible policy responses. After its initial cover-up of the outbreak in Wuhan (which was clearly disastrous), China firmly deployed good science and robust public-policy measures to break the back of the problem. It responsibly released the genetic data as soon as Chinese scientists sequenced the virus’s genome in January.

A half-century ago, had a similar global pandemic broken out, the West would have handled it well and the developing countries of East Asia would have suffered. Today the quality of governance in the region sets the global standard. The result is that the post-covid-19 world will be one in which other countries look to East Asia as a role model, not only for how to handle a pandemic but how to govern in general.

Clearly there are sharp differences between the communist system of China and the societies of Japan, Singapore, South Korea and Taiwan. Yet one feature they have in common is a belief in strong government institutions run by the best and the brightest. This emphasis on meritocracy also has deep roots in Confucian culture. The entry bar to the Chinese Communist Party is set very high: only the top graduating students are admitted. Equally importantly, the rising levels of competent governance are both fuelled by, and contribute to, rising levels of cultural confidence. All this is gradually eroding the deference to the West that used to be the norm in Asia.

Taken together, the competence and confidence of East Asia will reshape the world order. It has already begun. Twenty years ago, no Chinese national ran any UN organisation. Today they oversee four. If the International Monetary Fund and World Bank remain bastions of Western power, insisting that only Europeans and Americans can run the shop, they will gradually lose their credibility unless they allow Asians (as well as Africans and Latin Americans) to manage them.

To maintain its role and its respect, America will have to demonstrate remarkable diplomatic dexterity. Yet its foreign service has never been more demoralised, at a time when its Chinese counterpart has never been more confident. All is not lost for America. In South-East Asia, for example, there remain huge reservoirs of goodwill after many years of American engagement, which its diplomats can tap.

As China's weight in global affairs grows, it will have to take on greater responsibilities. America has increasingly walked away from the family of UN institutions. China has not, and may use its new confidence to take on a larger role. For example, before the pandemic the World Health Organisation had been weakened by an effort led by the West, starting in the 1970s, to reduce member states' funding obligations, so that the majority (80%) of its budget now comes from voluntary contributions. China could demonstrate global leadership by calling for the restoration of mandatory funding to its earlier level of around 60%.

That would be just a start. The world after the crisis may see a hobbled West and a bolder China. We can expect that China will use its power. Paradoxically, a China-led order could turn out to be a more "democratic" one. China does not want to export its model. It can live with a diverse, multi-polar world. The coming Asian century need not be uncomfortable for the West or the rest of the world.

China

China

Still a contender

David Rennie: Beijing bureau chief, The Economist, BEIJING

The Biden administration will try to box clever on China

> Universal Studios Beijing opens to the public in May. The theme park is expected to receive more than 10m visitors annually. Its special features include the Kung-Fu Panda Land of Awesomeness

FOR FOUR years, Chinese officials have grumbled that President Donald Trump is an unpredictable bully, sometimes guided by his own selfish interests but at other moments by advisers who hate the Communist Party. A leaked diplomatic note quoted China's Communist Party chief, Xi Jinping, complaining to European visitors that relations with America resemble a "no-rules boxing match". The team around President-elect Joe Biden wants the contest to become at once more orderly, less overtly ideological and more challenging for China. As if planning the comeback of a heavyweight champion, incoming Democrats want to see a fitter, smarter America pick fights with China more carefully, then train hard to win each one.

A wary China will try to ease tensions but has no illusions about a full reset of relations. There will be no return to the days before 2016, when American presidents of both parties argued that engagement might lead China to open its economy—and perhaps its society—to the world. Instead, Mr Biden will level a different criticism at Mr Trump: that in swinging too wildly at the assertive China of the Xi era, he failed to land decisive blows.

Disappointment awaits business bosses who hope to see Mr Biden rush to cancel, wholesale, the tariffs that Mr Trump imposed on two-thirds of imports from China. Nor will Mr Biden instantly unwind all the export controls and investment curbs that the Trump administration slapped on Chinese technology firms. Mr Biden must deal with Chinese leaders sure that America is bent on keeping China down, making a great-power contest inevitable. To maintain leverage he has an interest in dismantling Mr Trump's trade barriers only cautiously.

Mr Biden will at times sound positively Trumpian when he talks about the need for reciprocity in dealings with China, and about bringing manufacturing jobs back to America, with industrial policies and "Buy America" rules to support domestic firms if necessary. Though he often supported free-trade agreements during four decades in the Senate, he leads a Democratic Party more sceptical than ever of globalisation. As vice-president, Mr Biden was a cheerleader for free-trade alliances designed to counter China's mercantilist ways, such as the Trans-Pacific Partnership. As president, Mr Biden will not rush into any such pacts.

China will find some changes reassuring. The Biden White House will be staffed by mainstream economists who believe that trade tariffs are mostly self-defeating, and who see grave risks in using the dollar-denominated financial system as a tool to hold China down—a gambit that appealed to some senior Trump aides. The door of the Biden Oval Office will be more open to tech bosses from Silicon Valley. They will plead with the government to be much more selective about declaring that certain high-tech products and supply chains are a threat to national security, and must not involve China.

Still, some things about a tech-savvy Biden administration will make life harder for China. The president will call for America to retain primacy over China in foundational technologies of the future, from artificial intelligence to quantum computing, with the help of massive investments in basic science. He will be less alarmed by apps such as TikTok, a Chinese-created digital platform on which teenagers film their dance moves. He will be more likely than Mr Trump to welcome Chinese students to American universities, saying that he trusts the fbi to spot the small number sent to steal secrets. A more open America is a mixed blessing for Chinese officials trying to get talented researchers to come home.

In private, Chinese officials openly admit that they liked Mr Trump's lack of interest in human rights or liberal democratic values. They know that will change. Notably, Biden advisers have said that their boss sees a worrying divide opening between techno-democracies, which use digital tools to expand freedoms, and a techno-authoritarian bloc led by China. Even if Mr Biden were minded to be cautious, Congress will demand sanctions over China's crushing of civil liberties in Hong Kong, and over the forced "re-education" of Muslim Uyghurs in the far-western region of Xinjiang.

Mr Biden will tread carefully regarding the democratic island of Taiwan. He will preserve a decades-old balancing act in which America uses its armed forces to deter China from trying to invade the island, while reassuring Chinese leaders that America will not encourage a formal declaration of independence by Taiwan.

In a big change, Mr Biden will seek China's help with global problems that Mr Trump mocked, such as climate change, or preferred to tackle alone, such as developing covid-19 treatments. Mr Biden may ask China to join him in reviving the nuclear pact that Barack Obama signed with Iran and leading world powers, before Mr Trump disowned it. Olive-branches to China will be denounced by Republicans, particularly those with eyes on 2024.

Finally, America will be back in the business of coalition-building, or at least picking fewer fights with its allies. Mr Biden wants friends in his corner as he squares off against China. Rules or no, a tough contest looms.

The road to health?

Dominic Ziegler: Banyan columnist, The Economist, HONG KONG

Vaccine diplomacy will give China a makeover

If you have not heard of China's "health Silk Road", you will soon

FOR MUCH of 2020 sceptics of China's Belt and Road Initiative (BRI) called it overhyped and overextended. President Xi Jinping's signature foreign policy is a mix of economic engagement, diplomacy and canny branding. He intended it to seize the historical moment, as American leadership stumbled, to shape a world order more to China's liking. The estimated cost of improving global infrastructure, a skein of metaphorical Silk Roads encircling the world by land and (even more) by sea, rose to $6trn.

The claims made for and against the BRI were exaggerated. China said it was showing countries the way towards a new and transformational kind of development. Critics in America said China was exporting its dystopian authoritarianism and deliberately entrapping poor countries through debt. Yet the shine was coming off the BRI even before the coronavirus pandemic caused global growth to slow sharply.

The flagship project was the China Pakistan Economic Corridor (CPEC), with investments and loans said to be worth $60bn. It has produced a few badly needed power stations, but has broadly fallen short. Projects are mothballed and debts are being renegotiated. CPEC paid little heed to Pakistan's precarious fiscal and balance-of-payments position, or to its thorny politics. Almost none of the promised industrial co-operation will happen. Far from transforming the relationship, CPEC has laid bare its limitations.

Elsewhere, from Malaysia to Sri Lanka to the Maldives, the sheer scale of China's economic activities, and its coddling of corrupt leaders, have bred local resentment. That, says Andrew Small of the German Marshall Fund of the United States, a Washington think-tank, has undermined China's economic and strategic goals. The pandemic has only made things worse. Around the world, though usually out of sight, China is having to roll over debts and ease the terms of many loans. In 2021 the Chinese-led Asian Infrastructure Investment Bank will report more bad loans and even face talk of its credit being downgraded. With lending cut back sharply, Chinese infrastructure projects in poorer countries will be less prominent.

Yet reports of the BRI's death from covid-19 are exaggerated, says Eyck Freymann, author of a new book on the project. In the first half of 2021 it will get a big boost. If you have not heard of China's "health Silk Road", you will soon. Think vaccine diplomacy.

China has already approved three vaccines for emergency use. With clinical trials under way in Brazil and Pakistan, they may beat Western ones to market. They will also, says Mr Freymann, be cheaper. An American vaccine, made by Moderna, could cost over $70 per treatment, more than developing countries can afford at scale. China is already pushing one of its vaccines to BRI partners such as Mexico and the Philippines, along with help to pay for it. There are regulatory and logistical challenges, and the vaccines themselves may not prove to be effective. But Mr Xi hopes to help China escape its reputation as a predatory lender, and as the source of the coronavirus itself, as he takes credit for helping grateful countries along the Belt and Road.

Party of the century

James Miles: China editor, The Economist

The Communist Party will celebrate its centenary. Some of those years it would prefer to forget

Happy birthday?

IN 2021 THE Chinese Communist Party will not let anyone forget whose special birthday it is. On July 1st it will officially mark a century since its hugger-mugger founding in what was then Shanghai's French Concession and is now a trendy shopping district. But the whole year will be dominated by reminders.

There will be operas, films and nearly 100 tie-in television dramas. Few official speeches will fail to mention the anniversary. During 2020 the Communist Party dealt crushing blows to two things that might have spoiled the centenary celebration: covid-19 and unrest in Hong Kong. By the start of 2021 it will also have declared an end to extreme poverty and the creation of a "moderately prosperous society in all respects". The party will be in a triumphant mood.

It was Mao Zedong who decided that July 1st 1921 was the day of the party's founding. The actual date, July 23rd, had been forgotten by the time he seized on its significance while the party was holed up in caves in north-western China in the late 1930s, a decade before it took control of the country. In the build-up to the anniversary, one of the world's largest political parties has been instructing its 90m members to brush up on their knowledge of the party's past—not necessarily that particular detail (though it acknowledges the mix-up about dates), but the broad sweep of events relating to its rise and more than seven decades in power.

Officials call it the "four histories"—of the party, of Communist rule in China, of "reform and opening", and of the development of socialism. By ensuring that all party members have the same understanding of these histories, the party hopes to keep them in ideological line with Xi Jinping, the country's leader.

Mr Xi worries about what he calls "historical nihilism": a tendency that was once evident among China's liberals (though few dare raise their heads these days) to dwell on negative aspects of the party's history, especially during Mao's brutal rule. Study of the four histories is intended to ensure that no such nihilism mars the party's birthday. Instead, the idea is that only one lesson can be drawn from the party's past century, and that is an uplifting one.

There is an app to help, called "Study the Great Nation". Since 2019 the party has been using it to ensure ideological conformity, requiring all officials to log on frequently, study its articles on Xi Jinping Thought and answer questions about them (slackers beware: usage time is monitored). The four histories have become part of its output. In Shanghai students and bureaucrats have been taking part in reading "marathons": competitions to digest as many works as possible on party history over days, weeks or months.

Amnesia also helps. Mr Xi is in no mood to revive the atmosphere of 1981 in the build-up to the party's 60th birthday—the first big celebration of the party's founding since the death of Mao in 1976 and Deng Xiaoping's launch of reform and opening two years after. Far from avoiding the horrors of Mao's rule, the party confronted some of them head-on.

On July 1st that year the party's mouthpiece, the *People's Daily*, published a lengthy speech by the party chief, Hu Yaobang, marking the anniversary. It also published the text of a resolution by the party on "certain questions" relating to its own history. Both were laced with criticisms of Mao and particularly of the "serious mistake" he had made by launching the decade-long Cultural Revolution.

Any discussion of the horrors of that period is now all but banned. Soon after he came to power Mr Xi said that the achievements of the reform era could not be used as a way of negating what had come before. In 2021 it is unlikely that, during all the hoopla surrounding the anniversary, the party will recall Mr Hu's warning in his speech 40 years ago that the reason the Cultural Revolution continued for so long was Mao's arrogation of absolute power ("the destruction of collective leadership", as Mr Hu put it).

Many observers expect Mr Xi to maintain his no-less-absolute grip beyond 2022, when, by usual convention, he would be expected to step down. He will not want to encourage historical comparisons.

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Brave old world

Simon Cox emerging markets editor, The Economist, HONG KONG

For China's economy, 2021 will seem strangely familiar

Things are picking up

2021 in brief

Several major new buildings open in Shanghai: a new Astronomy Museum, with the world's largest planetarium; the modernist Shanghai Library East, hosting 6,000 reading seats and 4.8m books; and Pudong Football Stadium, the first in China to be designed to FIFA standards, with a capacity of 34,000

CHINA'S ECONOMY will be about as big in 2021 as everyone in 2019 expected it would be. Let that claim sink in for a moment. It amounts to saying that China's economic output will be as voluminous as it would have been had the coronavirus pandemic never happened. That is not even an especially bold prediction. It is only a little above the consensus. It is no less impressive for that.

Everyone expects China's growth in 2021 to be unusually fast. A rate of 8% would surprise no one. Some reputable economists think it could top 9%. This brief return to the growth rates of an earlier era is not in itself all that remarkable. Most economies bouncing back from the covid-19 pandemic in 2021 are likely to expand at uncharacteristic speed, having shrunk at an unprecedented pace the year before. What sets China apart is that it will also manage to have grown, albeit modestly, in 2020.

The prompt recovery means that China's GDP for 2021 will be within touching distance of pre-pandemic predictions. Back in December 2019, for example, The Economist Intelligence Unit forecast that China's GDP would be about $15.8trn in 2021. Now it is predicting it will be a little more than that (thanks in part to a weaker dollar).

No other big economy will recover as thoroughly, including those that have handled covid-19 relatively well. Japan, for example, will fall short, as will Germany. Indeed, China's economy may well overtake the combined GDP of the European Union in 2021 or thereabouts.

China's recovery has not, of course, been well balanced or evenly spread. It was helped by exports, which have captured a record share of the global market. Hot items include masks and sanitisers to satisfy the global demand for personal protection, and televisions and consumer electronics to meet the global demand for personal distraction.

Investment, especially in infrastructure and property, also contributed, supported by strong credit growth. In August 2020 China State Railway said it would link every city with at least half a million people to the country's high-speed network, almost doubling it in size by 2035. Household spending, by contrast, has lagged. Private consumption will make a smaller contribution to China's growth in 2020 and 2021 than investment will. The last time that happened was 2015.

An unbalanced recovery is better than no recovery at all. But China's growth pattern will nonetheless create some headaches for the country's policymakers in 2021. It has set back their gradual efforts to wean the country off its dependence on investment spending. And it has reversed some of the progress of its "deleveraging" campaign, which briefly succeeded in stabilising China's debt, relative to the size of its economy.

When the deleveraging campaign was introduced in earnest in 2016, a Communist Party insider, identified only as an "authoritative person", explained its logic in an interview with the *People's Daily*, a party newspaper. The insider complained that China's stability relied on the "old method" of investment stimulus, and pointed out that "a tree cannot grow to the sky" to justify the government's efforts to prune China's debts before too many decayed limbs came crashing down. Do not be surprised if the same authoritative person makes another appearance in 2021. China's policymakers need to become reacquainted with how to rebalance and deleverage the economy without killing growth.

For most economies, the pandemic has ushered in a tentative new world, marked by fragile recoveries, uncharted policies and up-in-the-air business models. But in China, things are different. The virus has instead returned the economy to a familiar policy juncture. Just as its GDP figure for 2021 would not surprise anyone who had slept through the past year, so the policymaking dilemmas it is facing would not surprise anyone who had slept through the past five.

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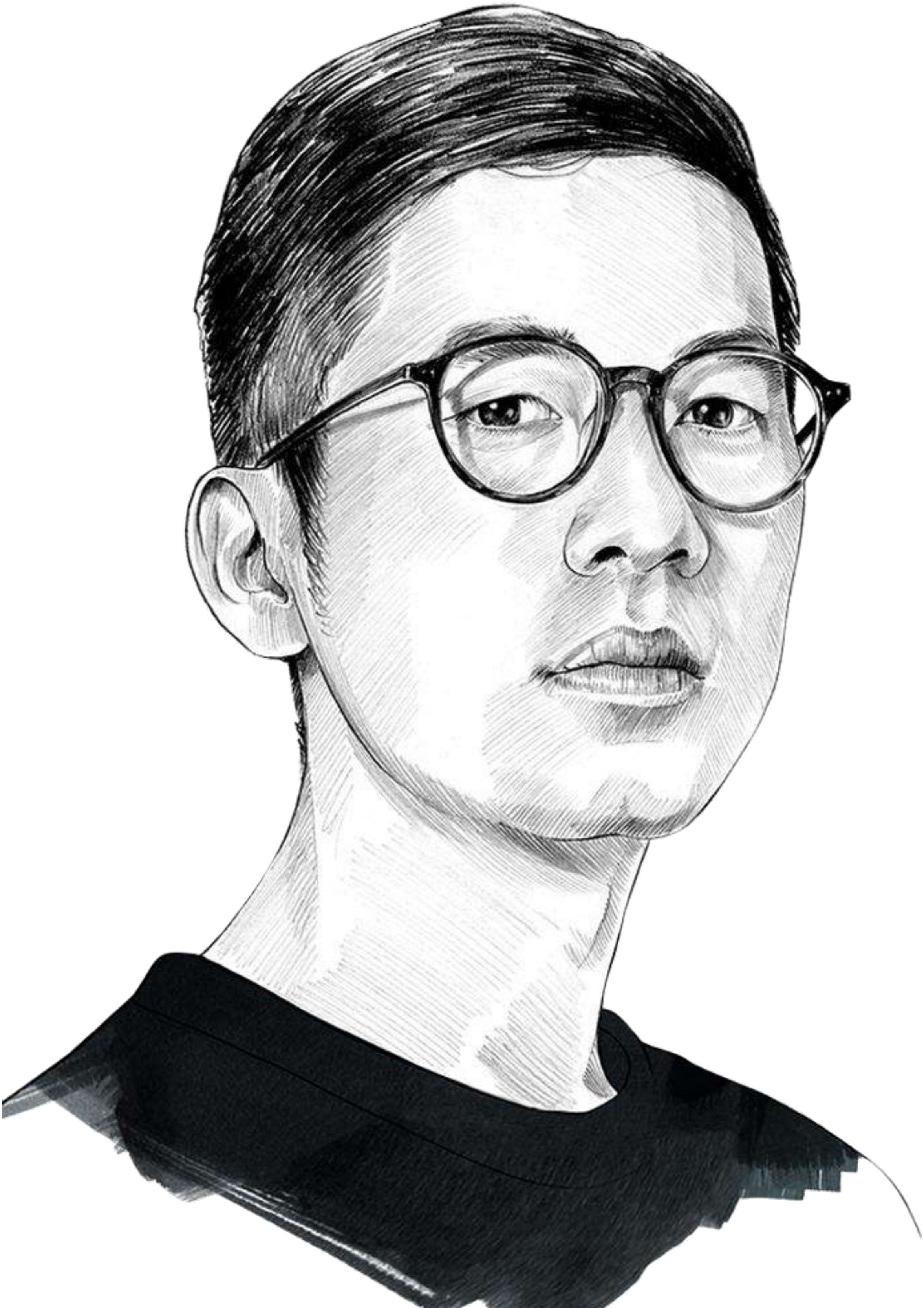
The battle goes on



Countries must unite to face down China's growing autocracy, says Nathan Law, pro-democracy activist from Hong Kong

Hong Kongers will not let their spirits be crushed

THE PANDEMIC of 2020 ensured that a lot of other important news was buried. That made it the perfect time for the Chinese Communist Party (CCP) to act. On June 30th it implemented a new national security law (NSL) in Hong Kong, which in effect ended the "one country, two systems" political settlement that protected British colonial-era freedoms when the territory reverted to Chinese rule in 1997.

The new law has changed the fabric and mood of one of the world's great cities, and poses a deadly threat to this centre of international finance. It also showed that the CCP will stop at nothing to enforce its coercive control over every corner of its territory. Its actions in Xinjiang and Tibet have reinforced the point. In 2021 we can expect this heavy-handed approach to continue.

China views civil liberties and human rights as an existential threat. It knows they can lead to political challenges, as shown by its opposition to months of protests in support of such freedoms on the streets of Hong Kong. The CCP is also driven by the economic problems China is facing at home, and the fear of instability they could bring. China's economic performance has long been regarded as a source of legitimacy and stability. But the pandemic has dealt this a blow, with a looming debt crisis, uneven recovery, growing income gaps and rising unemployment rate. China's growth model and wealth-distribution system may fail to generate sufficient economic power to keep the country going on the current path. Internal dissent is increasing.

Amid this insecurity, the government in Beijing resorts to nationalist narratives and further repression to force adherence to the party line and to divert public attention. The "wolf-warrior" diplomacy adopted under President Xi Jinping's leadership is an example of this shift, trying to drum up nationalistic pride to replace decreasing confidence in the party. Vocal critics have been quashed on the mainland, as they have now been in Hong Kong. Ren Zhiqiang, a successful businessman, was recently sentenced to 18 years in prison after criticising Mr Xi. The repression on the periphery, especially the internment of hundreds of thousands of ethnic Uyghurs in camps in the north-western region of Xinjiang, is the most notorious of all.

Yet repression only creates more resistance, which makes regional instability persist. Coercion will continue, but it comes at a cost to ordinary Chinese citizens. Like Hong Kongers, many mainland Chinese are keeping up their resistance, even if they are not able to do so openly on the streets.

Meanwhile, in Hong Kong, the clampdown has clearly had an effect, as people have cleared the streets for fear of the NSL. My former colleague, Joshua Wong, was arrested in September for participating in "unauthorised assembly". The CCP is influencing Hong Kong's once independent legal system and allowing unchecked police violence, paving the way for a broader crackdown. There is no sign the aggression will abate.

Despite the CCP's attempts to disguise itself as a peacemaker and make friends in Europe as a counterweight to the United States, there is little hope that China will stop exporting threats to global human rights. Now, though, it seems some Westerners are starting to understand this. The EU has issued a statement expressing grave concern over the NSL. Germany responded to it by suspending its extradition treaty with Hong Kong. It is a sign that a more multilateral alliance for holding China accountable could be consolidating. All such pressure will help.

Most importantly, however, the CCP has not bargained for the fact that Hong Kongers will not let their spirits be crushed. Though street demonstrations are now unlikely, protest is still alive, but in a more subtle and tenacious form. People are instead trying to help the movement quietly, economically, by using businesses that display a yellow ribbon signifying support for the protest movement, and by strengthening advocacy overseas, where people such as myself are now free from the party's reach. Hong Kongers expect democracies around the world to give them more support in their attempts to safeguard their values-based system.

For years Hong Kongers have been protesting against the threat from mainland China. We will never give up the struggle for our freedoms. If, as expected, in the coming year China continues to grip Hong Kong in its iron fist, we will have to come up with new ways to resist. But resist we will. May all democrats join us in the fight.

Middle East

Middle East

Biden's problem now

Roger McShane: Middle East editor, The Economist

Will the new president jump back into the nuclear deal with Iran?

2021 in brief

The Syrian civil war enters its tenth year. Conflict between rebel forces and the government of Bashar al-Assad began on March 15th 2011. The UN estimates that more than 400,000 people have been killed in the fighting. Nearly 13m Syrians have become refugees or displaced people as a result

IT MAY HAVE looked as though John Kerry had the most difficult task in the negotiations that led to the nuclear deal with Iran in 2015. As he tried to nail down the terms of the agreement, America's secretary of state at the time grew so frustrated with his Iranian counterpart that he threatened to walk away from the talks. Their shouting matches became the stuff of legend.

Yet a reasonable case can be made that Joe Biden had a harder job. After the details had been thrashed out, the then vice-president had to sell the deal to Congress. Democrats were sceptical of the accord, under which Iran curbed its nuclear programme and agreed to rigorous inspections in return for the lifting of international sanctions. Republicans were dead against it. In the end, neither the House nor the Senate supported it—but they did not block it either. Mr Biden had succeeded.

One of the most pressing foreign-policy questions now facing the incoming president will be whether to re-enter the accord, called the Joint Comprehensive Plan of Action (JCPOA), which Donald Trump ditched in 2018. Mr Trump has heaped sanctions on Iran, cutting it off from the world economy. Iran, in turn, has abrogated parts of the deal, spinning centrifuges it said it would not and blowing through limits on enriched uranium. This can be used to make nuclear energy—or, if highly enriched, a bomb. But Iran and the other world powers involved in the JCPOA (Britain, China, France, Germany and Russia) still hold out some hope of reviving it.

Mr Biden does, too. During the campaign he vowed to re-enter the agreement if Iran moves back into compliance. This would be "a critical downpayment to re-establish US credibility, signalling to the world that America's word and international commitments once again mean something," said the candidate. But Mr Biden also promised to strengthen and extend the JCPOA's restrictions, some of which run out in the next four years. The entire thing is due to expire in 2030. Its critics were never happy about these sunset clauses—or the way the deal ignored Iran's ballistic-missile programme and the country's destabilising activity in Iraq, Syria and Yemen.

Mr Biden says the world's renewed faith in America will allow him to pursue diplomatic solutions to these problems. But just getting back into the JCPOA will be hard enough. For a start, America and Iran would have to agree on who moves first—Mr Biden, in lifting sanctions, or the mullahs, in walking back their nuclear work? Moreover, Iran might insist that America lift all the sanctions imposed on it by Mr Trump, including those relating to terrorism. That is unlikely to happen, not least because Iran continues to sponsor attacks on American troops. Mr Biden, for his part, may come to appreciate the leverage that Mr Trump's sanctions give him when trying to strengthen the deal.

There are other complications, too. Some in the Trump administration hoped that their "maximum pressure" campaign would lead to regime change. But it merely undermined Iranian politicians willing to reach out to the West, while empowering hardliners, who now control parliament. President Hassan Rouhani, whose administration negotiated the JCPOA, will be term-limited out of office in 2021. A hardliner will surely win the contest to replace him. That will make life harder for Mr Biden. Ultimately he will have to win over Iran's supreme leader, Ayatollah Ali Khamenei, who reluctantly approved the original deal and refused to negotiate with Mr Trump. The parlous state of Iran's economy may leave him little choice but to work with Mr Biden.

So what is most likely to happen? Mr Biden will move first, lifting Mr Trump's travel ban on Iran, relaxing some of America's more symbolic sanctions and helping Iran get the aid it needs to fight covid-19. Both sides will agree to calm things down in the region—with Iran keeping a tighter leash on its proxies, and America refraining from attacking those groups. That will set the stage for new nuclear talks. Iran will agree to roll back its nuclear programme and Mr Biden will give the mullahs more sanctions relief (prompting another fight with Congress). But he will hold on to much of the economic leverage he has in order to negotiate a beefed-up deal.

Alas, such an accord will prove elusive in 2021. After four years of growing tension, more time will be needed to build trust. But a modest reset in relations between America and Iran will be no bad thing.

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The end of a black golden age

Gregg Carlstrom: Middle East correspondent, The Economist, BEIRUT

A moment of reckoning will arrive for oil-dependent Arab states

Demand for oil will stay depressed

FOR DECADES Arab oil producers have been caught in a quandary. When prices fall, they pledge to wean their economies off the black stuff. But low prices mean they cannot afford costly reforms. Then output falls, demand climbs and prices begin their inevitable rebound. Treasuries are once again flush, and the pressure to reform disappears.

Privately, some officials now wonder if this cycle is over, making the needed reforms unavoidable. The drop in demand caused by covid-19 sent Brent crude as low as $21 a barrel in 2020. Prices will recover a bit in 2021, perhaps crossing the $50 mark. They will not go much higher, though. Most oil states in the Middle East will still be unable to balance their budgets.

Saudi Arabia, the region’s biggest producer, will push on with its search for non-oil revenue. Last year it tripled value-added tax to 15%. Saudis who hoped the rise was temporary will be frustrated to learn it was not. Still, the deficit will widen. Contractors will struggle with late payments for public-sector work. Yet the kingdom will plough ahead with its biggest megaprojects, such as Neom, a $500bn high-tech city in the north-western desert, and a planned Red Sea resort larger than some European countries. It will also force more migrants out of the labour market, freeing up jobs, albeit low-paying ones, for its citizens.

Meanwhile, a drive through Dubai at night will be eerie: towering apartment blocks and opulent villas will sit dark and empty. The United Arab Emirates will lose about 1m migrants, one-tenth of its population. Some will return home, having lost their jobs. Others, having had their salaries cut, will send their families back and move into smaller flats to cut costs. New construction will cause a further drop in property prices, which fell by 10% in 2020. Dubai will at least get a delayed boost from the launch of the World Expo in October 2021.

Kuwait will tap bond markets to plug a deficit that could run to 15% of GDP, saddling future generations with more debt to pay for an outsized public sector. Bahrain and Oman, already rated junk, will have a harder time borrowing. Outside the Gulf the picture looks bleaker still. Iraq will cut spending to cover its bloated payroll. Algeria's foreign reserves, an impressive $200bn in 2014, will slide below $40bn.

There will be no relief in sight. Demand for oil will stay depressed. On the supply side, OPEC+ members that adhered to strict production caps in 2020 will pump more in a bid for market share. Joe Biden's new Iran policy will send more crude trickling into the market. Kings and ministers will finally realise that they need to restructure their economies. They will also wonder if it is too late.

China’s moment

Roger McShane: Middle East editor, The Economist

As America retreats, the other superpower moves in

Iran and China, brothers-in-arms

ONCE IT GOT the coronavirus under control at home, China went on a diplomatic offensive. Its aid was gratefully received in the Middle East. Egypt, the Gulf states, Iran and Iraq all received shipments. “China has sent medical supplies and their best experts…whereas America has not provided us with a single vial,” said Jafaar Allawi, Iraq’s health minister at the time.

As America withdraws, China’s influence is growing. Just look at Iraq. Today China is its biggest trading partner and, according to a former electricity minister, “our primary option as a strategic partner in the long run.” The feeling is shared across much of the region.

Access to energy is China’s primary motivation, but its relationship with the Middle East goes beyond that. In return for oil China is building factories, ports and railways. It has helped Saudi Arabia with its nuclear programme. Huawei, a Chinese telecoms giant, does a large share of its 5G-networks business in the Middle East.

America views China as an economic and strategic competitor. So it has told Middle Eastern countries not to get too close. But many Arab leaders see China as a more reliable partner than America, which has been known to ask uncomfortable questions about human rights and, anyway, seems fed up with the region.

To be sure, a lot of Arab states still rely on America for arms and protection. China shows little interest in playing regional policeman. But its engagement is increasingly strategic. Take its draft co-operation agreement with Iran, under which the two would share intelligence and carry out joint research and weapons development. They already train together.

It is a tricky balancing act for China, which has sold drones to Saudi Arabia and the United Arab Emirates, Iran's enemies. It is friendly with Israel, where Chinese state enterprises have leased ports. China has also built ports on the Indian Ocean, ostensibly for refuelling and resupply, that could be put to military use.

According to surveys of people in the region, China is a more popular global power than America or Russia. Its influence in the Middle East will only grow in 2021.

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Big brother returns

Gregg Carlstrom: Middle East correspondent, The Economist, BEIRUT

Dubai may need help from Abu Dhabi again

A YEAR AGO the only real dividing line between the emirates of Dubai and Abu Dhabi was the speed limit: drivers heading south could escape Dubai's traffic and open it up to 140kph on Abu Dhabi's wide, empty highways. But since the pandemic began, they instead come to a stop: the once-invisible line has become a hard border. Anyone crossing into Abu Dhabi, the capital of the United Arab Emirates (UAE), must now queue for a covid-19 test.

The checkpoints are one sign of a sometimes awkward relationship. Dubai is the flashy one of the pair, with its man-made islands and hedonistic hotels. Abu Dhabi is the seat of political power and the country's oil, but happily keeps a lower profile. True to form, Dubai reopened its economy (and its airport) faster than its neighbour wanted—hence the border.

In 2009, when the financial crisis battered Dubai's debt-laden economy, Abu Dhabi stepped in with a $10bn bail-out. Facing a protracted slump from covid-19, Dubai may need help again. It will not be an overt bail-out this time. Instead, Abu Dhabi—acting through Mubadala, its powerful sovereign-wealth fund—will snap up parts of Dubai's distressed economy. The two emirates will also merge redundant institutions, perhaps combining their stockmarkets, for example.

Exactly how much help Dubai will need is an open question. It is notorious for publishing economic indicators months or years late. Debt levels have long been a mystery. In the prospectus for bonds issued in September 2020 it listed public debt at 124bn dirhams ($34bn), a modest 28% of GDP. That figure does not include a bunch of government-related entities, however. Add them to the mix and Dubai's debts are closer to 77% of GDP, estimates Moody's, a rating agency.

There will be renewed talk of merging Emirates and Etihad, the official airlines of Dubai and Abu Dhabi. They operate from airports just 131km apart (a second Dubai airport, now under construction, is closer still). A merger makes sense in an era of soft demand. Etihad lost $870m in 2019; its numbers for 2020 look even worse. But combining the two will be a hard sell, if only for reasons of prestige.

That will not be the only source of awkwardness. Abu Dhabi is investing heavily in theme parks, a financial sector and a film industry—all of them in direct competition with Dubai's. Meanwhile the UAE's increasingly assertive foreign policy, run from Abu Dhabi, will rankle Dubai: tensions with Turkey and Iran are bad for business. Those border checkpoints will come down in 2021. But the relationship between the two emirates will be fraught for other reasons.

Shifting sands

Roger McShane: Middle East editor, The Economist

New conflicts are shaping an already volatile region

2021 in brief

Two very tall towers open in the Middle East. The Dubai Creek Tower will be at least 820 metres high. Soon after, the Jeddah Tower in Saudi Arabia is due to take over as the world's tallest building, and the first to exceed 1km in height

ISRAEL WAITED 31 years for Egypt to become the first Arab state to make peace with it. Another 15 years passed before Jordan became the second. And more than a quarter of a century after that, in 2020, the United Arab Emirates (UAE) became the third. But things are moving faster now. Bahrain and Sudan quickly followed the UAE —and were applauded by other Arab rulers, for whom the Palestinian cause has grown stale. More countries will recognise Israel in the year to come, perhaps even conservative Saudi Arabia.

The cooling of Arab-Israeli hostility is but one way the Middle East is changing, and perhaps not even the most important. Fresh conflicts are arising as old powers move out, new powers move in and local players assert more influence. These changes will accelerate in 2021 and last well beyond it.

Iran remains the primary axis around which countries in the region orient themselves. Concern over its threatening rhetoric, foreign adventurism and nuclear activity helped bring Israel and the Arab states together. The conflict between them and Iran has largely defined the past decade, fuelling wars in Iraq, Syria and Yemen, and adding to chaos elsewhere. Joe Biden wants to lower the temperature, but America is less engaged than it was. And a different struggle, one that also involves proxies and foreign powers, may shape the region's future.

It begins with the UAE. "Little Sparta", as it is sometimes called, has long been overshadowed by its bigger neighbour and ally, Saudi Arabia. The UAE, though, is arguably more influential. It often wields its power softly, by touting "the Dubai model" (of good governance and economic dynamism) and throwing its petrodollars around foreign capitals. In Iran it sees a problem, but also a business partner (Iranian firms have offices in Dubai), so it has aimed to reduce tensions with the mullahs. But the UAE has a sharp side, too.

The issue that animates its de facto ruler, Muhammad bin Zayed, is his opposition to political Islam, which he views as a threat. Since the Arab spring briefly brought an Islamist government to power in Egypt, as America looked on, Prince Muhammad has taken a more active role in the region. He has used the UAE's hefty resources to beat back Islamist groups. This included funding a popular uprising against Egypt's Islamist government and supporting the subsequent military takeover.

That pits Prince Muhammad against Recep Tayyip Erdogan, Turkey's strongman president, who champions the Islamists. Their rivalry is predictably bitter. Istanbul has become a hive of Arab dissidents. The UAE accuses Turkey of teaming up with Qatar to push political Islam across the region, with the Turks providing the muscle and the Qataris the cash. Since 2017 the little emirate has been under blockade by a UAE -led coalition, in part over its support of Islamist groups. Turkey has come to Qatar's aid. In 2019 it completed construction of a military base there that can host 5,000 Turkish troops.

Mr Erdogan has also sent troops (as well as arms and mercenaries) to support the UN-backed government in Libya, which just happens to work with Islamist militias. It was thus able to repel an offensive by Khalifa Haftar, a rebellious warlord and staunch anti-Islamist, who is backed by the UAE, Egypt and Russia. The dispute is spilling into the eastern Mediterranean, where Turkey has claimed the right to drill in waters off Greek islands based on a deal it signed with Libya. The Greeks, unsurprisingly, disagree. They held a military exercise in August in which the Emiratis took part.

Most Arab states still do not consider Turkey to be as big a threat as Iran. But countries such as Saudi Arabia and Egypt are increasingly concerned about Mr

Erdogan's adventures in their neighbourhood. He has occupied parts of northern Syria and hit deep inside Iraq, operations aimed at Kurdish forces whom Turkey considers terrorists. In the West, too, leaders view Mr Erdogan as a malignant force that needs to be contained, even though his country remains a member of NATO.

With Turkey drifting away from the West, and towards Iran and Russia, some see those three countries forming a “rejectionist” bloc in the the Middle East. They share interests and, perhaps more importantly, enemies. But they disagree on some things, too, notably whom to back in Libya and Syria. So the grouping is fragile.

The Turkey- UAE rivalry, though, will endure, adding poison to the region. Officials in the Middle East might at least learn a lesson from all those deals with Israel: bitter enemies are not destined to remain that way forever.

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Africa

Africa

Best of friends

John McDermott: chief Africa correspondent, The Economist, JOHANNESBURG

African countries will reject calls to loosen the continent's strong ties with China

2021 in brief

The Commonwealth Heads of Government Meeting, commonly known as CHOGM, will be held in June in the Rwandan capital, Kigali, the first such meeting in Africa for more than a decade

EVERY THREE years African and Chinese politicians gather at a diplomatic jamboree known as the Forum on China-Africa Co-operation (FOCAC). The summits, which attract more African heads of state than annual UN gatherings, are waypoints in China's long journey on the continent. Over the past three decades it has become the pre-eminent partner for many African countries. Its importance will be apparent again in 2021 at the next FOCAC meeting, the eighth, which is due to take place in Dakar, the capital of Senegal.

Yet the context for this summit is different from that of the previous seven. During the Trump presidency China's role in Africa came in for increasing American criticism. In 2020 the secretary of state, Mike Pompeo, accused China of offering African countries little but "empty promises and tired platitudes". Though the Biden administration is less likely to use provocative rhetoric, scepticism of Chinese intentions on the continent will nevertheless endure. So the coming year could prove a tricky one for African policymakers, who are already grappling with the fallout from the pandemic.

Their aim will be to avoid getting caught up in a zero-sum game. Ken Ofori-Atta, Ghana's finance minister, argues that ever since decolonisation, Africa has been a "chessboard" for great-power contests and that "hasn't helped us in any way". Uhuru Kenyatta, Kenya's president, has warned that Africa is not a prize to be fought over: "We don't want to be forced to choose." Cyril Ramaphosa, South Africa's president, has said that Africa should not suffer because of America's "jealousy" of what China can offer the continent.

Therein lies the rub. For all its carping, and its vast spending in areas such as public health, America simply does not offer what China does. If you are a leader of an African country with an urgent need for new roads, bridges or ports, then Chinese finance and firms are the obvious option. "China still addresses Africa's hunger for structural transformation in a way that the West does not," says Deborah Brautigam of the China Africa Research Initiative at Johns Hopkins University.

The same is true of telecommunications. Huawei, whose projects in Africa are often subsidised or underwritten by the Chinese state, has not lost any orders on the continent since America began encouraging countries to boycott its technology. "It is not a reasonable ask when [America] is not offering a serious alternative," argues Judd Devermont of the Centre for Strategic and International Studies, a think-tank in Washington, DC.

The FOCAC in Dakar is unlikely to see the scale of financial pledges made by China at earlier forums. In both 2015 and, with some fudging, 2018, President Xi Jinping announced packages of cheap loans, grants and investments worth $60bn over the subsequent three years. Few analysts think that tally will be matched; China is too wary of funding white elephants. But that does not mean it will be any less involved on the continent.

For a start, China is crucial to African hopes of moving beyond the covid-19 pandemic. It is the single largest bilateral creditor in Africa and thus often holds the key to unlocking debt renegotiations. Mr Xi has pledged that African countries will receive priority access to any Chinese vaccine that is developed.

And even before covid-19, China's engagement with African countries went way beyond infrastructure. There are perhaps 10,000 Chinese firms, mostly small businesses, operating in Africa. More African students study in China than are enrolled in America and Britain combined. Senior Chinese figures have fostered extensive networks with their African counterparts, especially in military circles.

China’s image in Africa was tarnished last year by the ill-treatment of African migrants in Guangzhou, a port city. That brought condemnation on social media and by African politicians. But, broadly speaking, African views of China are nuanced and resilient. Polling of 18 countries by Afrobarometer, a pan-African research group, released in September 2020, found that an average of 59% of respondents had a favourable view of China—marginally higher than of America (58%). No wonder African politicians are careful not to take sides.

Nor will they see much benefit in speaking out against China over issues such as Xinjiang, Hong Kong or Taiwan. China places great value on the 54 African countries’ votes at the UN and other international organisations. (In 1971 African votes ensured that the People’s Republic of China was admitted to the UN and that Taiwan was expelled.) It will reward those who vote with it and punish those who do not. Officials in Kenya are known to have studied China’s punitive response to Australian criticism of its human-rights records—and fear what would happen if their country did anything similar.

Even if African politicians wanted to speak out against China, few believe Western governments would support them if they did. “The West is unwilling to underwrite the cost of antagonising China,” says W. Gyude Moore, a former cabinet minister in Liberia, now at the Centre for Global Development, a think-tank. “The continent is best served by charting its own course.”

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Locked down, locked up

Olivia Acland: Congo correspondent, The Economist, GOMA

Covid-19 will help unscrupulous incumbents in elections

Free and fair?

The pandemic means fewer eyes will be on them

IN UGANDA, WHERE a general election is scheduled to take place in February 2021, authorities have banned rallies because of covid-19. Members of the opposition who have flouted the ban have been arrested. But somehow Dicksons Kateshumbwa, a candidate for the ruling National Resistance Movement party, simply cannot avoid holding gatherings with hundreds of supporters. “It is because of my popularity,” he says, “I cannot control the number of people.” Unsurprisingly, he gets away with it.

At least 18 African countries are expected to go to the polls in 2021 while the pandemic smoulders across the continent. For presidents like Yoweri Museveni of Uganda, who prefer a pretence of democracy to the real thing, covid-19 restrictions will offer more ways to cheat. Not only will they have an excuse to break up opposition rallies, but fewer eyes will be on them, as international election observers stay away.

In many cases, campaigning will move from the streets to the airwaves or social media, making it more important than ever for countries to have a free press. But places with crooked leaders tend to muzzle their journalists. In the Republic of Congo, President Denis Sassou Nguesso is likely to win another term despite having been in power for 35 years. In the absence of rallies, Mr Nguesso will not have trouble broadcasting his campaign: several television channels and radio stations are owned by his cronies.

The opposition, however, will struggle. In recent years, journalists have been threatened for inviting Mr Nguesso's rivals to express their views or criticising him. And if opposition activists seem to be gaining traction on social media, the government can simply turn off the internet, as it did during the last election.

Campaigning on social media will be tricky in Uganda, too, as new rules oblige all bloggers to register with a government regulator. In Benin, which is due to hold a presidential election in early 2021, residents may be too scared to post their views on Twitter or Facebook. In December 2019 a journalist was jailed for 18 months for tweeting quotes from a local prosecutor. He was accused of spreading false information. President Patrice Talon faces little opposition anyway—three of his key rivals are in exile after being threatened with prison sentences.

Other African leaders have used covid-19 as a reason to postpone elections altogether. In June 2020 Idriss Déby Itno, Chad's president, delayed an election, which was originally scheduled for 2015, for the fifth time. Previous excuses include having insufficient funds, and the threat of attacks by Boko Haram, a jihadist group. (In Ethiopia, where covid-19 cases tripled in two weeks, the decision to postpone a general election for at least nine months is slightly more reasonable.)

Organising fair elections during a pandemic is tricky. It will be made trickier still by scheming incumbents who will do anything to win. Sadly, many of them will triumph in 2021.

Pulling the plug

Jonathan Rosenthal: Africa editor, The Economist

Cuts in aid to Africa will have a positive impact in the long term

Remittances will become even more important than aid

PERHAPS THE only thing thicker than the syrup drizzled over the *petit fours* served at African Union (AU) summits is the irony in the speeches given by those eating them. Between meals largely paid for by Western donors, African leaders take to the podium to denounce Western countries for having too much influence. Yet for all the hypocrisy, they have a point: handouts can cause economic problems and undermine sovereignty.

Dambisa Moyo argued in her book “Dead Aid” in 2009 that aid increases poverty by fuelling corruption and making exports more expensive. “Aid is not benign, it’s malignant,” she wrote. When Ghana’s president, Nana Akufo-Addo, later said “it is obvious that the aid bus will not take Africa where it has to be,” he spoke for many on the continent. Even so, aid has kept increasing, from $129bn in 2010 to $169bn in 2019. Africa has long been the biggest recipient.

In 2021 this trend will reverse. Rich countries are cutting direct aid by about a third as a result of their own problems. The immediate impacts will be bad. Bill Gates, a philanthropist, says covid-19 and cuts in aid are undermining 25 years of progress in improving health. The World Bank thinks the number of very poor people globally could jump by up to 100m.

Yet over the longer run there will be positive changes. Remittances will become even more important than aid. Having fallen by 23% to $37bn in 2020, they are expected to improve slightly in 2021. Much of the money sent home by migrants goes into education and housing. Little is stolen by corrupt officials. Many African countries are putting scarce aid money into social safety-nets rather than wasteful grandiose projects. And less aid means many countries will have to raise more in taxes. To do so they will have to promise better governance, more accountability and more democracy—and perhaps fewer *petit fours* at AU shindigs.

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Put to the test

Tom Gardner: Addis Ababa correspondent, The Economist, ADDIS ABABA

Abiy Ahmed will present Ethiopia with an unhappy choice

THE OMENS seemed so promising. “The coming time in Ethiopia will be [one] of love and forgiveness,” said Abiy Ahmed in his inaugural address as Ethiopia’s prime minister in 2018. After years of anti-government protests, the young reformer promised a new dawn for Africa’s second-most-populous country. He freed political prisoners, unmuzzled the media and welcomed opposition parties back from exile. He made peace with Eritrea, for which he won the Nobel peace prize in 2019. And he styled himself as a transitional leader, tasked with ridding Ethiopia of dictatorship and shepherding it towards its first free elections.

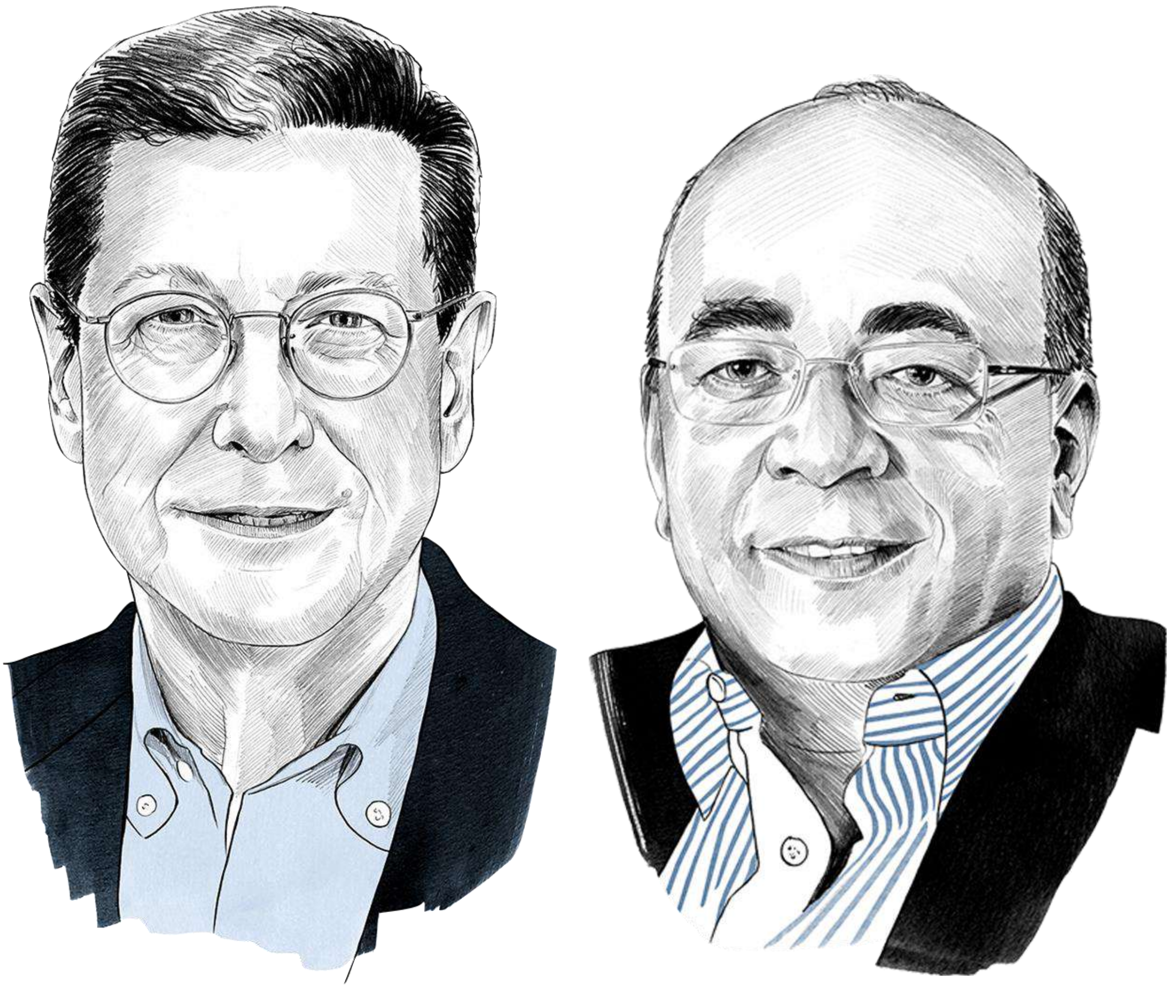
In 2021 Ethiopians will find out if Abiy has set the country on the road to liberty—or plunged it into anarchy. In November the prime minister ordered his forces to hit back in response to what he claimed was an “attack” on a base housing federal troops in the northern region of Tigray, the most powerful of Ethiopia’s ten ethnically constituted states.

As *The World in 2021* went to press it was unclear whether the armed confrontation that followed between Abiy's forces and those loyal to Tigray's rulers, the Tigrayan People's Liberation Front (TPLF), would be contained. Diplomats might yet persuade the two sides to talk. But Ethiopia could just as easily find itself in a full-scale civil war, which could wipe out the progress made over the past two decades in areas such as rural health care (see next story) and raise the spectre of the disintegration of a country of 118m people.

The conflict with the TPLF, which called the shots in the capital for almost three decades before being ousted by Abiy, is far from the only crisis. Parts of the prime minister's own region of Oromia, the country's largest, are besieged by armed separatists. Elsewhere he is struggling to quell popular—and sometimes violent—protests against his rule. Those that followed the murder in June of an Oromo musician resulted in at least 166 deaths. Many victims were members of ethnic minorities, slaughtered by mobs. Underlying all this are worsening tensions between the federal government and the states, each of which has the right to secede.

Elections, delayed because of covid-19 and now promised for June, may no longer be possible. Not that all Ethiopians would mind: many now yearn for a strongman who can keep order, and Abiy casts himself as the one person who can hold the country together. The question is whether enough Ethiopians still agree with him.

Don’t let covid-19 kill democracy



Suspending elections amid the pandemic could erode African democracy unless the right steps are taken, argue Alan Doss, special adviser, Kofi Annan Foundation, and Mo Ibrahim, founder, Mo Ibrahim Foundation

The virus is no excuse to ignore sound electoral practice

THE PANDEMIC in Africa is not just a crisis of public health or of the economy. It could well become a political emergency that threatens the democratic progress that countries across the continent have achieved in recent years.

Africa is poorly placed to deal with the pandemic. Only a few countries have social safety-nets and the fiscal space to cushion the impact of the severe economic recession that both the IMF and World Bank have predicted. Millions of people have already lost their jobs or other sources of income. This will cause widespread social distress and possibly political upheaval, especially among young people who, more than ever, lack work and opportunities. This convergence of economic, social and political crises is a recipe for unrest and instability.

Democratic elections might well be the spark that lights the fuse. More than 20 African countries were expected to hold national elections in 2020. Many of them were still in the midst of conflicts, just emerging from them, or on the verge. Only five of those—in Togo, Guinea, Mali, Burundi and Malawi—proceeded as scheduled, some peacefully, some with questionable outcomes. Fortunately, none seems to have provoked a covid-19 surge.

Governments everywhere face a huge challenge: how do they impose strict social restrictions to prevent contagion, while at the same time letting citizens participate meaningfully in the electoral process? Looking ahead, fewer elections are scheduled in Africa for 2021. Nevertheless, the same concerns apply.

This raises complex questions over fundamental human rights, the integrity of democracy and the legitimacy of governments. The answers will involve difficult trade-offs. But the citizens and leaders of Africa must be vigilant to ensure that the pandemic does not become an excuse to avoid or postpone elections for political advantage, to restrict civil society or to institute authoritarian and anti-democratic measures in the name of public health.

What can be done to secure the democratic gains and individual freedoms that Africans have won in recent times, often at great cost? There are several steps that governments and the public can take, based on recommendations from an international group of electoral experts convened by the Kofi Annan Foundation.

The foundational principle is the rule of law. Emergency measures relating to elections should be grounded in constitutional provisions and electoral laws. Where the national legal framework does not anticipate the current situation, legal changes should be made in line with internationally accepted standards. The postponement of elections should not be open-ended. Rather, there should be clarity and agreement on the health conditions in which elections could take place safely.

Next, leaders should consult widely to build trust and consensus across the political landscape. If they do not, emergency measures they introduce may be perceived as self-serving, subverting the public trust needed to address the health crisis.

Third, transparency: governments and electoral authorities should provide clear and frequent communication with the public. Citizens need to understand what measures are being considered, by whom and on what grounds. The media and civil-society groups have crucial roles to play in preserving democracy by monitoring policies, fostering debate and shining light on critical issues. Governments must protect freedom of expression. Cover-ups in politics, as in health care, only make matters worse.

Finally, any steps taken by governments—such as protective measures at polling stations, or changes in how voters are registered, ballots are cast or votes are counted—

should be reasonable and proportionate to the health risk. The virus is no excuse to ignore sound electoral practice.

Even with free and fair elections, Africa's democracy is threatened by weakened economies. Countries will need substantial assistance to get through the crisis. Governments and their international partners must avoid the failed policies of the past when, even though debt was forgiven or rescheduled, budgets for education and health care were slashed. Imposing strict austerity amid mass unemployment would threaten stability and democratic progress.

Hard times can make people vulnerable to the siren song of populists and extremists trading on communal enmities. By taking these steps Africa can prevent a health crisis from killing its young democracies.

International

International

Turning a corner on climate

Catherine Brahic: environment editor, The Economist

A vital year for bolder promises to save the planet

2021 in brief

The boldest conservation proposal ever will be put to countries when they gather in Kunming in south-west China in May for a UN summit to reverse biodiversity loss: a commitment to protect 30% of land and ocean by 2030. Some 64 countries have already signed up to the "30X30" pledge but not Indonesia, Australia or America among others

EVERY YEAR since 1995, tens of thousands of climate-policy wonks, politicians, journalists and campaigners from all corners of the world have gathered in one place at the end of the year. For two weeks they cram themselves into an enclosed conference centre. There is much talking and little sleep. At times, hundreds gather in a single auditorium; at others, they huddle in small clusters. Fresh air is a luxury. There are social drinks and meals. And at the end of it all, everyone flies back to where they came from. In other words, the UN's annual climate summits are ideal superspreader events for a pandemic virus.

It comes as no surprise, then, that the 2020 event (dubbed "COP26") was delayed until November 2021. From a public-health perspective, the decision was obvious. It may also have been a stroke of luck for the British government, which was due to host the event in Glasgow. Early in 2020 it became fairly clear that the prime minister, Boris Johnson, and his team had their hands full with Brexit and were looking somewhat lacklustre on the climate front. The extension gave them an additional 12 months to do their homework.

It seems to have paid off. The key task ahead of COP26 is to plead with and nudge the nearly 200 governments that are party to the 2015 Paris agreement to dig deep and improve on their promises to slash national emissions. So far, however, the sum of these "nationally determined contributions" to the agreement (or NDCs) is not sufficient to prevent catastrophic warming. Models suggest the world is likely to see around 3ºc of warming above pre-industrial temperatures by 2100, far more than the agreement's aim of limiting the rise to 1.5-2ºC.

To make up for the shortfall, signatories were due to submit more ambitious NDCs by the end of 2020. So far only 15 have done so—mainly small developing countries that account for just 4.6% of global emissions, yet suffer greatly from their climatic impacts.

From a global climate-policy perspective, 2021 begins on December 12th 2020, the fifth anniversary of the Paris agreement. Rather than heralding the opening of COP26 in Glasgow, the anniversary will instead be marked by a summit co-hosted by Mr Johnson and António Guterres, the UN's secretary-general. Many fresh climate commitments will be made then. Spurred on by recent European Union and Chinese statements about eliminating all or most emissions by mid-century, more countries will come forward with similar net-zero targets.

The EU says it will reduce all its greenhouse-gas emissions to net-zero by 2050, in line with what the Intergovernmental Panel on Climate Change, a scientific consortium, says is necessary as a global average to hit the 1.5ºC Paris target. In September 2020 China's president, Xi Jinping, announced that his country would reduce its "carbon emissions" (ie, not including other greenhouse gases) to net-zero by 2060. Both the EU and China are expected to register these mid-century goals with the UN as part of their updated NDCs. Details of how they plan to achieve these lofty ambitions, and reach their targets for 2030 of peaking emissions (China) and cutting them to 55% below 1990 levels (EU), should come with China's 14th five-year plan and the EU's Green Deal.

Equally important will be how countries set out their plans to adapt to the inevitable impacts of a warmer climate at the virtual Climate Adaptation Summit in late January, and how nations flesh out their economic recovery plans from covid-19. The pandemic is expected to cause a reduction of nearly 8% in global CO_2emissions in 2020, compared with what they would have been without the associated global recession. Whether or not emissions rebound, as they did after the global financial crisis in 2007-09, will depend on how countries decide to stimulate their flagging economies. Some, like Nigeria, have already announced plans to phase out fossil-fuel subsidies as part of their recovery. Others, like Canada and France, have tied climate-related conditions to bail-out funds. And the European Commission plans to spend 30% of its recovery package on climate action.

Such moves will aid a global transition to a greener economy and ultimately keep global temperatures cooler than they might otherwise have been. But they are not enough. The recovery plans of China and India, notably, still include stimulus for future coal-power development which is entirely inconsistent with Paris targets.

The biggest climate actor to watch in 2021 will be America, newly returned to the fold under President-elect Joe Biden. On November 4th, the morning after Americans went to the polls, their country officially came out of the Paris agreement, according to plans set in motion by President Donald Trump six months after he took office in 2017. Mr Biden will reverse this decision soon after entering the White House.

He supports a net-zero-by-2050 target, which, taken together with the European and Chinese pledges, would give 45% of global emissions an expiry date of sorts. Mid-century is a long way off, though, and if Mr Trump's presidency has demonstrated anything, it is that the best-laid plans can easily be overturned by the next administration. When it comes to the climate, it will be important for Mr Biden to succeed where Barack Obama failed. And the foundations for that must be laid in 2021.

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On the road again

Leo Mirani: senior Britain correspondent, The Economist

Holidays in 2021 will be fewer, longer and closer to home

Beached

Going abroad, although possible, will remain a hassle

2021 in brief

Artemis 1, the first (and uncrewed) flight of NASA's Orion capsule and Space Launch System heavy-lift rocket, is due to launch in November. If all goes well, a crewed mission, Artemis 2, will perform a lunar fly-by in 2023

THIS MUCH is certain: travel in 2021 will be easier than in 2020. More flights will take off and land. A greater number of countries will welcome visitors. There will be fewer restrictions. But those gains will come, as statisticians like to say, from a very low base. After a year in which flights came to a near-complete standstill, many countries closed their borders and those that still allowed visitors imposed onerous restrictions, even the slightest loosening will be a welcome improvement.

The signs are encouraging. By September 2020, 115 of the 217 destinations tracked by the UN World Tourism Organisation had loosened their travel restrictions. Global hoteloccupancy rates more than doubled from a low of 22% in April to 47% in August. And travellers are keen to get going. According to Skyscanner, a price-comparison website, there is plenty of pent-up demand. Searches on the website spike every time Britain adds a country to its quarantine-exempt list. In China, where covid-19 cases are few, domestic air-travel approached pre-pandemic levels by August.

Three big changes will define travel in 2021. The first is frequency and length. Short breaks across borders will remain difficult. As they open, most countries will impose two-week quarantines on incoming and returning travellers, turning a three-day holiday into a 31-day ordeal. As a result, trips will be fewer and longer. Thailand, which depended on tourism for more than 20% of its GDP in 2019, is keen to admit tourists. But the condition is that they stay for at least 90 days. More countries will follow suit.

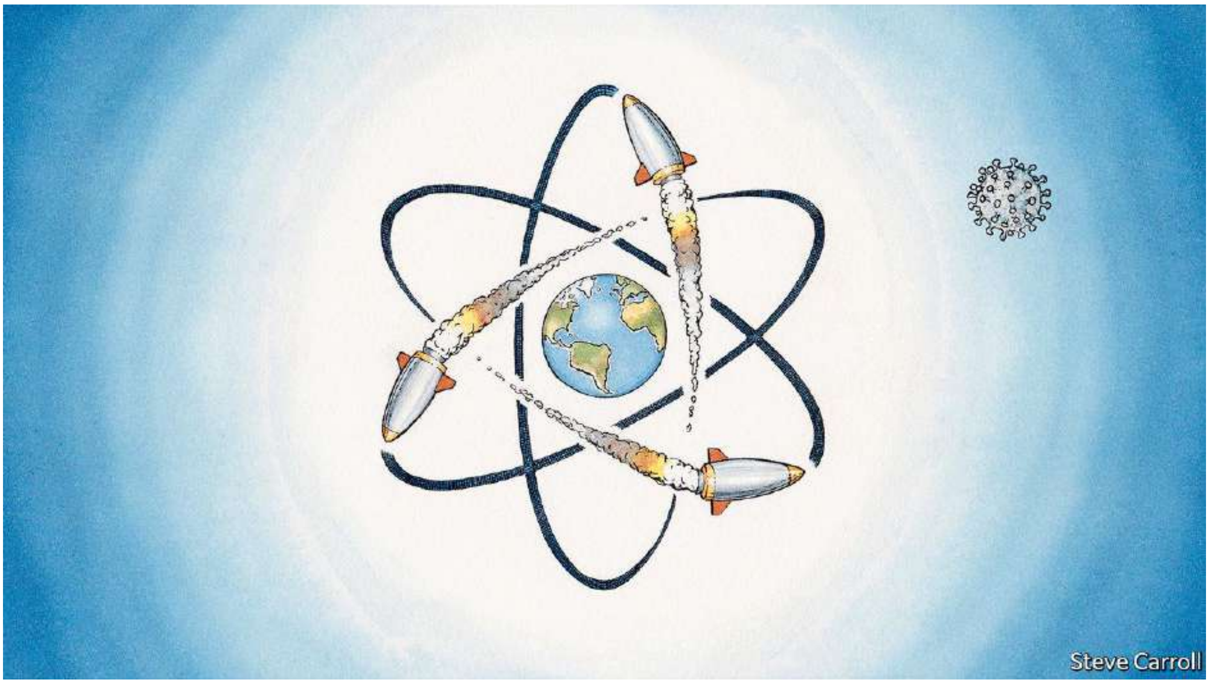
A second change is distance. Domestic tourism will boom in 2021. Big destination countries are trying to make up for the shortfall in international visitors by encouraging citizens to holiday at home. In America, airlines are betting on Hawaii. Singapore is giving its citizens S$100 ($75) to spend on local attractions. Even Airbnb's home page encourages its customers to "go near". Holidaymakers will not be difficult to persuade. Going abroad, although possible, will remain a hassle: countless forms, the need for covid-19 tests and the risk of being stranded will all discourage foreign travel.

The third change will be in the nature of the holiday. As trips get fewer and longer, those who can work from home will find an attractive alternative in working from somewhere-a-lot-nicer-than-home, and with fewer restrictions on movements. Call it lockdown arbitrage. Many of these changes will persist long after a vaccine has been widely deployed. Travellers will get used to longer trips, more flexibility and combining work with leisure. International tourism will eventually recover to its 2019 levels. But, starting in 2021, it will look rather different.

A clash, a crunch and a crisis

Daniel Franklin: diplomatic editor, The Economist

The return of nuclear brinkmanship



IN 2021 THE world will have an important new international treaty. The Treaty on the Prohibition of Nuclear Weapons (TPNW) commits parties not to develop or host such weapons. Launched in 2017 and so far signed by 84 countries, it will become law 90 days after 50 of those signatory states have ratified it. On October 24th 2020 Honduras became the 50th ratifier, triggering the countdown to the treaty's entry into force on January 22nd.

But far from marking a new era of optimism for controlling nukes, this will be a sign of mounting alarm that restraints are being dangerously weakened. The world's nuclear powers have no intention of signing the new treaty. A year of nuclear nervousness is in prospect, including a clash, a crunch and, all too possibly, a crisis.

The clash will come at the five-yearly review conference, or RevCon, of the Nuclear Non-Proliferation Treaty (NPT). That was meant to happen in New York in 2020, marking the treaty's 50th anniversary, but it was pushed to 2021 because of covid-19. A new date of January 2021 was pencilled in. That may slip again, but the delay will not diminish the sour mood surrounding the event.

The essence of the NPT is that the nuclear have-nots refrain from developing nukes in exchange for the nuclear powers working towards eliminating theirs. The previous RevCon, in 2015, was a flop, ending without a consensus statement. Since then, divisions have only deepened, as nuclear deals have either collapsed (the Intermediate-Range Nuclear Forces treaty between America and Russia) or have come close to doing so (the nuclear deal with Iran, which still holds despite America's withdrawal). The new TPNW is a response from some of the nuclear have-nots to the sense that the nuclear powers are intent on building up their arsenals rather than drawing them down: in short, that the NPT is failing.

The looming crunch concerns the New START treaty between America and Russia. The treaty, which limits each country's strategic nuclear arsenals and enables intrusive inspections, will expire on February 5th 2021 unless both agree to extend it for up to five years. If it lapses, the two superpowers, which together have about 90% of the world's nukes, will be without a nuclear treaty for the first time in nearly half a century. And if that means a new nuclear arms race, America's chief negotiator, Marshall Billingslea, said in May: "We know how to win these races, and we know how to spend the adversary into oblivion."

The Trump administration wanted to use the deadline to press China (which has a relatively small nuclear arsenal but is suspected of planning to expand it rapidly) into a tripartite nuclear arms-control deal. The Chinese show no interest in submitting to restrictions. Americans at talks on New START in June pointedly photographed Chinese flags in front of the empty chairs of the Chinese delegates who declined the invitation to attend. Although, before the American election, Mr Billingslea said a deal with Russia was "very, very close", time is running short to keep New START alive.

And the nuclear crisis of 2021? The worrying thing is that the list of potential causes is long. It includes accidents; cyber-attacks on nuclear facilities; reckless sabre-rattling; new tests by North Korea; an escalation of border hostilities between India and China; an escalation of tensions over Kashmir between India and Pakistan; further moves by Iran towards developing a weapon; threats by other countries to join the nuclear club; and efforts by rogue groups to obtain a "dirty bomb". In 2020 the world was too complacent about the risks of a pandemic. In 2021 it should not make the same mistake over nukes.

Streets ahead

Marie Segger: data journalist The Economist, BERLIN AND LONDON

How will the pandemic change urban-transport patterns?

With more cars, but less road space, bicycles and e-scooters will become more attractive options

OBSERVERS OF many industries claim that the pandemic has accelerated change in their sectors. But is it true for transport? Over the past decade, city planners have promoted public transport to ease congestion and reduce pollution. Since the start of the pandemic, however, people have been opting for more solitary options such as cars and bicycles. But street space is in short supply in dense cities such as New York and Paris. As a result, big cities should expect big changes in how people get around in 2021.

Until a vaccine is made widely available or better treatments are found, the pandemic will shape patterns of travel. To see how travel might evolve, we analysed mobility data from Apple, Google and TomTom in ten big cities. Use of public transport in August, when covid-19 cases had fallen from their initial peaks, remained 40% below its pre-pandemic norm. That suggests that in 2021, while the virus remains a threat, people will still prefer independent travel, despite efforts to make public transport safer by promoting the wearing of masks.

In Berlin passengers on public transport who fail to wear masks are warned of a €50 ($60) fine with the slogan "Protect others. Yourself. And your wallet." Our data suggest that many people will avoid such fines by driving instead. Traffic congestion in Berlin was 8% above pre-pandemic levels between August and October. The pandemic has driven up vehicle registrations in New York City. In every city we analysed, car use grew more quickly than public transport and walking, after lockdowns eased in mid-2020. Congestion has followed this trajectory in most places, though a drop in tourist numbers has freed space on the roads.

In recent years urbanites in developed countries have been shifting away from driving and car use, in favour of public transport, ride-hailing, car clubs and other alternatives. Tightening regulation, in the form of congestion charges and emissions rules, also made car ownership less attractive. Julia Poliscanova from Transport & Environment, a think-tank, says the future of city centres is, if not car-free, then at least electric. In 2021 the EU is due to review its rules on emission standards that will help reduce the numbers of dirty vehicles on the road. The recent uptick in car usage may prompt cities to accelerate their plans to ban non-electric vehicles from their streets.

Several cities, including Athens, Budapest, London, Milan, New York and Paris, have pedestrianised streets to aid social distancing and introduced new bike lanes. Many plan to make these changes permanent. As the combination of more cars and closed-off roads compounds congestion, that will help two other competitors in the race for space on the streets: bicycles and e-scooters.

During the lockdowns in mid-2020 bicycles experienced a surge in popularity. New bikes were in short supply, and city residents who had previously considered bike-sharing schemes to be transport for tourists changed their minds. With few visitors around, London's bike-sharing scheme saw a threefold increase in new users between March and July. The city's cycling tsar, Will Norman, says London has added 40 miles of temporary bike lanes. Nationally, the government has pledged £2bn ($3.2bn) towards new cycling and walking infrastructure. During the summer, cycle traffic recovered to pre-pandemic levels on many commuter routes into central London, even as offices remain largely empty. In 2021 many more commuters will opt for pedal power.

The latest contender for street supremacy is the e-scooter, which can be rented by the minute using a smartphone app. Startups have launched scooter services in cities around the world, and the pandemic has strengthened the case for their adoption. In Berlin, which has thousands of e-scooters, usage rose when lockdown eased in May 2020.

One argument against e-scooters is that they are used for short trips and may discourage walking and cycling, but do not replace car journeys. But an analysis by inrix, a research outfit, in 2018 found that one-fifth of car journeys in large American and British cities were of less than a mile. Half of urban car trips in America, and two-thirds in Britain, were shorter than three miles. Some critics say e-scooters are dangerous. But data from Lime, a rental firm, indicates that one-third of all accidents occur within the first five journeys, which suggests that training and practice can help. Pilot schemes to approve e-scooters have been launched in Britain and are likely to go ahead in New York.

Another way to ease congestion, of course, is to work from home. Even before the pandemic struck, Tokyo had devised a programme to encourage firms to let employees work remotely, or commute outside peak hours, in order to reduce crowding during the 2020 Olympics. If the games go ahead in 2021, the city will be well prepared.

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Concrete jumble

Joel Budd: social affairs editor, The Economist

Cities will struggle, but will avoid a mass exodus

No jams, at least

2021 in brief

"Davos Dialogues" take place online in January in place of the usual meeting of the World Economic Forum in the Swiss resort. A small in-person meeting will be held in Lucerne in May

IN BIG CITIES, disaster seems always to lurk around the corner. E.B. White, an American essayist, worried in 1948 that New York could be destroyed by "a single flight of planes no bigger than a wedge of geese" dropping bombs on it. Great cities have been razed or have descended into anarchy in a great many films and books, from "War of the Worlds" to "High-Rise" and "Godzilla". That a new virus should strike cities so hard does not seem too surprising.

Covid-19 did not just break out in large metropolises, killing their inhabitants before doctors knew how to treat the disease. It also induced a protective response that has been exceptionally hard on cities. When public transport, theatres, nightclubs and offices are forced to close, or when people are afraid to visit them, the impact on villages and small towns is minimal. Cities, by contrast, almost stop functioning.

In the initial panic, many urbanites fled. Mobile-phone records suggest that 17% of Parisians departed in the week before France was locked down in March. Over the following months, city-dwellers in many countries recalibrated their attitudes to property. A poll by Ipsos mori in June 2020 found that Britons of every generation prized a private garden above all other features of a home, including secure locks and a good internet connection. Suburbia had not looked so alluring for years.

So big cities will enter 2021 in an awful state. Offices will still be quiet; theatres will be closed; public-transport agencies will be begging governments for bail-outs. The army of urban service workers—the coffee-pourers, nail-painters, sandwich-makers and yoga instructors—will still be struggling to pay the rent. But by the end of the year things will be looking up again.

Cities will recover not because a covid-19 vaccine or better treatments appear, although those would help greatly, but because of their innate capacity for change. Adapting to shocks is what great cities do. As previous industries withered, they turned cotton warehouses into offices, railway lines into parks and slaughterhouses into boutiques. If shops and offices are abandoned, urbanites will find new uses for them. This flexibility seemed to hurt cities during the pandemic, as white-collar workers switched to working from home and stopped buying bus tickets and sandwiches. But not adapting would have been calamitous.

Cities' power to assemble talented people remains strong. The Black Lives Matter protests and a rash of illegal urban raves have shown that young city-dwellers still want to congregate. Middle-aged office workers may feel differently. Yet predictions that knowledge industries will abandon city centres for a network of small satellite offices misunderstand the purpose of offices. They are not for making phone calls or tapping at computers, but for sharing ideas. A hub is essential; a suburban satellite office may not be much of an improvement on a converted bedroom.

Some urbanites will move to suburbs and small towns. They have long done so: it is almost a feature of great global cities that they have a negative balance of domestic migration, and rely on babies and immigrants to keep up their numbers. But anybody who believes that the outflow will turn into a flood has perhaps not tried to get planning permission for a house or a block of flats in the suburbs recently. Cities will hit the ground hard, then bounce.

Bad dreams

Hamish Birrell: public policy correspondent, The Economist

A golden age for universities comes to an end

Some universities will disappear altogether

THE PAST year was a difficult one for new students. Many were barred from campus. Others could not enter the country in which they hoped to study. Those who made it were greeted by freshers' fairs on Zoom and strict socialising rules.

All this means that 2021 will be a difficult time to run a university. Over the past few decades, universities have thrived, supported by rising prosperity, growing demand and politicians who saw them as engines of economic growth. Covid-19 threatens much of this.

The most obvious risk concerns international students. Their numbers have surged in recent years. By the time the pandemic struck, there were more than 5m around the world, mostly travelling from the emerging world to study in the rich world's best universities, and paying handsomely to do so.

Now universities are working out how to get by with fewer of them. The problem will be most acute in countries with strict travel restrictions. In July 2019, 144,000 international students arrived in Australia. In July 2020, just 40 made it.

Support from politicians will be limited. This is partly a question of priorities. Universities must compete with businesses and the public sector for financial support. But it also reflects the fact that they have lost some of their lustre in recent years.

The expansion of higher education has coincided with poor productivity growth in much of the rich world, undermining faith in universities' ability to boost growth. Political disputes are increasingly divided along educational lines: between the have-degrees and the have-nots.

In America, Australia and England, right-wing governments gave much less support than universities wanted to help them through the first wave of the pandemic. In America, the financial context for universities will deteriorate, as states respond to falling tax revenues by cutting spending.

Universities will have to cut back as a result. Grandiose building projects will be put on hold. Staff with short-term contracts will lose their jobs. In America, official figures suggest that the college workforce has shrunk by 7% since the start of the pandemic. Job losses appear to be even bigger in Australia.

Some universities will disappear altogether. In some cases the process will be smoothly managed, and the troubled institution will engineer a merger with a stronger neighbour. But there will also be bankruptcies, most often in America. Edmit, a college-planning outfit, estimates that a third of American private colleges are on course to run out of money within six years.

Institutions wishing to avoid this fate must find new ways to make money. Many are working out how to teach from a distance. Others are looking to offer short, practical courses to the temporarily jobless.

By the end of 2021 things may start to improve. Universities provide somewhere for youngsters to wait out a recession, and thus tend to see enrolment grow after economic downturns. There may even be pent-up demand among international students who have put off studying for a year. But it will be a long wait for many universities, and not all will make it through the crisis.

Murder by numbers

Shashank Joshi: defence editor, The Economist

A cyber-attack could deliberately kill someone in 2021

2021 in brief

March 5th is the 75th anniversary of Winston Churchill's speech in Fulton, Missouri, in 1946, in which he likened the Soviet Union's growing influence after the end of the second world war to an "iron curtain" descending across Europe. The speech heralded the start of the cold war

LURID SCENARIOS of cyber-killings go back decades. In 1999 the *New York Times* raised the prospect of an "electronic Pearl Harbour". In 2011 Leon Panetta, then America's secretary of defence, suggested that "the next Pearl Harbour...could very well be a cyber-attack," perhaps one "as destructive as the terrorist attack of 9/11". No such deadly, large-scale cyber-attack is known to have occurred. But in September 2020, an attack shut down the computers of a hospital in Düsseldorf, and a woman who needed urgent surgery died after being transferred to another city. This, the first known death as a result of a cyber-attack, appears to have been accidental: the attackers meant to extort money by targeting computers at Düsseldorf University, not its associated hospital. But it shows that deliberately causing death in this way is certainly possible. It has not happened yet, but as more aspects of human life involve being plugged into networks, that could change in 2021.

To harm or kill someone who is not already dependent on life-support machinery, malicious code must harness the kinetic or chemical energy of something it controls. The obvious candidates are industrial-control systems, such as those that supervise power-plants and factories. In 2007 America's Department of Energy publicly showed that 21 lines of code could rapidly open and close a diesel generator's circuit breakers, causing the machine to smoke, shake and shatter. "It was akin to the stress placed on a car's transmission when a driver shifts into reverse while the car is speeding forward," noted Ben Buchanan of Georgetown University in his book, "The Hacker and the State".

Shortly afterwards America and Israel launched Stuxnet, a computer worm that pulled a similar trick on Iranian gas centrifuges, which spin uranium, causing more than a thousand to break. In 2016 Russian malware, inspired partly by Stuxnet, disrupted Ukraine's electricity grid and cut power to a fifth of Kiev in the middle of a bitter winter. It targeted the protective relays which monitor current and voltage, shutting down electrical systems in abnormal conditions. Persuading machinery or circuitry to commit suicide is not the only way to harm people. In April 2020 an Israeli water and sewage plant was struck by a suspected Iranian cyber-attack apparently intended to fool pumps into adding excess chlorine to residential water supplies. Ukraine reported a similar intrusion at a chlorine plant in 2018.

Nobody died as a result of those attacks. But they might have done. The thwarted sewage-plant attack could have caused "very big damage to the civilian population", noted Yigal Unna, head of Israel's National Cyber Directorate. In Ukraine in 2016, the attackers appear to have pulled their punches, notes Mr Buchanan, targeting only a single electrical substation in Kiev. Such restraint may not last. In recent years, America and Russia have been probing one another's power grids and leaving behind malware, like arms caches stashed behind enemy lines. In a serious crisis, leaders might choose to use these instead of a riskier military option, potentially cutting off power to vital services.

Such services could also be more directly targeted by code-borne assaults. In 2017 North Korean hackers deployed WannaCry, a piece of "ransomware" that encrypted data and demanded a ransom to unlock it. It inadvertently struck Britain's National Health Service, affecting dozens of hospitals and nearly 600 doctors' surgeries. Unlike in Düsseldorf, the impact was limited—there was a drop in admissions but no increase in mortality. But malware specifically designed to disrupt health systems could certainly put lives at risk.

There may be simpler means of cyber-homicide. Vehicles—unlike centrifuges or transformers—tend to have highly breakable humans sitting inside them while moving at high speeds, increasingly with a connection to the internet. Such links tend to have weak security standards. Hackers have repeatedly demonstrated the ability to seize control of cars in motion; one such demonstration caused Fiat Chrysler to recall 1.4m vehicles in 2015. ABI, a market-intelligence firm, reckons that 91% of new light vehicles and trucks sold in America in 2020 have internet connectivity. At highway speeds, it would not take a Stuxnet to do some damage. As attackers become more sophisticated and the number of potential targets grows, it is now a question of when, rather than if, a cyber-attack will prove deliberately fatal.

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The plague of poverty

Sarah Maslin: Brazil correspondent, The Economist, SÃO PAULO

The continuing fallout from covid-19 will swell the ranks of the global poor

IN 2021 POVERTY will rise to levels unseen in a decade and governments will struggle to respond. The World Bank predicts that the pandemic will increase the ranks of the extremely poor, on less than $1.90 a day, by up to 150m. From 1990 until 2019 their numbers fell from 36% of the world's population to 8%. Now they are increasing for the first time since 1998. The UN says 240m-490m people in 70 countries will be pushed into "multidimensional poverty", a measure that includes lacking basic shelter or having children go hungry.

Most of the newly destitute will be in South Asia and sub-Saharan Africa. City-dwellers will fare worse than the rural poor, because they cannot grow their own food and tend to work in informal sectors that have been slow to recover (for example, as maids or street vendors). Many saw their safeguards disappear in 2020. Remittances from family members abroad stopped. Many sold assets such as jewellery. Millions will return to their villages. Many children will leave school to go to work.

The UN World Food Programme predicts that acute hunger will double by the end of 2020: an additional 130m people will not have enough to eat. The long-term effects will be dire, especially for young children whose physical growth and mental development will be stunted. The pandemic's disruption of health care means more mothers will die in childbirth, and more people will die from chronic illnesses such as diabetes, and preventable diseases such as malaria, in 2021.

All this suffering will exacerbate political instability and social unrest. Fragile states teetering on the edge of armed conflict will see skirmishes break out. Some may descend into civil war. Rising inequality and widespread frustration could lead to protests. And with virtually every country dealing with crises at home, efforts to help the most vulnerable nations will be limited. In the shadow of the pandemic, the plague of poverty will spread even further.

Ahem...about last year

Tom Standage: editor, The World in 2021

How did our forecasts for 2020 pan out?

THE WORLD IN 2020

For us and for other future-gazers, 2020 was a chastening experience

WELL, WE DIDN'T see that coming. Like almost everyone else, we were blindsided by the outbreak of covid-19, the first cases of which were identified in December 2019. As well as causing death and hardship around the world, and the delay or cancellation of events large and small, one of the pandemic's less important side-effects was to invalidate most predictions for 2020, including our own.

We expected a global slowdown, but not the biggest economic contraction since the Depression. We anticipated continuing Sino-American tensions over Chinese exports, but not of the viral variety. We looked forward to action to reduce greenhouse-gas emissions, but not an 8% annual reduction, the largest since the second world war, as the pandemic throttled transport and industrial activity.

That said, we got a few things right about events that took place before covid-19 went global. Donald Trump was, as expected, impeached but not convicted by the Senate. Tsai

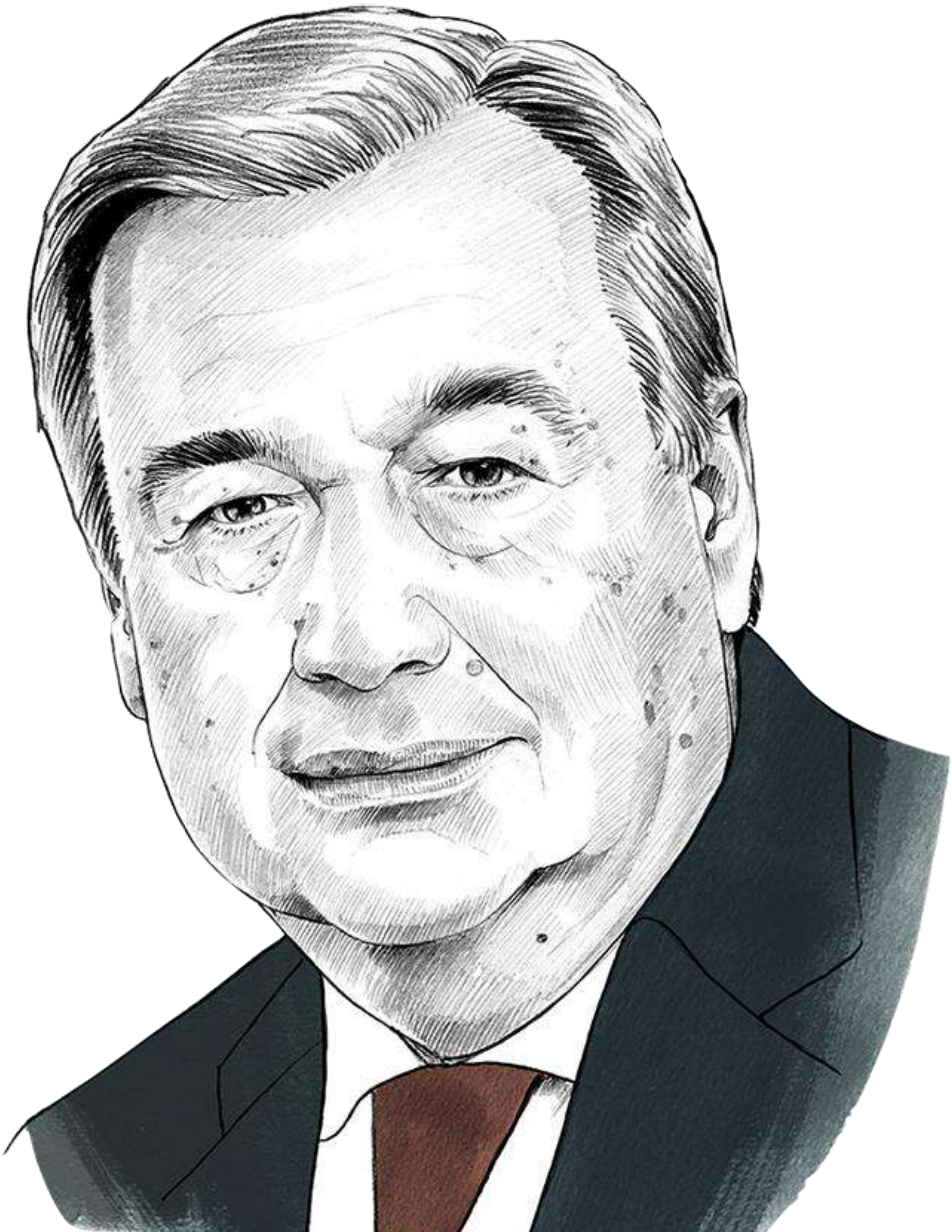
Ing-wen won re-election as president of Taiwan. And Sir Keir Starmer, whom we tipped as “a dark horse to watch” in the aftermath of Britain’s general election, became leader of the country's opposition Labour Party after its defeat.

Some predictions relating to the online world also stood up well, as people and activities retreated into the digital sphere. “Fortnite”, a popular video-game which we pointed to as the nearest thing to the virtual worlds depicted in science fiction, played host to a concert in April by Travis Scott, an American hip-hop artist, that some observers called the live-music event of this unusual year. We also pointed out that “American politicians are just starting to notice” the popularity of TikTok, a Chinese video app, among American teenagers. TikTok ended up embroiled in a row between the superpowers, in line with our prediction that more Chinese tech firms, beyond Huawei, would find themselves caught up in such fights.

Mostly, however, we got things wrong. In a further blow to our forecasters’ pride, GPT-2—a program developed by OpenAI, an artificial-intelligence startup—got a number of things right. Our “interview” with it was not meant to be taken seriously. But its predictions that “we are going to have a lot of turbulence in the world economy”, of “major changes in China” and that Donald Trump “will be defeated in the general election” turned out to be spot on.

Futurists love to talk about how machines will take everyone’s jobs. Despite decades of such predictions, it has yet to happen. Perhaps the jobs they should be worried about are their own. For us, and for other future-gazers, 2020 was a chastening experience. So should you expect to see more humility among prognosticators in 2021? Don’t bet on it.

It’s time to pull together



Global co-operation is vital to address the challenges ahead, says António Guterres, secretary-general of the United Nations

We also need a vaccine for our overheating planet

COVID-19 IS A test of international cooperation—and it is a test the world is failing. With some notable exceptions, countries have focused on themselves and defined their own strategies, sometimes in contradiction to what their neighbours were doing. We have seen the results. As countries go in their own directions, the virus has gone in every direction. Populism and nationalism, where they prevailed, did not contain the virus and often made things manifestly worse.

Rich countries mobilised resources at unprecedented levels, but much-needed resources are not reaching developing countries, which could face crippling debt and a liquidity crisis. Now, as a new year looms, the challenges are clear: the pandemic response will consume 2021 and the climate crisis will drive the decade. A sensible, sustainable recovery must start now.

Many are pinning their hopes on a vaccine, but there is no panacea in a pandemic. The priority is ensuring that any vaccine is a global public good—a people's vaccine available and affordable for everyone, everywhere.

We also need a vaccine for our overheating planet. The five-year period since the signing of the Paris agreement on climate change has been the hottest on record. Greenhouse-gas concentrations in 2021 will reach heights unseen in millions of years.

Ahead of the next United Nations climate conference in November 2021, I have urged world leaders to submit more ambitious national plans and long-term strategies aligned with the Paris agreement and the goal of limiting the average temperature rise to 1.5ºC. All countries, especially g20 members, should commit themselves to carbon neutrality by 2050. All companies, banks and cities should establish their own plans and benchmarks for a transition to net-zero emissions of greenhouse gases.

Technology and economics are on our side. A green economy fuels employment. Renewable energy generates three times more jobs than investments in fossil fuels. Bail-outs of industry, aviation and shipping should be conditional on aligning with the goals of the Paris agreement. It is time to end fossil-fuel subsidies, put a price on carbon and commit to no new coal.

Pandemic recovery is our chance to re-engineer economies and re-imagine our future. Recovery must also advance gender equality; no other single step could do more to fortify societies for the future. As vast sums are deployed to re-energise economies, how these funds are spent is a critical matter for people and planet alike. Covid-19 response and recovery also depend on silencing the guns and standing up for human rights. The fury of the virus shows the folly of war. A surge of hatred and misinformation has heightened the dangers. That is why I have called for a global ceasefire.

We must also avoid a new cold war, where the two largest economies split the world in a Great Fracture—each side with its own trade and financial rules, internet and artificial-intelligence capacities. Such divides risk turning into geostrategic and military splits.

International co-operation will be crucial. The arrangements agreed on 75 years ago prevented a much-feared third world war. But the world now needs a new generation of global governance with the un at its centre. At a time of lawlessness in cyberspace, erosion of arms-control agreements, rising inequalities, a pushback on human rights and a global trading regime tilted against the poor, we are not keeping pace.

We do not need new bureaucracies. But we do need a networked multilateralism that links global and regional institutions. We also need an inclusive multilateralism that engages businesses, cities, universities and movements for gender equality, climate action and racial justice.

My plan for a new social contract focuses on the national level, with investments in social cohesion, a new generation of social protection and policies to promote resilience in the face of economic and environmental shocks. Education and digital technology must be two great enablers and equalisers in making this possible.

My proposed new global deal seeks to ensure that power, wealth and opportunities are shared more broadly. Fair globalisation, free and fair trade, and prioritising the well-being of future generations are all building blocks of this new model of global governance.

We face two critical tests—covid-19 and climate change—compounded by a third: fragility and fragmentation. Realising that solidarity is self-interest will help us end this crisis and emerge stronger together.

Europe

Europe

Weathering the storm

Duncan Robinson: Brussels bureau chief and Charlemagne columnist, The Economist BRUSSELS

A difficult year looms for the European Union

2021 in brief

It is 100 years since the Anglo-Irish treaty was signed, concluding the Irish War of Independence and establishing an Irish Free State the following year

INTERNAL FRICTIONS, external worries and some long-anticipated farewells will be the order of the day for the European Union in 2021. A colossal amount of effort went into agreeing to issue €750bn ($888bn) in collective debt for the first time to allay a financial crisis, as covid-19 racked the continent. In 2021 EU politicians will learn that agreeing to borrow the money was the easy bit—agreeing how to spend it will be much harder.

Sceptical countries, such as the Netherlands, will keep a close eye on what governments are doing with the money; Spanish and Italian politicians will not appreciate other EU countries butting into their financial affairs. They will have to get used to it, though. Such debates are normally the purview of purely national politics. In 2021 they will start to take place on a European level.

Mark Rutte, the Dutch prime minister, will have little incentive to go easy on his southern neighbours. The Netherlands will go to the polls in the spring—the first of two important European elections in 2021—and Mr Rutte will pick a fight with southern governments so as not to lose voters to his Eurosceptic right. Yet the liberal-conservative Dutch prime minister will have to walk a tightrope: Europhilic parties lurk to his left. Mr Rutte has found a cunning way to balance these two camps. Expect him to join liberal rivals in staunch criticism of Poland and Hungary for backsliding on democratic norms. For the Dutch, a press-nobbling Hungarian is just as bad as a profligate Italian.

Doubts over the rule of law will dog the union in 2021. This will get worse as countries such as Bulgaria, Cyprus and Malta—where allegations of corruption, passport-hawking and press suppression are rife—join Poland and Hungary on the EU's naughty step. The single market rests upon the assumption that each country has incorruptible politicians, a free press and a fair legal system, which is not something that can be guaranteed. Patience will be in short supply.

So will action. Viktor Orban, Hungary's prime minister, has run rings round his liberal opponents for more than a decade, protected in part by his membership of the European People's Party, the influential centre-right group of European politicians. Invertebrate politicians from the centre-right have done little to restrain him. Mr Orban's run of victories will not be brought to a halt, even as his fellow leaders grumble.

Depressingly, many leaders ignore the topic because they believe the EU has bigger problems. When it comes to foreign policy, they are right. A ring of instability surrounds the bloc, from north Africa to Russia. Vladimir Putin and Recep Tayyip Erdogan will menace the union's frontiers, while the EU flails in its response. Coming up with a coherent foreign policy towards the EU's neighbours will be a nightmare. Interests diverge too sharply over countries such as Russia and Turkey, which manage to be useful friends for some member states and existential threats to others.

The EU will be more united on matters farther afield. It is easier, but still not easy, to devise a common policy towards China than it is on Russia. The arrival of Donald Trump in the White House was a timely reminder that American and European interests do not always align. European powers (egged on in particular by Emmanuel Macron, the French president) have learnt, belatedly, that sometimes the union must go it alone. European sovereignty—the ability not to be bossed around by a hegemon—will be the watchword. President Joe Biden will do little to stop this inexorable shift. Ursula von der Leyen, the newish president of the European Commission, has said she will run a "geopolitical commission". It is in the EU's relations with other great powers that this idea will be forged. The EU will remain wary of over-reliance on America. It is determined not to be sucked into any great-power struggle between China and America. Although the EU has long held its own as an economic power, using trade as a stick, serious attention will turn to its (lack of) military capability in 2021. After all, Britain, the main—but by no means the only—obstacle to such an approach, is gone.

In 2021 Brexit begins in earnest. After four years of argument, its effects will start to be felt. Business people have long been aware that their lives will change, but British citizens will receive a ruder awakening. Attention will be grabbed by seemingly trivial consequences. Rows over such issues as pet passports—and the potential spectacle of French border guards impounding British dogs—rather than more substantial economic issues will play an improbably large role in the debate. Brexiteers have long made the mistake of assuming that the EU is puny. Remainers, meanwhile, assume that it is kind. Both are in for a shock.

Other departures will leave more of a hole. Angela Merkel will exit the European stage when she leaves office after the German election in the autumn. Mrs Merkel has been the Copernican constant of the EU system: politics moved around her. Although Germany did not always get what it wanted, it was nearly always able to stop what it opposed. Her departure will leave a vacuum. Who will fill it? For Europe, that will be the most consequential outcome of 2021.

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After Angela

Tom Nuttall: Berlin bureau chief, The Economist, BERLIN

Who will become Germany's next chancellor?

Auf Wiedersehen

The prospect of life after Merkel will prove unsettling to many Germans

20201 in brief

A new law comes into force in Germany banning the sale from July of disposable plastic products such as straws, cutlery and cotton buds that are polluting the world's oceans

GERMANY'S LEADERS have a habit of longevity. Konrad Adenauer ran West Germany for 14 years, Helmut Kohl for 16. Angela Merkel, who took office in November 2005 and will stand down after the federal election in the autumn of 2021, could outlast them all (overtaking Kohl if coalition talks run until mid-December). Over four terms as chancellor, three of them running a "grand" coalition of centre-left and-right, Mrs Merkel embodied the virtues of competent centrism and emerged as Europe's crisis-manager-in-chief. But those same qualities have had a tranquillising effect on German politics. The prospect of life after Merkel will prove unsettling to many Germans.

That sense will only be heightened by the unpredictability of the election. Mrs Merkel's conservative Christian Democratic Union (along with its Bavarian sister party, the Christian Social Union) is still likely to lead the next government, as it has for all but seven of the 30 years since reunification. But the CDU/CSU's "Merkel bonus", boosted by steady handling of the covid-19 crisis, will fade in 2021 as German voters adjust to the party's new leadership.

Mrs Merkel's hopes of engineering her own succession collapsed when Annegret Kramp-Karrenbauer, her protégée, flamed out in early 2020. Each of the three men now vying to replace her as party leader will expect victory to translate into a CDU/CSU nomination for the chancellorship (the two parties propose a joint candidate). Armin Laschet, the premier of North Rhine-Westphalia, Germany's largest state, offers centrism in the Merkel mould. Friedrich Merz, a pro-business Atlanticist, promises a flintier conservatism. Norbert Röttgen, the third contender, is a long shot. The dark horse is the CSU's charismatic leader (and Bavaria's premier), Markus Söder, whose high approval ratings might endear him to the CDU should its own new leader fail to inspire voters.

After the election a fragmented parliament will complicate the formation of a coalition. Eight unhappy years as understudy to Mrs Merkel mean the Social Democrats (SPD) may relish a spell in opposition, despite the ambition of Olaf Scholz, Germany's finance minister and the SPD's candidate for chancellor. But the Greens, already in governing coalitions in more than half of Germany's 16 states, are gearing up for national office. Their co-leaders—Annalena Baerbock and Robert Habeck, who must decide which of them will lead the election campaign—have shifted the party to the centre. A CDU/CSU-Green ("black-green") coalition, the likeliest outcome, might combine Green compromises on defence and foreign policy with conservative assent to a big programme of climate-friendly public investment. Less probable coalitions include a Green- or SPD-led "progressive" government with the ex-communist Die Linke.

Mrs Merkel's successor will be tempted to imitate her measured approach. But new tests await. Perhaps the chancellor's greatest fault was failing to prepare Germany for long-term challenges, from insecurity in Europe's neighbourhood and beyond to the disruptions facing its crucial car industry. The crises she managed battered Europe but rarely interrupted stability at home. Her successor may not be so lucky.

Riding to the rescue

Rachana Shanbhogue: finance editor, The Economist

The European Commission will turn on the spending taps—and become mightier as a result

The view in Brussels

EUROPE'S ECONOMY is hobbling into 2021. The pandemic hit it hard and southern economies have suffered the most. Output in Italy and Spain shrank by a tenth or more in 2020. As furlough schemes are pared back, unemployment could well reach 20% in Spain. By comparison Germany, with its downturn of 5% in 2020, will seem to have escaped relatively unscathed.

This north-south divergence would once have spelt disaffection with the European Union and caused strains on the currency union, especially as southern countries, burdened by high levels of public debt, have much less capacity to stimulate their economies than northern ones. But 2021 will bring a break with the past. For the first time the EU itself will act to redress the balance, through its €750bn ($888bn) recovery fund, which will be financed by debt issued by the European Commission and jointly backed by its member states. It will begin doling out the dosh through loans and grants.

The cash should have a powerful effect. Countries that are in greatest need, such as Italy and Spain, will receive the most. Beneficiaries will be encouraged to invest in clean technologies and digital infrastructure, which should lift Europe's otherwise lacklustre growth potential. It will also help that monetary policy will stay stimulative. The European Central Bank has pledged to keep interest rates low for as long as needed to raise inflation towards its target of close to, but below, 2%. After completing a strategy review, which concludes in mid-2021, it may even promise to tolerate a period of above-target price rises, in the hope of encouraging an economic revival.

The recovery fund will mean a more muscular European Commission. For decades it was charged with policing countries' spending plans and enforcing the EU's fiscal rules, but had little power to punish misbehaviour. Now, with hundreds of billions of euros at its disposal, it could have more bite. Its officials will review countries' spending plans before making payouts (though only national governments can veto handouts).

The commission will be a big influence in financial markets, too. Before the pandemic it issued only a tiny amount of debt each year. By 2024 it will be one of Europe's top issuers. Investors, hungry for super-safe assets, will flock to its highly rated bonds. A chunk of the recovery fund will be financed through green bonds, meaning that the commission could account for as much as a quarter of eco-friendly issuance over the next three years. That will contribute to the growing popularity of this newish asset class.

Governments will also start discussing how all this debt should be paid off. The talks will take years; but with some countries preferring that the EU levy its own taxes rather than that their own contributions rise, an even mightier role for the commission could be on the cards. And if the recovery fund opens the door to more debt issuance in the future, as supporters hope, then the commission's role as the EU's quasi-fiscal authority could be here to stay.

There will be niggles, of course. Some members—mainly the Dutch—will deem some projects in some countries a waste of money. A truly speedy recovery would have required the cash to be doled out much faster. Perhaps a fifth of the fund will make it out of Brussels in 2021, and delays in national capitals mean that even less will actually be spent in the course of the year. As economies stay fragile, countries will, undoubtedly, need to spend more themselves. But for all that, without the recovery fund, Europe's economy—and the European project itself—would have been much, much feebler.

Macron’s balancing act

Sophie Pedder: Paris bureau chief, The Economist, PARIS

French politicians limber up for the presidential elections of 2022

Looking for a middle way

2021 in brief

The Spanish province of Galicia, covid-19 permitting, hopes to celebrate the jubilee of Santiago (St James the Apostle) in 2021. The year-long festivity can only take place when July 25th falls on a Sunday. More pilgrims following the way to Santiago de Compostela, would bring joy both to religious authorities and the tourist industry

WHO MIGHT credibly challenge Emmanuel Macron for the presidency? By the end of 2021 the French will get a good sense of which rival opponents could do so at elections the following spring. This will make for a politically divisive year, as hopefuls of all stripes test their chances. Stand by for tribal feuds, culture wars, opportunistic incursions—and a lot of Macron-bashing.

In 2017 Mr Macron crushed the mainstream parties of the left (the Socialists) and the right (the Republicans) at national level. But each retains strong local roots. So both will do well at elections scheduled in all of France’s 13 regions in March—covid-19 permitting. By contrast, Mr Macron's party, La République En Marche! (LREM), is unlikely to win a single one, exposing its structural fragility.

One race to watch is that in Hauts-de-France, in the north. The sitting regional president, Xavier Bertrand, an ex-Republican, will use his re-election bid as a platform to run for the French presidency in 2022. The space he seeks to occupy is narrow. The centrist Mr Macron has lured ex-Republicans to his government to shore up centre-right support. But the president will be closely watching Mr Bertrand, who has cultivated a fashionably anti-Parisian image from his northern base.

The left's presidential prospects depend on whether the squabbling Socialists and Greens can agree on a single candidate. Apart, they will struggle. The Socialist Party is a shadow of its former self. The Greens are more upbeat, having won several city town halls in 2020. But their support is skewed towards metropolitan voters. And they will find it hard to overcome internal quarrels, notably between Yannick Jadot, a national leader, and Éric Piolle, the eco-radical mayor of Grenoble. Keep a close eye on Anne Hidalgo, the bicycle-riding Socialist mayor of Paris, who was re-elected with Green backing. If she decides to run, and can secure national Green support and break out of her big-city image, Ms Hidalgo could become a serious presidential challenger.

Mr Macron's potential rivals are desperate to avoid a repeat of the previous presidential run-off, between him and the far-right Marine Le Pen. But she retains a core nationalist base, which will be hard to dent. She will play on old fears (migrants) as well as new ones (covid-19 conspiracies) to stir indignation and distrust of elites. She will promote her protégés and squash any move to push her niece and rival, Marion Maréchal, back into politics.

Denounced from all sides, Mr Macron will play a shifting game of political *équilibrisme*—balancing left and right, Paris and the regions—to try to destabilise his opponents, wherever they emerge. He will counter his market-liberal image with spending from a €100bn ($120bn) stimulus plan, a third of it earmarked for green measures. He will continue his crackdown on Islamist radicals, while drawing up measures to improve early education (as well as secular teaching) in the country's heavily Muslim *banlieues*. Unloved in the polls, Mr Macron is often at his best when others write him off.

A turbulent year will be made all the more so when state support is wound down, firms go under and jobs are lost. In ever-volatile France, social revolt cannot be ruled out. But while Mr Macron grapples with discontent at home, he will increasingly assert himself abroad, stepping into the gap that will be left by Angela Merkel's departure as German chancellor in the autumn. Plenty of friction looms as the French president seeks to model Europe into a muscular player in the face of global big-power rivalries and regional troublemakers, from Turkey and Russia to Libya. Not everybody will appreciate Mr Macron's diplomatic activism. But in a post-Brexit, post-Merkel Europe, leadership will be his for the taking.

Follow the money in Italy

John Hooper: Italy and Vatican correspondent, The Economist, ROME

Lots of liquidity, but any chance of structural reform?

Same old cycle?

The allocation depends on the size of the economic hit from covid-19

THE COMING year will be when Italy hits the jackpot. By summer the first tranche is due of the cash the European Commission is raising to help EU member states recover from the effects of covid-19. Italy will get a disproportionately large share: according to the government, €209bn ($250bn) in grants and loans, out of a total of €750bn.

Such a massive injection of liquidity would be unprecedented: not even the Marshall Plan, which transformed Italy's fortunes after the second world war, delivered as much (taking into account the size of the economy and after factoring in inflation). Whether the EU's recovery funds will have the same impact will depend on several factors.

The first is whether the government's estimate proves correct. The eventual allocation will depend partly on the size of the hit each country's economy took from covid-19 restrictions. Halfway through 2020, Italy's GDP was 17.3% below its level of a year earlier. That was worse than the EU average. But Italy still fared better than either Spain or France.

The second question is whether the authorities can devise the kinds of projects the European Commission can approve: the greener and more digital the better. And a third is whether the money that is allocated will all reach its intended destination. One of the aims will be to channel funding to the *mezzogiorno*, as the country's south is known, in an effort to close the wealth gap with the richer north. Past efforts to achieve that have failed, in part because too much of the cash has ended up in the hands of Italy's organised criminals, who are ominously well embedded in the legal economy.

But perhaps the most important question of all, when it comes to Italy's future productivity, competitiveness and overall prosperity, is whether those in charge are ready to accompany the aid with the kind of painful structural reforms that the country has successfully fended off for more than two decades. That, in turn, will depend on politics.

The coalition of the prime minister, Giuseppe Conte, which includes the centre-left Democratic Party (PD) and the anti-establishment Five Star Movement (M5S), looks relatively durable, despite a fragile majority in the Senate, parliament's upper house. But the M5S in particular has a weakness for nationalisation and the PD has historical and emotional ties to a labour movement that has successfully blocked attempts in the past to make Italy a more modern and efficient country. Do not hold your breath.

More pain in Spain

Michael Reid: Bello columnist; senior editor, Latin America and Spain, The Economist, MADRID

A weak government looks to Europe for help

HOW FAR behind the rest of Europe will Spain's economic recovery lag? And will the resentment of the many losers from the covid-19 crisis translate into destabilising support for extremist forces? These are the big questions facing the country in 2021.

A long and severe lockdown, the wiping-out of the tourist season, disruption caused by renewed outbreaks of covid-19 and less fiscal firepower than some of its neighbours all conspired to plunge the country into a deep recession. The economy shrank by around 12% in 2020 with the loss of 1m jobs. Recovery has begun but it is complicated by a strong resurgence of the virus and renewed restrictions on leisure activities.

The recovery is also lopsided. Spain is unusually dependent on tourism (12.3% of GDP in 2019) and other face-to-face businesses. Nobody wants to go back to a generalised lockdown, but some regional governments will struggle to organise effective tracking, tracing and isolation of those infected with the virus.

In some ways life will become easier for the minority left-wing coalition government of Pedro Sánchez, the Socialist prime minister. A decision by Ciudadanos, a centre-right party, to rally round seems likely to help him pass a budget. He will hope to avoid having to reduce emergency aid to workers and businesses too soon. If things go well, the economy could grow by 7% or so in 2021. The government places high hopes in the €140bn ($165bn) it expects over time to get from the European recovery fund. Most of this will go on projects such as renewable energy, digitisation or reforms of training schemes that will yield benefits only in the medium term.

So far Spaniards have been admirably stoical. But as they endure the second economic shock in a decade their patience may wear thin. The previous crisis gave birth to Podemos, a far-left party that is now the junior partner in the government. The current one may boost Vox, a hard-right party which became the third-biggest force in parliament in elections in 2019. Despite falling support for independence in Catalonia, the separatist parties there will hope to benefit from the apathy of their opponents in a regional election due on February 14th.

Mr Sánchez will muddle through. If the economy recovers strongly and the pandemic recedes he could call a snap election before the inevitable fiscal adjustment of 2022. His Socialists would hope to make gains at the expense mainly of Podemos. However, the likelihood is that Spain faces more years of weak government.

Hungary's Viktator

Vendeline von Bredow: European business and finance correspondent, The Economist, BERLIN

Viktor Orban will hold on to the extraordinary powers he seized to fight the coronavirus

Hungary (and Orban) first

2021 in brief

Portugal holds presidential elections in January. The incumbent, Marcelo Rebelo de Sousa, a former leader of the centre-right opposition, is the strong favourite to win. Portugal's president is more than just a figurehead, having the power to dissolve parliament

THE START of 2021 will be difficult for Hungary. After a relatively mild first wave of the covid-19 pandemic in spring 2020, the country's second wave, which started in the late summer, brought a much higher rate of infections as well as more fatalities. The economy will be in the doldrums as the new year dawns. And yet the prime minister, Viktor Orban, will be more firmly in the saddle than at any time since he returned to power in 2010.

Frightened by the spectre of a pandemic in a country with a decrepit health-care system, Mr Orban took near-dictatorial powers through a law enacted at the end of March 2020. The law allowed him to rule by decree—bypassing parliament—until the coronavirus crisis is over.

Human-rights groups, European Union lawmakers and the international press were outraged. The European Commission threatened budgetary sanctions. The government had the gall to demand that American news outlets apologise for "baseless" critical reports about Mr Orban's emergency powers—though in June it asked parliament to revoke them.

In reality, Mr Orban merely pretended to give them up. Even as parliament repealed the emergency-power law, it passed another one that gave the prime minister the same sway, this time with even fewer restrictions.

The new powers are buried in a 250-page document, says Kim Lane Scheppele, an expert on constitutional law at Princeton University. Mr Orban created a new "state of medical emergency" that can be declared by the government without parliament's consent—and, once such a state has been declared, parliament has no ability to suspend it. The government immediately used this new power to keep military commanders in charge of hospitals. It also extended the remit of an emergency body, created to contain the virus, whose members are not part of the cabinet.

The state of medical emergency is in theory limited to six months. In practice the government can extend the emergency as often as it pleases—and it is likely to do so twice in 2021. It has done the same with the "state of migration emergency", a law passed in 2015 that was then extended every six months.

Mr Orban is in for the long haul, predicts Ms Lane Scheppele. Only an uprising, it seems, could remove him from power—but Hungarians are frightened of what might replace the Orban autocracy. He will face parliamentary elections in the first half of 2022, after what is likely to be a year of economic and health-related hardship. Yet for many the result is hardly in doubt. The Viktator will almost certainly keep his two-thirds super-majority in parliament.

Rebel Swedes

Matt Steinglass: Europe correspondent, The Economist

The split over covid-19 will continue

THE NORDIC countries share similar political models and cultural norms. So when covid-19 arrived in March 2020, many expected Denmark, Finland, Norway and Sweden to adopt similar policies. Instead Sweden took a loose approach, keeping restaurants and primary schools open and relying on citizens to observe social-distancing recommendations themselves. The others enforced strict lockdowns and relaxed them only as the epidemic receded.

That turned the Nordics into a natural experiment, testing which approach best preserves public health while minimising economic and social damage. Depending on the answer, you would expect that in 2021 either the Swedes would shift to their neighbours' approach or vice versa. Which might it be?

At first the answer seemed clear. In spring 2020 Sweden's infection rates rose far above its neighbours'. By mid-June its daily case rate, adjusted for population size, was ten or more times as high as those in Denmark, Finland and Norway. By the end of July Sweden had registered 5,729 deaths officially ascribed to covid-19. Denmark, with about half

Sweden's population, had recorded just 615. Sweden was seen as a covid-19 super-spreader. In June, when the others reopened their borders to European travellers, they kept them largely closed to Swedes.

Yet over the summer Sweden's infection rate fell along with those in the rest of Europe. When the pandemic's second wave arrived in late August, it was Denmark that had the worst outbreak in the Nordic region. About half of Sweden's covid-19 deaths had been in care homes, a result mainly of negligence and bad luck rather than policy. Swedes were moving around more than citizens of other Nordic states, but otherwise their social-distancing practices were not too different. Had they been right all along?

Probably not. For the economy, eschewing a lockdown merely postponed the damage. Sweden's GDP and employment rate stayed buoyant in March but dropped when infections rose, even as the other Nordics rebounded. Containing the virus allowed the others to reopen their schools quickly, too. Tests in August showed that even in hard-hit Stockholm, less than a quarter of residents had antibodies to covid-19, far from the rates needed for herd immunity.

In 2021 Sweden's neighbours will not imitate its policies. The Nordics trust each other less than before. "It was worrying that we had to take different pathways," says Mika Salminen of Finland's Institute for Health and Welfare, which advises the government on covid-19 policies. If infection rates diverge again, there will be new travel restrictions. Another legacy is a hit to Sweden's strict, hygienic image. "It's very strange that Sweden is the big risk-taker among the Nordics—they've always been the safe player," says Asne Seierstadt, a Norwegian journalist.

Yet the Swedes seem happy with their rebel status. In 2021 they will stick with their lenient measures, including shorter quarantines (of just seven days). The strategy retains overwhelming approval at home, and Anders Tegnell, the country's infection-control chief, has become a national icon. The Nordic split shows that in public health, communication and trust are as important as results.

Balkan shrinkage

Tim Judah: Balkans correspondent, The Economist

Emigration and low birth rates are taking their toll

MOST EUROPEAN countries will carry out a census in 2021, and for many of them the results will be easy to predict. It is a different matter in the Balkans.

Ever since the fall of communism and the end of the bloody Yugoslav wars that followed, people in the Balkan region have been having fewer children and many people have been emigrating. This exodus has been aided by labour-hungry parts of Europe like Germany making it easier for citizens of non-EU countries to get work permits. The fact that no one knows how many have gone and how many remain is causing problems for the Balkan countries' planners.

North Macedonia has not had a census since 2002. Since then its statistical office has dutifully been making projections based on the country that it used to be. The statisticians estimate that there are 2.08m people in North Macedonia—but the real figure could be as low as 1.5m. In some countries, such as Bulgaria, the figures are more up to date, but whether the numbers are reliable or not, the trends are the same. The combination of emigration and low birth rates means that these societies are ageing and, with no inward migration, their populations are shrinking.

In 1989 there were 8.9m Bulgarians; now there are only 6.9m. Three decades ago Serbia (not including Kosovo) had 7.8m people; today it might have 6.9m. There used to be 23.2m people in Romania, but in 2020 they were estimated to number 19.4m. Moldova, which will not hold a census until 2023, may have lost a third of its population, currently about 2.7m, since the end of communist rule.

As for births, Bosnian women have a fertility rate of 1.26, Albanian women of 1.37—some of the lowest in the world, and far below the replacement level of 2.1. Other countries, such as Bulgaria, where the rate is 1.56, are closer to the EU average of 1.55, though without immigration that is not enough to stop the population shrinking. Economic worries as a result of the coronavirus pandemic mean that women are likely to have even less babies now than ever before.

The censuses in 2021 should provide governments with the reliable data they need to plan for everything from kindergartens to pensions, as the better-educated emigrate and more of the poorly educated and the elderly are left behind. But whatever the precise numbers, the outlook is not bright. Projections by statisticians at both the UN and the EU suggest that by 2050 Bulgaria will have lost 39% of its population since 1989, while Bosnia will have lost 37%, Romania 31%, Serbia and Croatia 24% and Albania 25%.

Such large changes will bring big social and economic consequences. To take one early example, unemployment used to be a problem across the region. Labour shortages are now a bigger worry.

A battle for Russia

Arkady Ostrovsky: Russia editor, The Economist

Vladimir Putin v Alexei Navalny

Novichok? My hands are clean

2021 in brief

Italy marks the 700th anniversary of the death of Dante Alighieri, a medieval poet and philosopher who wrote “The Divine Comedy”, and is known as the father of the Italian language. Born in Florence in 1265, Dante died in exile in Ravenna in 1321

THE 30TH ANNIVERSARY of the collapse of the Soviet Union will be a poignant backdrop for Russian politics in 2021. In August 1991 Communist Party hardliners led a coup against Mikhail Gorbachev, the last Soviet reformer. They brought tanks onto the streets in an effort to reverse the current of history that had moved against them, and in doing so accelerated the disintegration of the empire. Muscovites came out to defend their national parliament under the tricolour flag of Russia. Four months later the Soviet Union was dissolved.

Although most former Soviet republics have moved on, Russia itself has reverted to its imperial past. Vladimir Putin, who began his presidency in 2000 with the restoration of the Soviet anthem, has gradually reinstated many of the old Soviet practices, including censorship, repression, confrontation with the West and aggression towards neighbours. His willingness to throw away the post-cold-war rulebook and ability to use force have given him a tactical advantage over the West.

But 30 years after the Soviet collapse, another fast and powerful historical current is moving against the remnants of the Soviet order. This current will intensify in 2021, exposing the costs and failures of Mr Putin's policy. Having bet his legitimacy on the idea of imperial resurgence, he has alienated most of the former Soviet republics, which now see Russia as a threat rather than a magnet. His annexation of Crimea and the war in Donbas have cost Russia its relationship with Ukraine. And the six-week war between Armenia and Azerbaijan, which ended in a Russian-brokered peace deal on November 10th, showed the growing role of Turkey in the region.

Perhaps nowhere is the Soviet legacy being challenged as visibly as on the streets of Belarus, one of the most authoritarian and seemingly docile parts of the former Soviet empire, now being swept by a national uprising. For the past 26 years it has been ruled by Alexander Lukashenko, a populist former collective-farm boss, who used the Soviet legacy as a foundation of his regime. He got rid of the red-and-white flag first introduced in 1918 during a short-lived period of Belarusian independence and then re-adopted in 1991, swapping it for a modified version of the flag of Soviet Belarus. With the help of Russian subsidies he kept factories in state hands, repressed his people and rigged elections in the name of stability.

In August 2020, hundreds of thousands of Belarusians took to the streets to protest against his stealing yet another election. He greeted them with violence, turning a protest into a national uprising. Demonstrators wrapped themselves in the national red-and-white flag and sang Belarusian songs, which Mr Lukashenko tried to drown out with Soviet music.

The national awakening was rightly perceived as a threat to Mr Putin's regime, too—not only because it exposed the brittleness of dictatorship, but because it challenged its shared ideological foundation. It also struck a chord with protesters in Khabarovsk, in the Russian far east, who took to the streets at almost the same time, after the government in Moscow arrested their popular governor. And whereas the Kremlin backed Mr Lukashenko, its opponents in Russia cheered Belarusian protesters and displayed their flag on the streets and on the internet.

Like Mr Lukashenko, Mr Putin has built his ideology almost entirely around Soviet dates and symbols. He has turned the military parade marking the Soviet victory in the second world war into his main official pageant. In 2020 it preceded a pseudo-referendum on constitutional changes that reset Mr Putin's presidential term limit to zero, enabling him in theory to stay in power until 2036. Yet his approval ratings and his legitimacy are steadily declining, along with Russians' disposable incomes. A stagnating economy will not reverse this trend.

The poisoning of Alexei Navalny, Russia's main opposition leader, with Novichok, a military-grade nerve agent, seems like a sign of desperation. Mr Navalny's survival and his assertion that Mr Putin was behind the attack have further undermined the president's standing.

Although Mr Putin controls the courts, the security services and electoral committees, Russia’s parliamentary elections in 2021 are likely to turn into a battlefield. Mr Navalny’s tactic of consolidating protest votes against the United Russia party, the vehicle through which Mr Putin exercises his power, could shatter the Kremlin’s appearance of omnipotence. Even more important, Mr Navalny’s vision of Russia as a modern nation state could prove to be more appealing than Mr Putin’s Soviet-style imperial nationalism. A serious fight for the parliament that 30 years ago declared Russia’s independence from the Soviet Union could make this an unexpectedly significant anniversary year.

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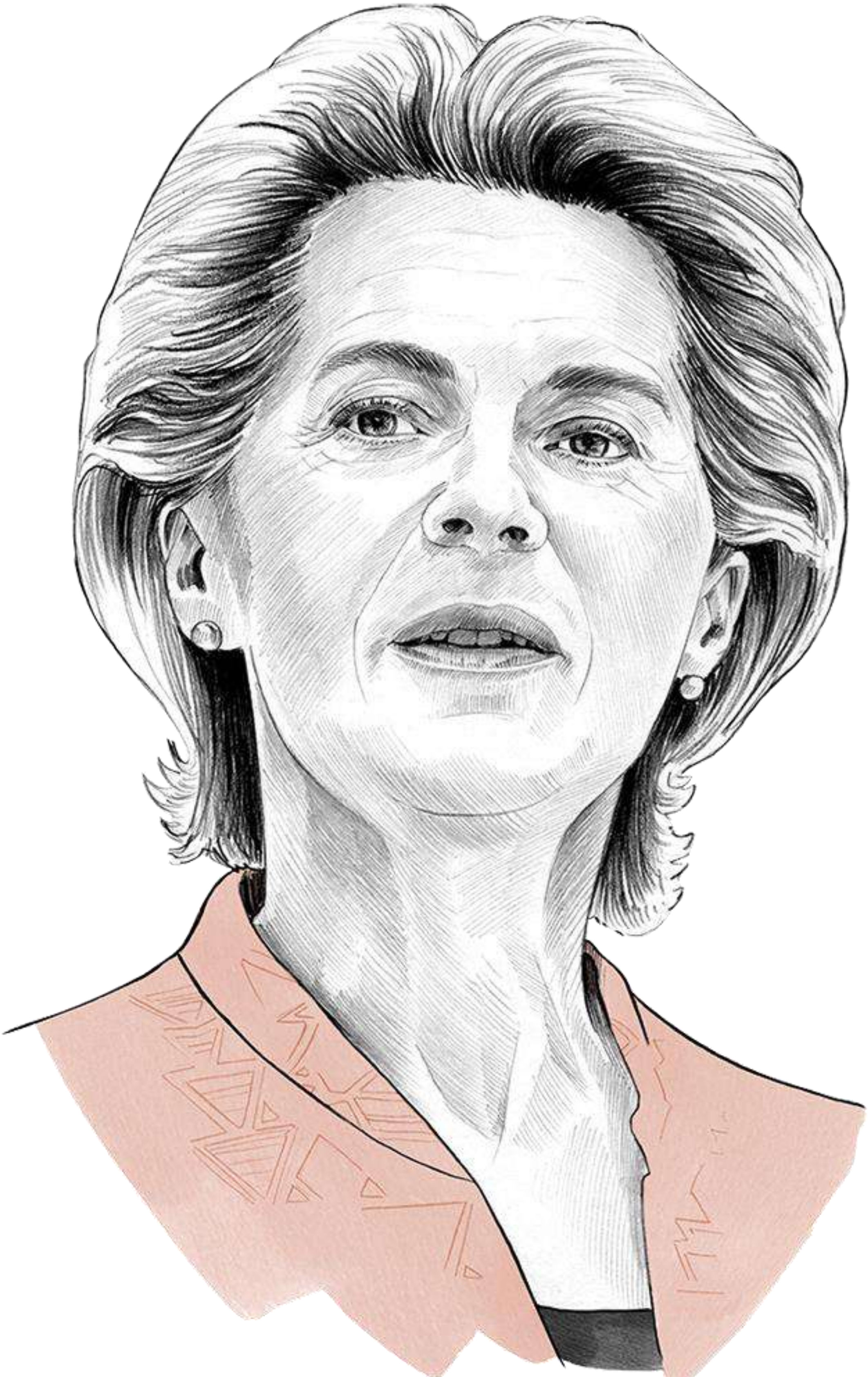
Team Europe, playing for the world



From defeating the virus to combating climate change, solving global problems requires teamwork, argues Ursula von der Leyen, president of the European Commission

The European Union has a unique asset—our convening power

SOME COUNTRIES see the quest for a vaccine as a race among global powers, reminiscent of the space race of the 1960s. This is an illusion. The only race is against the virus and against time. We, as human beings, are fighting this together. Our best strategy is co-operation, and this has been the European Union's approach from the very outset of the coronavirus crisis.

It usually takes up to ten years to develop, test and distribute a new vaccine. But the world cannot afford ten years of this pandemic—a decade of mourning, confinement and disruption. Every month we gain will save thousands of lives and millions of jobs. Dozens of research teams are now racing to develop vaccines. We need as many as possible to reach the finish line.

This is all about geopolitical co-operation, not competition. It will not matter whether the first vaccine is Chinese, American or European. What truly matters is that the world gets a safe vaccine with the shortest delay, and that the most vulnerable are immunised first, wherever they are. Doctors, nurses, elderly people and essential workers should take precedence, whatever their nationality. This is the most efficient way to stem the pandemic and save lives. Vaccine nationalism—a "my country first" approach to immunisation—can only slow down the global fight against the virus.

Since the early days of the crisis the European Commission has worked to give health professionals a better chance to succeed, in our collective interest. When the initial outbreak morphed into a global pandemic, we swiftly joined forces with the World Health Organisation and other global-health actors, such as Gavi and CEPI, as well as businesses and civil-society groups. Together we launched an initiative to speed up the fight against the disease: the Access to Covid-19 Tools Accelerator.

Its vaccines pillar, called COVAX, brought together 170 countries with NGOs, business leaders and philanthropists, to create the largest portfolio of vaccine candidates in the world. The aim is to make sure that as many vaccines as possible reach the trial phase and, eventually, the market. Instead of competing against other countries, Europe is joining forces with them, so that we all increase our chances of success.

We do not do this out of altruism. We simply realise that our European interest coincides with a shared global interest. While engaging in talks with six pharmaceutical groups to purchase potential vaccines for European citizens, we are also working to reserve and finance doses for low-income countries through COVAX. For instance, when we signed advance-purchase agreements with Sanofi and GSK, we agreed they would reserve a significant portion of their vaccine supply for COVAX.

This is how I see the European Union's mission in today's world. We have a unique asset—our convening power. As a union of 27 sovereign countries, we have an unparalleled diplomatic network. We are a trusted interlocutor for international organisations and NGOs. We can reach out to countries that will not even talk to each other, and rally them around a common cause. We are team-builders by vocation, and in the quest for a vaccine we have put our convening power at the service of all nations.

I want Europe to be a global leader—and true leaders are not those who leave everyone else behind. Leadership is about building large and strong coalitions towards a common goal. Take climate action. We have become a trailblazer in the transition towards a cleaner and more circular economy, and the European Green Deal will accelerate this transition. We have set the highest goals for ourselves: the European Union will cut its carbon emissions by at least 55% compared with 1990 levels by 2030, and we will be climate-neutral by 2050.

Yet the European Union accounts for less than 10% of global emissions. We cannot stop global warming alone. The good news is we are not alone. There is a global movement for climate action, one that can count on powerful nations but also on countless cities, local authorities and individuals. Europe wants to contribute to the movement and make it grow. We will form ambitious coalitions in the fight against climate change, deforestation and chemical pollution. On emissions trading, we are ready to work with all partners who also believe that carbon must have a price.

Our offer to the world is clear. Let us join forces for our common good. There is no time to lose. In 2021 will humanity finally play as a team? I do not know—but I do know where Europe will stand.

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Britain

Britain

Disruption, deficit and dole

Duncan Weldon: Britain economics correspondent, The Economist

The lasting impact of covid-19 will dominate the economic outlook

2021 in brief

A retired Boeing 747 jumbo jet starts a new life at Cotswold Airport in Kemble, England, after the pandemic brought its 26-year flying career to an early end. It can be hired as a cinema and conference venue, with its inflight entertainment system available for business presentations. Meanwhile another retired 747, at Dunsfold aerodrome, takes on a new role as a film set

FOR THE British economy, 2021 will be a strange year. The annual rate of GDP growth will be the fastest in decades. Yet the country will be gripped by a sense of crisis, amid high unemployment and a huge deficit.

The year will open with a trade shock as Boris Johnson's government at last fulfils its pledge to "get Brexit done": Britain's transition period in the European single market and customs union comes to an end on December 31st 2020. The difference between the once-feared no-deal outcome and the kind of thin trade arrangements that the government has sought to negotiate is relatively minor in the longer run. And in the short term both will lead to disruption. Carmakers and the aerospace industry, whose just-in-time processes were built on the assumption of easy cross-border movement in Europe, will for a while struggle to adapt. Retailers will face shortages of some goods as customs-clearance procedures take time to smooth out.

But whereas Brexit dominated British political and economic discourse from 2016 until 2020, it will be the recovery from the recession caused by covid-19 that takes centre stage in 2021. Britain experienced its deepest recession in at least a century in the first half of 2020. Although the initial bounceback was relatively rapid, the recovery slowed towards the end of the year. The government's furlough scheme, which ran from April to October, helped keep unemployment down through the early stages of the pandemic. But as job losses mount and hiring remains low, unemployment will head to its highest level since the early 1990s.

With labour-intensive industries such as (physical) retail and hospitality both suffering from social-distancing regulations and the rise of working from home, joblessness will remain stubbornly high throughout 2021. The "kick-start" scheme introduced in the autumn of 2020 to help young people into work will be followed by more job-creation schemes in 2021 as the Treasury fights to bring unemployment down.

A persistently high government deficit will lead to much angst, but little action to sort it out. As long as borrowing costs remain low the chancellor of the exchequer, Rishi Sunak, will be content to talk about the need for tough action later in the parliament. No serious discretionary fiscal tightening will take place before 2022 at the earliest. Instead both the spring and autumn budgets in 2021 will be preceded by the usual briefing on the need for tax hikes on pensions, the self-employed and high-earners, before the chancellor rules them out for the near term. But one focus for the government will be infrastructure spending, with the chancellor and prime minister both keen to get their "levelling-up" agenda, to help Britain's disadvantaged regions, back on track.

Another big issue for policymakers in the second half of the year will be a rising tide of defaults on government-backed "bounce-back" loans. This scheme, under which the Treasury offered a 100% guarantee on loans of up to £50,000 ($65,000), was introduced in May 2020 to support small and medium-sized firms. With a government guarantee, banks felt less need for detailed due diligence, and stepped up their lending. Some £38bn was loaned out in the scheme's first five months, to 1.6m businesses. The first interest and capital payments will be due in May 2021—and bankers fear that as much as 40% of the loans will go bad quickly. The government will either have to pursue hundreds of thousands of small businesses through the insolvency courts, or write off billions of pounds by converting the loans into grants.

Despite pandemic- and Brexit-related supply disruptions, inflation will stay low. The weak jobs market will hold back wage growth, and demand will remain soggy. The Bank of England will leave interest rates at 0.1%—and is more likely to expand its programme of quantitative easing than move to negative interest rates in the face of any new economic shock.

By the end of 2021 the economy will have made up the ground lost in the first half of 2020. But it will have emerged from the hole with higher unemployment, a much larger stock of government debt and scars that may take years to heal.

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Deconstruction

Adrian Wooldridge: political editor and Bagehot columnist, The Economist

Boris Johnson wants to reform the state

The civil service relies too much on the old model of generalists

2021 in brief

"The Archers", an everyday story of country folk, and the world's longest-running drama, celebrates 70 years on air. It began broadcasting on BBC radio on January 1st 1951 after a successful five-episode pilot the previous summer

THE INTERIOR designers have been hard at work at Number 70 Whitehall, in the heart of the British government. Rooms have been fitted out with "co-working" desks and flat screens displaying "real-time performance data". The Cabinet Office civil servants who used to occupy the building have been kicked out and replaced by Boris Johnson's closest aides, including Dominic Cummings, his right-hand man, who calls it a "NASA-style mission-control centre".

The sound of sawing and hammering will be heard across government in the year ahead. Departments will be redesigned. Civil servants will be told to sharpen up. "Culture change" will be enforced from on high.

And rightly so. The government's poor handling of the coronavirus pandemic has demonstrated that the idea that Britain possesses a "Rolls-Royce civil service" is a myth. The pandemic came hot on the heels of a four-year struggle over Brexit that showed that, as well as being out of date, the governing class and its institutions are out of touch with ordinary people.

The reforms will try to reconcile two aims: modernising government while reconnecting it with the broader life of the nation. The civil service relies too much on the old model of generalists: people who are recruited straight out of university and then moved from one department to another. The government will try to recruit more specialists (particularly people trained in maths and science) and encourage them to work in "high-performance teams". The civil service is still rooted, both institutionally and culturally, in the prosperous south-east. The government will try to move departments out of London.

It has two important things on its side: a widespread sense that the British state needs fixing and a growing consensus on what needs to be done to fix it. But it will nevertheless struggle with several problems of its own making. Mr Johnson is a big-picture man who can succeed only if he's surrounded by competent people who can take care of detail and implementation. But (largely thanks to Brexit) he has stuffed his cabinet with mediocrities who, rather than making up for their boss's defects, simply add defects of their own.

Mr Johnson's chief lieutenants when it comes to government reform—Michael Gove, chancellor of the Duchy of Lancaster, and the ubiquitous Mr Cummings—are certainly not mediocrities. But they nevertheless thrive on conflict and chaos; Mr Cummings has promised that a "hard rain" is going to fall on the civil service. They are also both natural centralisers who talk about ceding power to the provinces while hoarding it themselves.

Government reform requires the "strong and slow boring of hard boards", to borrow a phrase from Max Weber. The government knows broadly what needs to be done to fix the state. Whether its politicians are capable of carrying out this "slow boring" will be one of the most interesting questions of 2021.

State of the union

Matthew Holehouse: British politics correspondent, The Economist

The cracks in the United Kingdom will widen

Message to London

2021 in brief

A new right-leaning, free-to-air television news channel, GB News, starts broadcasting. Andrew Neil, a leading political journalist, has left the BBC to help set it up, saying it aims to serve "the vast number of British people who feel underserved and unheard by their media"

THE UNION of the United Kingdom—England, Scotland, Wales and Northern Ireland—is unwell. It will survive 2021, and the years immediately after. Its condition is chronic, rather than acute. But relations between London and the other national capitals will worsen. For 20 years the tension between unionism and separatism has been contained by the devolution settlement, under which parliaments in Edinburgh, Cardiff and Belfast make laws. That system will come under assault from all sides.

The deepest reflection over whether the union can hold together will come in Northern Ireland. The centenary of its founding and the partition of Ireland will be commemorated in 2021. It will be a muted affair. The British government has proposed a programme to promote culture, sport and business. Michelle O'Neill, the deputy first minister from Sinn Fein, a nationalist party that wants Ireland reunified, says there is "nothing to celebrate". For the unionist side, celebrations may also be in short supply.

On January 1st the United Kingdom's Brexit divorce of October 2019 will come into effect. Despite Boris Johnson's promise to maintain unfettered trade, Northern Ireland will continue to follow EU food and product regulations, and customs checks will be carried out as goods cross the Irish Sea. (British and EU teams spent 2020 haggling over whose officials will do the checking, what border posts will be needed and how taxes would be levied.) Over time, as Britain diverges from the rest of Europe, the rules governing the province's economy will look less like London's and more like Dublin's. Unionists fear that economic separation from the rest of Britain will, in time, lead to political separation, too.

The risk to the union will be less acute, but much noisier, in Scotland. In May 2021, elections to the Scottish Parliament will take place. The coronavirus pandemic enhanced the Scottish government's image as a state-in-waiting. Brexit has fuelled the idea that Scotland and England are on divergent paths.

Barring a major slip in the polls, the Scottish National Party will increase its number of seats in the parliament, which Nicola Sturgeon, the Scottish first minister, will say is a mandate to hold a new referendum on independence from the United Kingdom. Boris Johnson will refuse to permit it. He will point to his own mandate, having promised to oppose such a vote in the general election of 2019; and besides, he has little to gain and everything to lose from a vote that would break up the country. Ms Sturgeon will ignore calls from her supporters to hold a referendum without approval from London, saying it must be legally watertight to secure independence. A long and ugly stalemate will ensue.

The ground will shift in the Welsh Parliament elections in May, too. The Labour Party, which was responsible for devolution, has been hegemonic in Wales for decades. It will lose seats to the Conservatives, who want a closer relationship with London, and Plaid Cymru, which favours independence. Radical ideas will also show their face: support for independence will remain far lower than in Scotland, but it may inch up. So, too, may support for the idea circulating among the fringe right of scrapping the devolved parliament altogether.

Members of Mr Johnson's circle think the strategy of the past 20 years—staving off separatism with ever-growing powers for the devolved administrations—has failed. He will seek to reassert the role of Whitehall in governing them. Whereas EU funds for roads and bridges were handed to the devolved administrations to spend, Mr Johnson's government will take command of the cash, and advertise it noisily.

He will seek to dispel the idea that he is a guest when visiting Scotland. Brexit will also mean that London will set the rules, once made in Brussels, that apply in Scotland and Wales on pesticides, competition and much else. That will provoke accusations of a power-grab by an over-mighty centre. The prime minister's team are veterans from the referendum of 2016 to take Britain out of the EU. The coming year will test whether Mr Johnson is as good at containing insurgencies against unpopular unions as he is at leading them.

In need of resuscitation

Hamish Birrell: public policy correspondent, The Economist

Standards will slip in the National Health Service

A national treasure

BRITISH PEOPLE have always been fond of the National Health Service (NHS)—but rarely have they gone to such lengths to demonstrate it. During the first wave of the pandemic, banners supporting the NHS were draped across streets and windows. Charities associated with the health service were showered with cash. Every Thursday evening people stood on their doorsteps to applaud health workers.

The NHS was one of the few parts of the British state to emerge from the first wave of the pandemic with its reputation intact, having managed to avoid a Lombardy-style inundation. In 2021 it will face a different sort of challenge: providing routine health care while staying ready to meet additional spikes in covid-19 hospitalisations. It will be unable to maintain the balancing act without letting standards slip.

Even before the pandemic, the NHS was in a bad way. Although protected from the worst of austerity, for most of the past decade it received funding increases below the level economists think necessary to maintain existing standards. Just before the crisis, only 85% of emergency-department visitors were seen within four hours, against a target of 95%.

The reality of the NHS is very different from popular perception. It is good at keeping costs down; England spends less than the rich-world average on health care. But it also produces middling to poor health outcomes on many measures, including deaths within a month of a heart attack, or within five years of being diagnosed with various cancers.

This historical stinginess will cause problems in 2021. The government has given the NHS an injection of cash to do things like paying for the use of beds in private hospitals. But as an analysis by the Nuffield Trust, a health think-tank, notes, England has less capacity than most other rich countries. Many hospitals are decrepit, lacking single-occupancy rooms and the sort of open common areas helpful when keeping patients apart.

As one of the world's biggest bureaucracies, the NHS is normally cumbersome. Yet it displayed a rare agility when covid-19 struck, transforming overnight to a single-minded focus on the pandemic. Now the task is to try to capture efficiencies revealed by this transformation. For years, ministers tried to get doctors to embrace digital technology. The need to minimise the risk of infection means that 44% of family-doctor consultations now happen by phone or online. Matt Hancock, the health secretary, has said there will be no going back.

Yet these changes can only make so much difference. The need for personal protective equipment and clean rooms reduces the number of patients who can be seen in a day. Lots of treatment was paused during the worst of the pandemic. Even in the summer, during a lull in covid-19 cases, the number of elective in-patient treatments was still below half the pre-pandemic level, and the number of diagnostic tests were at three-quarters of the normal level.

The result will be long queues for treatment. By August 111,026 people had been on waiting lists for longer than a year, compared with 1,643 in January 2020. Some 2m had been waiting longer than 18 weeks. At first, there was little outcry, with people seeing queues as a cost of covid-19. But patience has its limits. Politicians will funnel extra cash to the NHS, but will also seek greater control over what it does, to be quicker to respond to disquiet. Above all, their aim will be to avoid the charge of betraying Britain's beloved health service.

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Echoes of 1721

Emma Duncan: Britain editor, The Economist

Omens from the aftermath of an earlier disaster

Picking up the pieces after a disaster can make your career

IT WAS THE year of clearing up, after the bursting of the South Sea Bubble in 1720. Thousands had been ruined by speculation in the shares of a company granted a monopoly in trading slaves to the South Seas. A committee of inquiry—of the sort that will look into Britain's mismanagement of covid-19—reported on the disaster in 1721 and found that big cheeses in government, who had taken free shares from the South Sea Company and helped inflate its share price, were culpable. Many were sacked. The chancellor of the exchequer was imprisoned.

Sir Robert Walpole, who had kept his nose clean, sorted out the mess. He stripped the company's beneficiaries of most of their wealth and handed over the money to the victims, though he protected the king and his mistresses. He thus assuaged public fury, stayed on the right side of the monarch and made his reputation, becoming the first British prime minister. (The title was not used at the time, but was instead an insult used to describe a courtier who had accrued too much influence at court.) Walpole held the position for two decades—still a record. The lesson? Picking up the pieces after a disaster can make your career (as Rishi Sunak, Britain's ambitious chancellor, is surely aware).

That is not the only tale from three centuries ago that may prove relevant in 2021. Back then the wife of Britain's ambassador to Turkey, Lady Mary Wortley Montagu, noticed that there was very little smallpox in the country. In each village, she wrote, an old woman "comes with a nut-shell full of the matter of the best sort of small-pox, and asks what vein you please to have opened. She immediately rips open that you offer her, with a large needle…and puts into the vein as much matter as can lie upon the head of her needle."

Lady Mary returned to Britain and in 1721 had her daughter inoculated in front of a group of people, including the king's doctor. An outcry ensued, but some of her friends followed suit, as did the king. It was not until 75 years later that Edward Jenner developed a vaccine from cowpox, and the practice took off. But 1721 was an important year in the defeat of a deadly disease. Britons will be hoping 2021 is, too.

Decline and fall

Leo Mirani: senior Britain correspondent, The Economist

The once-mighty British passport will lose even more of its power

BETWEEN 2013 and 2015 the British passport—in its burgundy-covered EU-member incarnation—was the most powerful in the world, according to an index compiled annually by Henley & Partners, a firm that helps rich customers acquire a new nationality. This was because it allowed its lucky holders visa-free access to more places than any other country's passport. In 2016 it dropped from first to third position, and has since slid further. In 2020—the year it reverted to its traditional blue cover—it fell to seventh. In 2021 this gentle decline in its power will become a plunge.

The biggest reason is Brexit (which was also one of the reasons for the change in colour). Britain has enjoyed many of the privileges of an EU member state during its post-Brexit transition period, which ends on December 31st 2020. Britons will not require visas to visit the 27 remaining member states after that, but they will lose the right to live, work or study there, and will face limits on how long they can stay without paperwork. They will have to fill in a form and pay a small fee once the EU puts in place its American-style pre-authorisation system, which is due to launch in 2022. They will also find it harder to take pets into the EU.

A big factor influencing visa regimes is the wealth of a country's tourists. British travellers are a high-spending bunch, and will still be sought after around the world. The main reason the British passport slipped down the rankings over the past few years is not that some countries shut their doors to Britons, but that they opened their doors to others. Holders of Singaporean, South Korean and Japanese passports are increasingly welcome in more countries than Brits or other Europeans.

Yet geopolitics and trade affect visa policies too. Political tensions with China, Iran and Russia trickle down to ordinary travellers. Moreover, countries like Germany, Japan and South Korea are economic powerhouses that make lots of things. Other countries value economic relationships with them, and visa-free travel can be a spur to greater trade. But Britain, which has a strong services sector, "is no longer a major player in terms of finished goods and that has an effect on the perception of the UK," says Paddy Blewer of Henley & Partners. As a result, "other sovereign states are less willing to give it visa-free travel." Nor is Britain particularly generous when it comes to granting visa-free access to its own shores to citizens of non-Western states. That creates resentment.

The pandemic will not help. Even as borders closed across the world, EU states continued to treat Britain as a member. But after the transition period Britain will be treated like any other country, and access to the rest of Europe will be conditional on keeping infection rates low. Outside Europe, few countries make special exceptions for British citizens. Britain's new, weaker position in the world will make reciprocal visa policies a part of new negotiations. Some Brits may feel pride at the return of the blue passport, but it will not be nearly as widely welcomed as the old burgundy one.

Global lessons from the pandemic

The countries that have responded best to the pandemic offer lessons to others for 2021, argues Sir Keir Starmer, leader of the Labour Party

Covid-19 has shone a harsh light on failures of leadership

NO NATION, AND no government, would have found this pandemic easy to deal with. And none has performed perfectly. However, as we reflect on 2020 it is undeniable that some countries have handled the virus better than others and that there are lessons all governments must learn. Crucially, we must learn to co-operate better. This is not a race in which a single country will emerge the winner, nor a virus we can fight alone.

This has been an extraordinary year for us all. In Britain, I was elected as leader of the opposition during the height of the pandemic. We have all had to adapt, and observe developments as this virus spread. We have also had to look and learn from the traits that have enabled some countries to respond more effectively than others.

The first is leadership. Across the world, public trust, confidence and willingness to change behaviour all stem from good leadership. In a time of crisis people look to their leaders for reassurance and direction. New Zealand's Jacinda Ardern has led with honesty, clarity and compassion while communicating in new and innovative ways. In doing so, she has built a sense of unity and common purpose—her "team of 5m"—which will define those countries that adapt best to the post-pandemic world.

Equally, covid-19 has shone a harsh light on failures of leadership: those dodging blame, dividing communities or undermining public-health advice. In America, three-quarters of the public say the country is now more divided than before the pandemic. In Britain, Boris Johnson's failure to sack his chief adviser for breaking lockdown rules saw public confidence in his government's response plummet. It is now the lowest among 14 advanced economies.

Research from previous crises shows that people are willing to make sacrifices for their community, but leadership is key. It must be authentic and accountable, as exemplified by the Danish prime minister's press conference for children, or the way South Korea named those responsible for each element of its plans.

Speed is crucial, too. This pandemic thrives on inaction. The most obvious and devastating impact of that inaction is the cost to life. Recent research found that delaying lockdown by a single week across eight countries would have cost more than half a million lives. It is now accepted that many countries were too slow in moving to suppress the virus. The British government was not only slow into lockdown, but slow to protect the elderly in care homes and slow to deliver a functioning testing system. By contrast, countries with low death tolls were characterised by fast lockdowns, quick roll-out of testing and swift adoption of technologies to trace outbreaks.

The final dividing line has been preparedness. Nothing has killed more humans throughout history than infectious disease. And covid-19 was not even the first pandemic in this century. The warning signs were there—SARS, MERS, H1N1. Preparation is not just having a plan on a shelf, though. Singapore reportedly copied Britain's pandemic plan but, according to one health official, "actually implemented it".

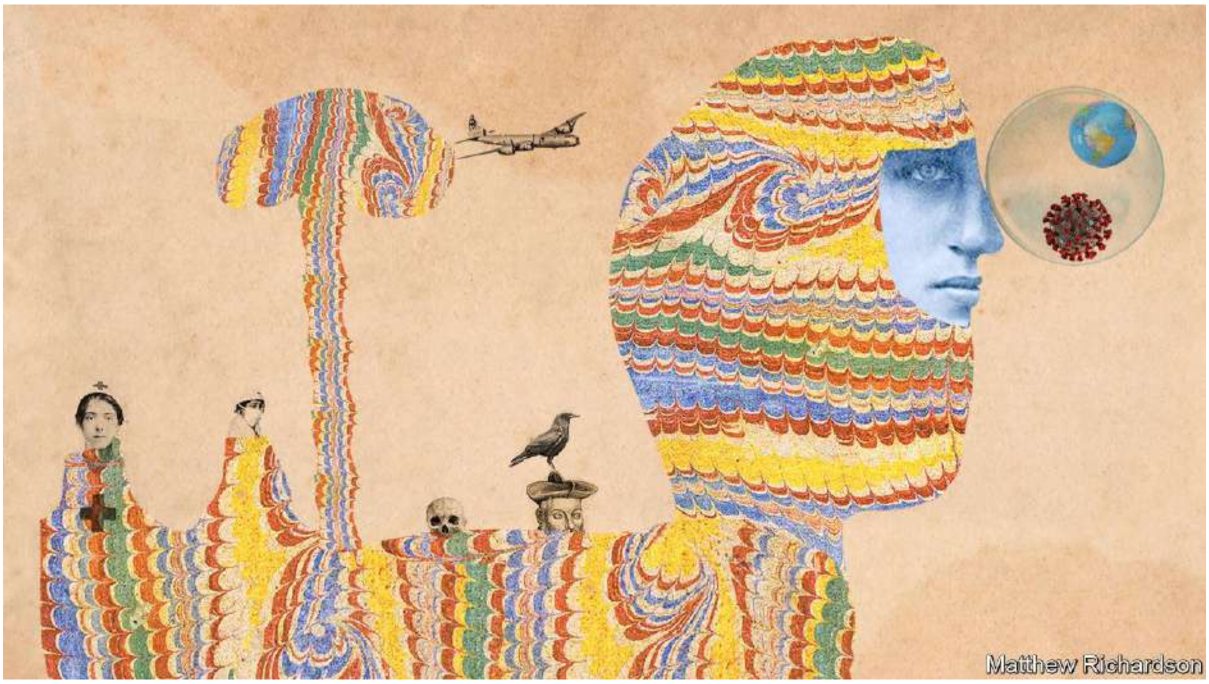
Preparedness also means ensuring public services have the resilience to handle a crisis. The policy levers available to governments are inevitably defined by the state of those services—Germany, for instance, faced the pandemic with twice as many nurses per person as Britain. Covid-19 has exposed parts of our societies left fragile by underinvestment and government mismanagement.

One lesson for all countries, regardless of how they performed individually, is the need for better global co-operation. In Britain we are rightly proud of the leading work being done here on vaccine development. But it should not matter where a vaccine is found. The World Health Organisation is right to urge a focus on global distribution. Without it, one country might become safe, but the virus will not be beaten and the global economy will not recover.

It beggars belief that in the biggest health crisis in living memory, the G20 leaders held just one emergency meeting, in March, while the G7 replaced a summit with a one-hour video call. World leaders have the capability, as we all do, to meet remotely. Considering the impact of co-ordination during the financial crisis in 2008, not to do so now feels like a failure of leadership. In 2021 countries must get around the table—showing leadership, speed and preparedness—and take co-ordinated action on health and the economy. We can defeat this pandemic and build a better future, but we can only do it together.

Aftershocks

Aftershocks



We must heed the pandemic's warning

Toby Ord: senior research fellow, Future of Humanity Institute, Oxford University

The outbreak shows humanity's vulnerability—and the need to prepare for other risks in future

THE CORONAVIRUS pandemic is a warning for humanity. It is a reminder that, despite all our technological progress, humanity remains vulnerable to catastrophes that shake the world.

Many have taken to calling 2020 an unprecedented time—but the truth is precisely the opposite. We have long been vulnerable to devastating pandemics. The Black Death of 1346-53 killed around one-tenth of the world's population, including about a third of the people in Europe. The introduction of European diseases into the Americas may have killed as many as 90% of the people living there—again a tenth of the world's population. And just a hundred years ago, the 1918 flu (the first truly global pandemic) killed about one in 30 people across the world. What would have been truly unprecedented is if our vulnerability had ended. This catastrophe is simply part of a very long-running trend.

Yet there is one sense in which our time is without precedent. With the development of nuclear weapons in the 20th century, humanity's escalating power finally reached the point where we could cause catastrophes on the largest possible scale: the destruction of our own species, and with it, everything we could have achieved or become. Like all species, we have always been vulnerable to a small background of natural extinction risks, but these have now been outstripped by risks of our own creation. The existential risk of nuclear war was soon joined by that of extreme climate change, and this century will bring even greater risks from advanced biotechnology and artificial intelligence. Will we wake up to these risks in time, taking the steps needed to control them, or will we continue to focus on other things until the risks catch up with us? This will be the defining question of our age—and perhaps of the entire human story.

One of the greatest challenges in managing existential risks is that we have to survive our entire future without ever falling victim to them. If an existential catastrophe struck, it would be too late to learn any lessons. We thus have to eke out every possible lesson we can from the warnings we do receive: the near misses, such as the Cuban missile crisis of 1962, and the catastrophes that were severe, but survivable, such as the pandemics of 1346, 1918 and 2020.

We certainly will learn lessons from covid-19, improving our defences against similar pandemics. And 2021 will be our best chance to do so, when we have recovered just enough to be able to raise our eyes to the future, but while the shock of the past still stings. However, without a great effort, I fear we will learn only the narrow lessons—those that might help prevent a re-run of 2020—while failing to address the increasingly important threat of engineered pandemics, or the array of other existential risks we face. This is a rare opportunity to change course, because it won't be long before the societal antibodies from this once-in-a-century pandemic begin to fade. We should make the most of it.

Toby Ord is the author of "The Precipice: Existential Risk and the Future of Humanity" (Bloomsbury, 2020)

City of fight

Anne Hidalgo: mayor of Paris

Paris illuminates the way ahead for cities: trust citizens and build more bike lanes

Action at the city level is the best scale when dealing with a crisis like this one

THE COVID-19 crisis has shaken up our lives and there is still more to come. For a city like Paris—a city open to the world, a city of culture and one whose way of life revolves around meeting, dialogue and exchange—it is an unprecedented change. This crisis has caused us to question how we live in the city, how we travel, how we consume. It has made us think afresh about our relationship with others and with the spaces we share.

The main responsibility of a mayor is to understand these disruptions. What do they mean for the everyday life of the city's population and how the city operates? Compared with all other public policymakers, mayors are better placed to understand the reality of their citizens' lives. That's why action at the city level is probably the best scale for concrete measures against the consequences of a crisis like this. Preparing for the post-covid world starts with handling today's emergencies.

This crisis has reminded us that life is fragile. That realisation should lead us to do everything we can to preserve it. That means protecting our environment to keep everyone in good health; fighting pollution to ensure the air in our cities is clean; reaching out to the most vulnerable among us, because the epidemic has shown us how our destinies are intertwined; and letting citizens create and develop solutions for a future that allows everyone to live better. We need each other and the key is what we have in common.

What I have witnessed during these weeks will mark me for the rest of my life. I saw the energy, creativity and solidarity of thousands of citizens, who are the city's lifeblood. We must not allow this energy to be lost. We must not let our creativity fade, nor let this solidarity disappear.

We must draw inspiration from the strength of all Parisians and as a city commit ourselves with the same determination. We must trust our citizens, provide them with the means to express themselves democratically, to create with us the city of tomorrow and set about building it with their own hands. Every time we put our faith in them, they come up with solid, local solutions.

We put our trust in restaurant owners to extend their terrace areas and they made the city more attractive and kept their neighbourhoods vibrant. We trusted Parisians by opening new cycle lanes, and with their bikes they are bringing this transformation to life. We must trust everyone around the world who loves Paris in order to bring the City of Light back to its true splendour. I am sure they will be up for the challenge.

The world in 2021 may not be quite the same as it was before, but it will be open to the future. In that world, culture will play a central role. The environment will be the driving force for the changes ahead. And solidarity between people and regions will be the foundation of this new ecological pact for the preservation of humanity.

Remote working is different—and better

Erica Brescia: chief operating officer, GitHub

At some software companies, most people already worked remotely. What lessons can they offer other firms?

Companies that build distributed teams can hire the best talent from anywhere in the world

IT IS VERY possible that more than $1trn in value has been created by globally distributed teams of programmers who write the open-source software that powers much of the modern world. Their code serves as the foundation of the internet and powers everything from smartphones to medical devices. The open-source model has proved that distributed teams who communicate, collaborate and contribute can build incredibly valuable products from anywhere in the world. GitHub maintains the online repository for most of the world's open-source software, and we operate much like the 50m developers our platform serves—distributed, asynchronously and online. More than 70%

of our 2,000 or so employees work remotely. This way of working has been our “normal” for more than a decade.

Covid-19 has made it everyone’s normal. The mandatory shift to remote work was disruptive, but many companies are starting to embrace the long-term value of the concept. Some employees are more productive at home; they appreciate the flexibility, lack of commute or ability to work in solitude without interruption. And companies that build distributed teams can hire the best talent from anywhere in the world. In a future that embraces distributed work, the search for talent is unconstrained by office locations or direct flight paths. An uptick in distributed work across all industries in 2021 will connect the talent of developing countries such as Indonesia, Nigeria and Pakistan with the employment opportunities and economic growth offered by companies all around the world.

But what does this shift to distributed work mean for the workplace? Our decade of experience with a distributed workforce tells us that offices are not going away, but the way we use them will change. With more flexibility, employees will come in fewer days a week. We will see a rise in hot-desking and a reduction in office footprints; companies just won’t need as much commercial space. Offices will be designed for collaboration: team deep-dives, customer and community events, celebrations, planning and design work. People will go to the office because they want or need to engage with others, not because company policy requires it.

This will change both how work gets done and how companies foster culture. When workers are more distributed, the work itself becomes distributed—so it must be documented, visible and doable in an asynchronous manner, by individuals working independently of one another across time zones and work environments. Collaboration and camaraderie will be built virtually, using technology that is not new, but has renewed purpose—video-conferencing, virtual meetups and instant messaging. Virtual happy hours and a “cameras on” policy for conference calls may seem like pandemic-induced workarounds to boost morale and encourage engagement, but they are in fact crucial components of post-covid corporate culture. Tools to support remote working abound, but successfully building a distributed team demands deliberate changes in the way people work. That requires a shift in the way companies train, empower and support people to work in new ways.

Managers tasked with creating a culture of collaboration within a distributed team will find that the profile of a leader changes. A recent study found that the skills and traits of successful leaders in an in-person, office-based environment differ from those needed to lead distributed, remote teams. Instead of valuing confidence and charisma, remote teams value leaders who are organised, productive and facilitate connections between colleagues. In a post-covid world, companies will have to place greater emphasis on retaining and promoting leaders who have these skills.

In just a matter of weeks, the spread of covid-19 brought about a shift to distributed work that happened more quickly than anyone thought possible. But the open-source community has been working this way for more than two decades. In 2021 companies will stop seeing remote work as an inconvenience and embrace it as a chance to create an interconnected, asynchronous, global workforce that is more flexible and dynamic than ever before. In every crisis there is opportunity—and this is a huge opportunity to embrace a better way of working for the future.

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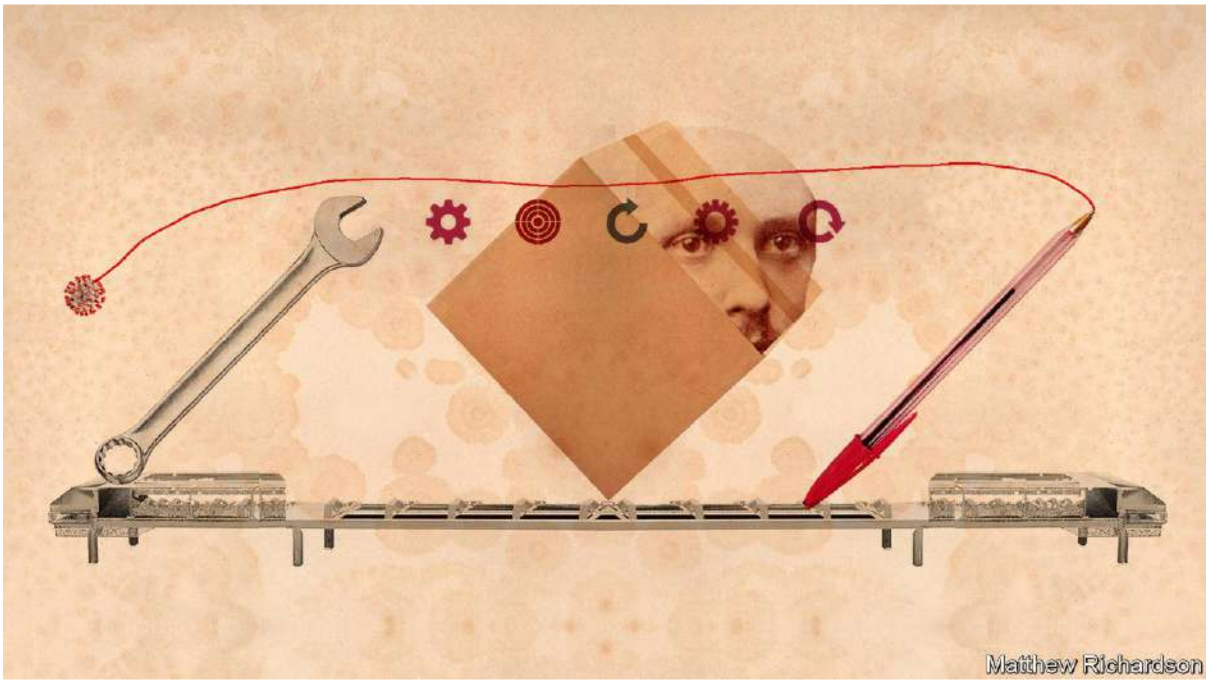
It’s time for a new deal for workers

Azeem Azhar: founder, Exponential View

The pandemic has highlighted the need for new thinking on workers’ rights



Employment law should be updated to reflect new, technology-enabled styles of working

In the middle of the last decade, forecasters predicted a grim future for workers. They promised that automation in the office and robots on the factory floor might permanently destroy millions of jobs. In 2016 one respected analyst predicted that one in six American jobs would be lost by 2025. Yet just before the coronavirus rampaged through the global economy, the oecd, a club of mostly rich nations, was reporting record levels of employment among its member countries.

Instead it was the pandemic, not robots or smart software, that caused tens of millions of job losses, and for rather conventional reasons: recession, a decline in consumer spending and companies going out of business. Firms that had invested in advanced technologies, far from laying people off, went on a hiring spree. Amazon, renowned for its cutting-edge acumen, recruited an additional 175,000 people as lockdowns began in March 2020. Netflix, a technology-driven media company, continued to hire throughout the pandemic. Academic evidence on whether artificial intelligence and industrial robots hurt employment remains inconclusive. Predictions of the number of jobs at risk have declined, and in some cases gone negative. A recent European Commission paper suggested that "robot adoption tends to be positively associated with aggregate employment", and a study by Leslie Willocks, an economist at the London School of Economics, reached a similar conclusion.

Even if robots have yet to take all the jobs, technology is fundamentally reshaping the nature of work in other ways, as firms rethink their businesses after the pandemic. There will be new skills to learn, new responsibilities to master and new models of remote and hybrid working. Employees will be forced to adapt. Such constant change will be unsettling. Not everyone relishes working in an environment where what they do, who they work with and the skills they need change regularly. Firms that do not adopt these new, technology-enabled ways of working risk going the way of Blockbuster, Kodak or BlackBerry.

Companies may be tempted to use the rupture provided by the pandemic to adopt new labour practices. They may, for example, place greater reliance on gig-work platforms, paying workers for specific tasks or projects, rather than employing them. For firms, the benefit is clear: a contractor comes and does the job without being a lingering payroll liability. Though some workers appreciate and benefit from the flexibility that gig working offers, it does not afford the economic security or personal-development opportunities of a full-time job.

Ensuring that technology-driven change benefits workers as well as companies will require new thinking from employers. The good news is that there are signs of progress. Many large firms are investing in re-skilling their workforces for the future. In 2020 PWC, a consultancy, announced that it would invest $3bn to re-train its 275,000 employees. IBM, a computer giant, has promised $1bn for re-training its workforce. Amazon has committed $700m. More firms will follow suit.

Smaller entrepreneurial outfits are dealing with workers' emerging needs. Lambda School, based in Silicon Valley, trains software developers, and defers its fees until graduates have found jobs paying more than $50,000 a year. Portify helps freelance workers, whose earnings may not be backed by a giant industrial conglomerate, build up their credit ratings. Firms like Hustle and Zego provide gig workers with affordable insurance while they are on the job; Collective Benefits helps gig workers with holiday pay and sick leave.

Policymakers need to act, too. As gig-working has already shown, employment law should be updated to reflect the shifting rights and responsibilities associated with new, technology-enabled styles of working. Although the threat of a robot-job apocalypse seems to have been postponed, workers can still find themselves on the wrong end of technological change. Devising a new and fairer settlement requires further innovation.

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Nature cannot be fooled

Ursula Bassler: president, the CERN council, CNRS France

The crisis is a reminder of the value of evidence, scientific expertise and international collaboration

The crisis has shown the value of taking an open and multilateral approach

AS COUNTRIES around the world emerged from covid-19 lockdowns in late summer 2020, a trend became apparent: those that were slow to heed the message of science had paid the price. Delays had resulted in a dramatic rise in infection and fatality rates, requiring more severe and longer-lasting lockdowns and often plunging the economy into deeper recession. What can we learn from this?

Health officials' calls for early lockdown measures were based on the scientific evidence available at the time. Accepting such evidence requires humility, as it cannot be wished away, and ignoring it may hit you harder in the long run. As Richard Feynman, a physicist, once put it: "Reality must take precedence over public relations, for Nature cannot be fooled." We would do well to keep this in mind when tackling many of the world's other pressing challenges.

Ultimately, the purpose of science is to establish evidence that can be used to solve problems. This can take time, and often involves scientific debate. Science is a dynamic process: observations are gathered, protocols established, experiments carried out, verifications made, errors tracked down. Consequently, it can be confusing and frustrating for those seeking immediate certainty. But as more evidence is gathered and analysed, results become increasingly precise (though often more complex), and the basis for decision-making steadily becomes clearer.

Communicating how science works to the wider public can be hard, but it is vital. The media—both the traditional kind, and social-media platforms—bear great responsibility in this respect. Traditional media should rely on evidence-based reporting and explanations, rather than chasing clicks by giving credence to far-fetched positions or nonsensical claims. And social-media platforms have a duty to monitor and flag misleading information.

The covid-19 pandemic triggered an unprecedented scientific mobilisation to understand the virus and to find responses, treatments and vaccines. The effort among scientists is international and collaborative as the urgency of dealing with the pandemic has fostered worldwide co-operation. It must also be multidisciplinary: beyond the efforts in the biomedical sphere, disciplines from mathematics to social sciences are needed in the long fight against the coronavirus to give adequate support to policy-makers. CERN has played its part by contributing computing resources and making expertise available. A group of physicists at CERN has also designed a low-cost ventilator that can help patients recovering from covid-19, in particular those in developing countries.

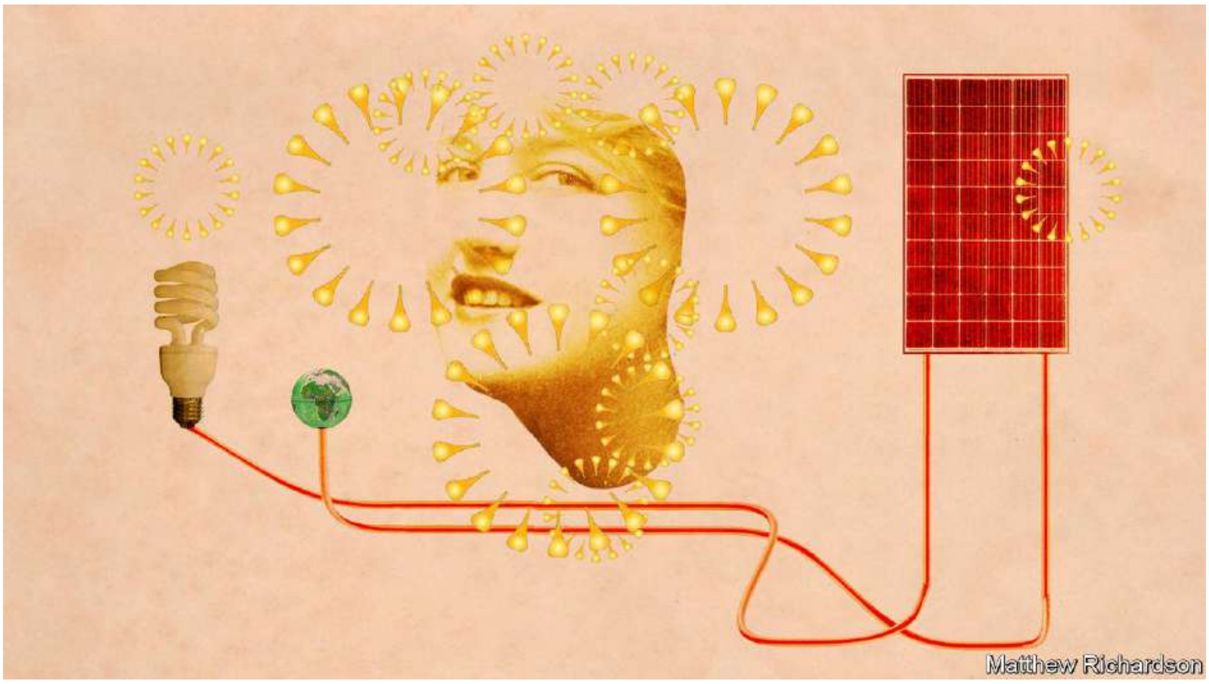
As well as challenging scientists directly, the crisis highlights the difficulty of keeping track of huge numbers of results and publications, guaranteeing quality, making progress efficiently and coherently, and ensuring co-ordination and co-operation among competing groups. It also highlights the question: how can scientific results be equitably shared with industry and society as a whole? The question predates the pandemic and applies to a wide range of scientific fields. The crisis has shown the value of taking an open and multilateral approach to answering it.

In recent years policymakers have placed much emphasis on research that is problem-oriented rather than curiosity-driven. But when it comes to understanding covid-19, crucial contributions have come from seemingly unrelated fields: producing images of the virus using electron microscopes would not have been possible, for example, without quantum mechanics. Science in all its aspects is a single and essential endeavour, and covid-19 has shown the importance of putting its results at the heart of decision-making. When scientific evidence is respected and multilateral collaboration fostered, solutions come faster—for the benefit of all.

Shock to the system

Lynn Jurich: co-founder and CEO, Sunrun

Large-scale electrification would create lots of jobs



IN 2021, AS we look for solutions to the immediate crisis caused by the pandemic, and to the longer-term challenge of climate change, new technology offers a shining opportunity. Embracing the new generation of electrification technologies, powered by renewable energy, will help us decarbonise the economy while creating millions of new, local and non-exportable jobs. In America, where renewable energy has abundant space to grow, we will ditch the idea that a sustainable future means sacrificing, or weakening, America's global position. With the right technology, we can still have our big cars, homes and air-conditioning. A zero-carbon future is realistic, and it starts in the home.

The energy sector, including electricity and heating, transport and manufacturing, accounts for two-thirds of global carbon emissions. Electrification powered by renewable sources is the solution. In 2021 more communities will institute building-code requirements like those in the Californian cities of San Jose, Santa Rosa and Los Gatos, which ensure new homes have solar panels, are fully electrified and do not rely on natural gas. These residential solar-power systems include a car-charger and a battery to store solar energy and share it with the grid. Induction stoves for cooking, radiant heating systems in place of radiators and never having to visit a petrol station not only reduce the cost of living, they deliver a more delightful day. The battery makes each home more resilient in the event of a hurricane or blackout.

Utilities will also embrace this future. In 2020 Pacific Gas & Electric became the largest American utility to express support for electrification, on the basis that gas infrastructure "might later prove under-utilised". Covering all suitable rooftops with solar panels could provide almost half of America's electricity needs, and 75% of California's. Pair batteries with those installations, and they can be networked into virtual power plants. Buildings generate their own energy with rooftop solar, store what they do not use and sell that energy to the grid, thereby reducing the need for polluting power plants to cope with peak demand. Just 75,000 properties in Los Angeles can generate 300 megawatts of energy—equivalent to a natural-gas power plant. And customers pay less than they would for conventional utility power.

Dozens of virtual power plants are already active today, but many more will come online in 2021. In 2020 a minority of rooftop solar systems in America included a battery. In 2021 battery deployments will more than double, to a total of 3.5 gigawatts of capacity. That is enough to retire almost 10% of California's natural-gas power plants—10% in one year, and that's just in 2021.

Better still, all this will create record numbers of new jobs, nearly 30m over the next decade in America alone. "Solar installer" was the fastest-growing job category before the pandemic hit. This transformation is inevitable—and the faster we do it, the less it will cost.

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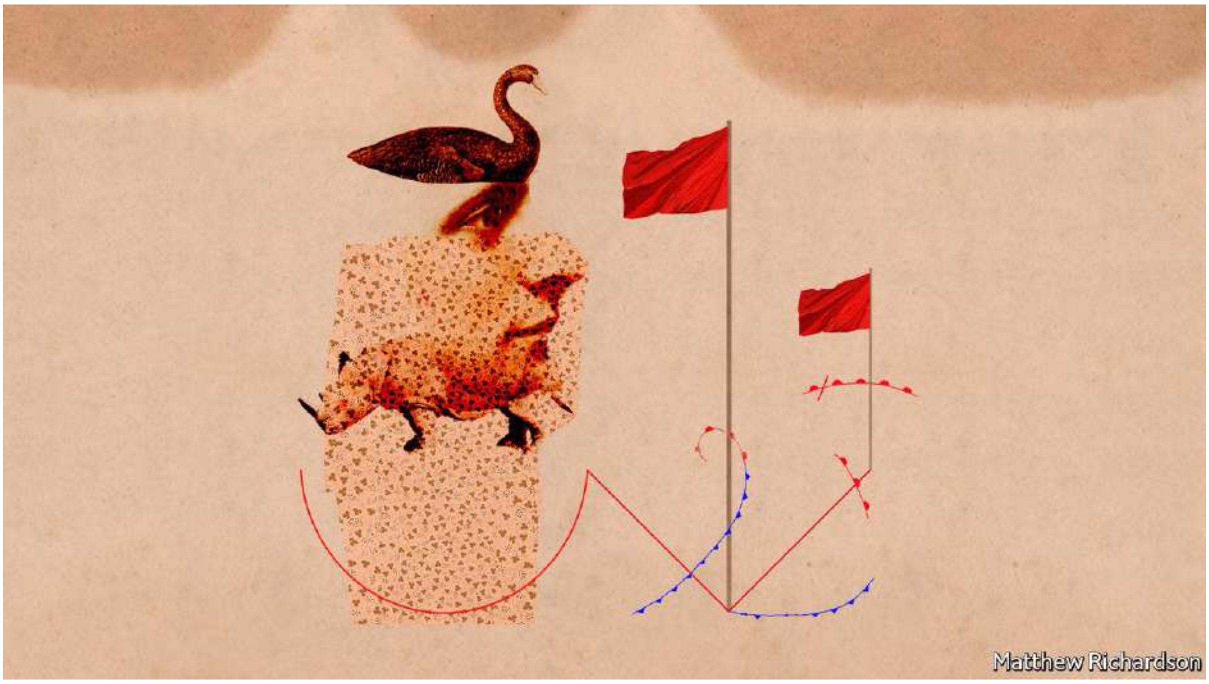
A black swan? No

Michele Wucker: analyst and author, "The Gray Rhino"

This was a "grey rhino"—a predictable crisis



We must replace black-swan fatalism with grey-rhino pragmatism

ONE OF THE biggest lessons from the covid-19 pandemic has been the folly of ignoring warnings about highly likely, high-impact risks that are a matter of when, not if. For years, many governments brushed off countless credible warnings that the world was poorly prepared for a pandemic. When the novel coronavirus emerged in China, too many nations were too slow to respond.

The pandemic should encourage policymakers to pay more attention to other known but poorly managed risks. These include rising inequality, climate change and financial imbalances such as dangerous corporate-debt levels and asset bubbles. Picture each of these obvious dangers as a two-tonne grey rhinoceros with its horn pointed our way and its massive weight bearing down on us: they are very visible and their impact can be foreseen. The interactions among these rhinos heighten the danger. You could appropriately call them a crash—the zoological term for a group—of grey rhinos.

Politicians, pundits and investors often invoke the metaphor of the "black swan" to describe highly improbable, even unimaginable events. In particular, the global financial crisis of 2007-09 is often described as a black-swan event, despite warnings about derivatives and a subprime housing-market bubble. By definition, black swans cannot be predicted, so nothing can be done to prepare for them. This kind of thinking makes things worse by encouraging fatalism, rejecting accountability and giving the nod to short-termism and wilful ignorance, which in turn generate volatility and tail risk. To face the looming risks of 2021, we must replace black-swan fatalism with grey-rhino constructive pragmatism.

As covid-19 spread, analysts quickly downgraded their early pandemic predictions of a fast V-shaped recovery to a slower U-shaped recovery, and then to an even more gradual "swoosh". We now have a k-shaped recovery that has given the well-to-do a big boost, creating financial-asset bubbles while essential workers and vulnerable sectors struggle. In 2021 the global economy will suffer from a ripple effect of bankruptcies, job losses and defaults, which stockmarkets cannot ignore for ever. At the same time, increasingly violent storms, droughts, wildfires and freak weather will threaten insurers, property, coastal cities and, by extension, financial stability.

Facing the daunting challenges ahead will require long-term thinking, a greater emphasis on the real economy rather than stockmarket performance and, above all, a commitment to hold ourselves and our leaders accountable. But it also presents new opportunities. Removing fossil-fuel subsidies and promoting investment in clean technologies will create jobs and reduce energy and health-care costs. Tackling inequality will lift the bottom leg of the k-shaped recovery and spread the benefits of the economic rebound.

We can see black swans only in the rear-view mirror. In 2021 we should focus on the grey rhinos in front of us: obvious, foreseeable and giving us a choice to respond.

Michele Wucker is the author of "You Are What You Risk: The New Art and Science of Navigating an Uncertain World" (Pegasus Books, April 2021) and "The Gray Rhino: How to Act and Recognize the Obvious Dangers We Ignore" (St Martin's Press, 2016)

A chance to change things

Slavea Chankova: health-care correspondent, The Economist

The crisis has up-ended people's lives. What does it take to make a new habit stick?

If you do something once a day for two weeks, it turns into a habit

BARELY 8% OF new-year's resolutions survive until the end of January. Some people set goals that are too ambitious; others simply set too many goals. Yet perhaps the biggest reason why people fail so miserably is that changing a particular behaviour is difficult if the routines that are tightly woven around it remain the same. Resisting the lure of a calorie-laden caramel latte in the morning is easier if you switch to a route that doesn't take you past the coffee shop.

In a survey of nearly 70,000 people in Britain, carried out in August 2020, about a quarter of people said their lives had changed completely or a lot since covid-19 came along, and a third said (with characteristic British understatement) they had made "quite a few changes". Many of these changes will stick, because the pandemic has up-ended people’s routines so dramatically. It does not matter whether you walk past the coffee shop or not if it has closed down—or if you rarely leave the house.

Many changes were for the worse. But not all.

During the lockdowns unhealthy snacking increased, but so did cooking at home and eating family meals together—practices generally linked with healthier eating patterns. People could not see friends and family, but they got to know the people next door (about 20% of Britons said talking more to their neighbours was a change that would outlast the pandemic). With gyms and organised sports closed for months, some people cut down on regular exercise. Others, however, took up new sports. In England the proportion of people cycling at least once a week reached 16% in June 2020, twice the level of the early weeks of lockdown. Nextbike, which runs shared-bike schemes in several European countries, reported a 35% increase in rides in April and May, compared with a year earlier.

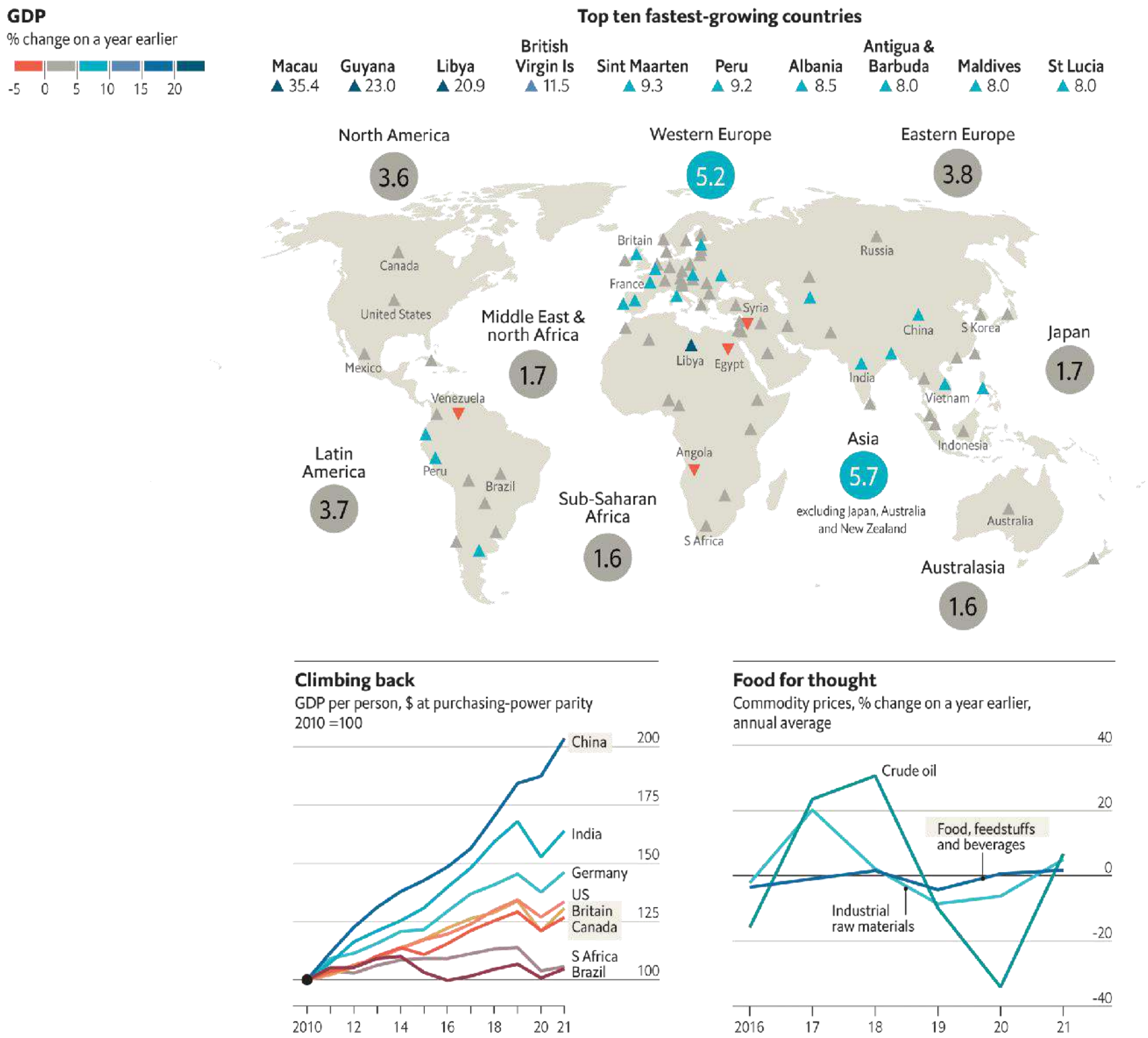
The greater popularity of cooking, neighbourly chats and cycling will persist. If you do something new once a day for two weeks, it starts to feel automatic—the defining feature of a habit, says Benjamin Gardner of King’s College London. Doing something for longer helps solidify the habit. One study of people who took up healthy eating or regular exercise found that the degree to which it felt automatic increased, but then plateaued, on average, after 66 days. That is roughly how long Europeans spent in lockdown.

Other things will help, too. Many people with office-based jobs will work from home in future, at least some of the time. That will help them stick with home-cooked meals and being chummier with their neighbours. Those returning to offices may feel nervous about travelling on crowded public transport, making cycling more attractive. Big cities are trying not to waste the crisis. They are pumping up cycling’s prospects by subsidising bike purchases and laying down more cycling lanes.

The pandemic has changed many things. But for some people at least, the changes are like new-year’s resolutions they wish they had made long ago.

World in numbers: Countries

The world in numbers Countries



Post-pandemic rebounds will produce a sharp rise in global and some regional growth rates, but none of the larger countries will expand by enough to enter the top ten. Instead, the list is dominated by small states, half of them island economies that are counting on the return of holidaymakers.

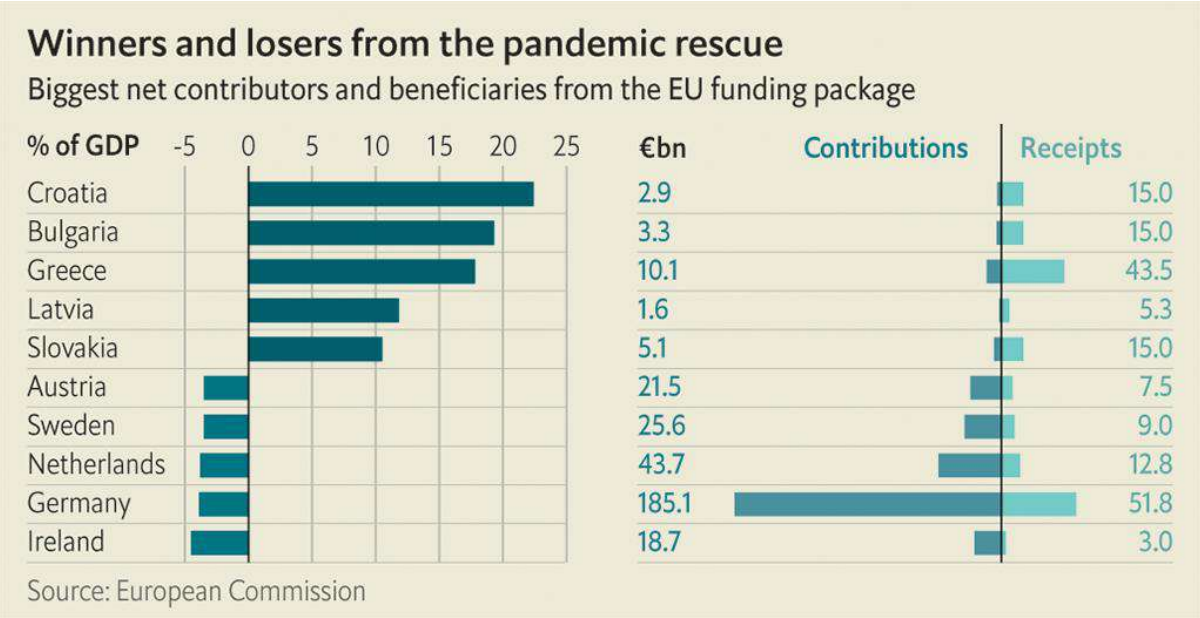
Macau’s chart-topping growth rate (35%) will bring only some relief from the catastrophic collapse in tourism and gambling that lopped two-thirds off the territory’s economy as covid-19 struck. Lockdowns devastated tourism in the British Virgin Islands, Sint Maarten, Antigua & Barbuda, St Lucia and the Maldives, too, from which 2021’s striking growth rates will represent only a partial rebound.

The others in the top ten have their own stories. Libya’s high growth rate reflects a modest recovery from catastrophe, in this case civil war, which will include a significant increase in oil output. Albania’s economy suffered its own covid-19 blow as well as contagion from the deep recession in Italy, a vital trade partner, but will regain all the ground lost in 2020. Guyana stands alone on this list as a country barely affected by the virus and is instead riding a wave of offshore oil development. The largest country in the top ten, Peru, will benefit from rising copper output and higher prices.

2021 forecasts unless otherwise indicated.
Inflation: year-on-year annual average.
Dollar GDPs calculated using 2021 forecasts for dollar exchange rates (GDP at PPP, or purchasing-power parity, shown in brackets).
All figures simplified by rounding.
london@eiu.com

Source: The Economist Intelligence Unit

Europe



Austria

GDP growth: 4.7%

GDP per head: $53,123 (PPP: $60,280)

Inflation: 1.7%

Budget Balance (% GDP): -3.1

Population: 8.7m

The government entered the covid-19 crisis with ample fiscal ammunition and will spread largesse far and wide to mitigate the impact of the virus. The government, a coalition of the centre-right Austrian People's Party and the Greens, is Europe's first to unite a centre-right party and an environmentalist party. With only an 11-seat majority, it will be forced to seek support from others, including from the far-right Freedom Party, to retain power. The economy will rally, but not by enough to offset the contraction of 2020, with weak tourism and cautious consumers holding it back.

Belgium

GDP growth:	5.4%
GDP per head:	$46,150 (PPP: $53,220)
Inflation:	1.0%
Budget Balance (% GDP):	-5.1
Population:	11.6m

The parties making up the minority caretaker government, the centre-right New Flemish Alliance and the Socialist Party, should overcome deep antipathy and assemble a permanent coalition, if only to keep the rising far-right Vlaams Belang out of power. If they are unable to reach agreement, fresh elections are a distinct possibility. Any coalition will be wobbly and, once the covid-19 emergency subsides, will struggle to agree on the direction of policy. The economy will suffer local lockdowns until mass vaccination is available, and recovery from the deep recession will be sluggish.

TO WATCH: Degrees of separation. The governing coalition may offer more devolution to the regions, especially in labour-market, transport and health policy, to subdue long-simmerinng separatist tendencies.

Bulgaria

GDP growth: 3.7%

GDP per head: $10,840 (PPP: $25,230)

Inflation: 2.5%

Budget Balance (% GDP): -2.5

Population: 6.9m

Parliamentary elections are planned for spring 2021, but volatile politics could produce an earlier contest. In late 2020 the ruling centre-right Citizens for European Development of Bulgaria party gave in to mass anti-corruption protests and called for a new constitution, to be approved by an assembly chosen in a snap election. If the proposal fails to win parliamentary approval, a regular general election will be held in March or April, in which the ruling party hopes to come out on top.

TO WATCH: Eyes open. Bulgaria was subjected to post-accession monitoring after it joined the EU in 2007. The reviews had been expected to end, but weak progress on corruption and legal reforms will keep the scrutiny in place.

Croatia

GDP growth: 4.7%

GDP per head: $14,950 (PPP: $28,210)

Inflation: 1.1%

Budget Balance (% GDP): -4.7

Population: 4.1m

Andrej Plenkovic stayed on as prime minister after elections in July 2020, leading a coalition headed by his centre-right Croatian Democratic Union. In his second term, Mr Plenkovic will rein in his party's right wing and pursue closer ties within the EU, including Schengen membership and adoption of the euro. The country coped well in the initial stages of the covid-19 pandemic but will take a big economic hit as crucial tourism traffic slows, regaining less than half the ground lost in 2020.

TO WATCH: Brussels bonanza. Croatia's share of the EU's $850bn covid-19 financial-support package will be the biggest of any member state relative to its GDP, at 22.4%.

Czech Republic

GDP growth:	4.4%
GDP per head:	$24,800 (PPP: $42,830)
Inflation:	1.9%
Budget Balance (% GDP):	-3.9
Population:	10.7m

The prime minister, Andrej Babis, leads an uneasy coalition of the centrist ANO movement and the centre-left Czech Social Democratic Party, reliant on a pact with the far-left Communist Party of Bohemia and Moravia, but will approach elections in October hopeful of a second term. He will focus on post-pandemic recovery at home and pursue a pro-EU foreign policy, while pressing Brussels for more funding. Manufacturing and consumer demand will rally, edging back to 2019 levels.

Denmark

GDP growth:	4.1%
GDP per head:	$61,280 (PPP: $60,780)

Inflation: 0.5%

Budget Balance (% GDP): -2.7

Population: 5.8m

An early and strict lockdown, coupled with generous fiscal intervention, limited the impact of covid-19 on health and the economy, and a rebound in 2021 will restore the economy to its 2019 position. The prime minister, Mette Frederiksen, will benefit from an atmosphere of national unity spurred by the crisis, and divisions between her Social Democrat-led minority government and its “Red Bloc” centre-left allies will be buried for now.

TO WATCH: Pillow talks. The European Federation of Sexology will hold its 15th biennial congress in the city of Aalborg in June.

Estonia

GDP growth: 4.3%

GDP per head: $24,590 (PPP: $39,130)

Inflation: 2.7%

Budget Balance (% GDP): -4.3

Population: 1.3m

The government of prime minister Juri Ratas, a coalition of the Centre Party, the Eurosceptic Conservative People’s Party of Estonia (EKRE) and the conservative Isamaa, has set aside its internal divisions to confront covid-19, but disagreements over issues such as immigration will resurface as the health crisis subsides. Infections have been relatively few, but the economy is reeling from a recession in key export markets. Persistent unemployment and falling wages will hurt growth.

Finland

GDP growth: 2.4%

GDP per head: $50,780 (PPP: $51,330)

Inflation: 1.2%

Budget Balance (% GDP): -4.3

Population: 5.5m

Sanna Marin, who became the world’s youngest prime minister when her predecessor was forced out by labour strikes, has benefited from the suspension of political hostilities during the covid-19 emergency. But feuding within the governing coalition in areas such as climate policy will re-emerge. The Finns, a far-right opposition party, will make hay as unhappiness over immigration and austerity rises.

France

GDP growth: 7.1%

GDP per head: $43,000 (PPP: $49,670)

Inflation: 1.5%

Budget Balance (% GDP): -7.4

Population: 65.4m

Emmanuel Macron, the president, will revamp his wide-ranging policy platform to focus on recovery from the economic slump brought on by covid-19. France's stimulus plan is unusual in relying on supply-side reforms, including tax cuts, rather than demand-boosting measures. Mr Macron is betting these will be enough to restore his public image ahead of elections in April 2022. Social unrest will return as unemployment rises. The economy won't regain all of its lost ground.

Germany

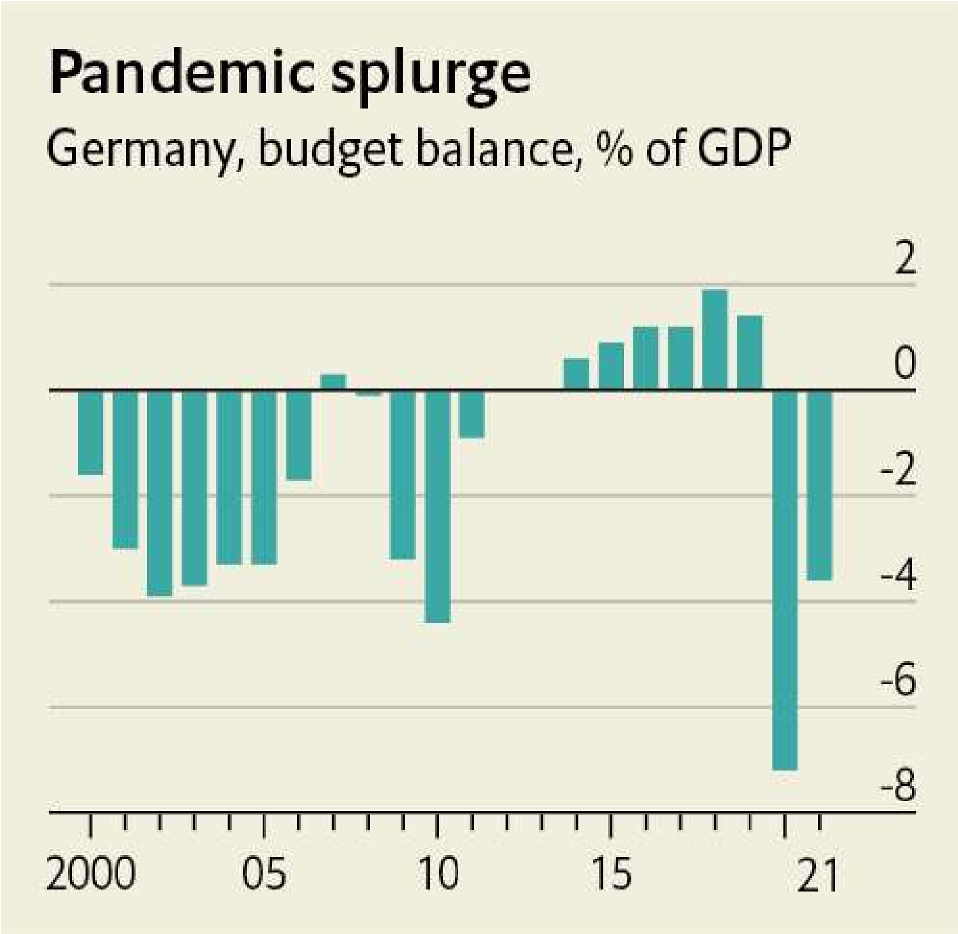
GDP growth: 4.6%

GDP per head: $48,160 (PPP: $56,870)

Inflation: 1.0%

Budget Balance (% GDP): -3.6

Population: 82.9m



The Christian Democratic Union (CDU) of the fourth-term chancellor, Angela Merkel, will start 2021 under a new party leader; Armin Laschet, a centrist state premier, is the leading contender. As the CDU's candidate for chancellor, he would also be favourite to win the general election in late 2021. The field will remain polarised by immigration and climate policy, but the CDU is emerging strengthened from the pandemic and should lead the next coalition government. Germany responded to covid-19 with a rare bout of fiscal generosity and its recession will be shallower than the EU average.

TO WATCH: Going underground. Work is scheduled to start on the Fehmarnbelt tunnel between Germany and Denmark. At 18km it will be the world's longest combined road-and-rail immersed tube tunnel.

Greece

GDP growth: 3.5%

GDP per head: $19,680 (PPP: $31,230)

Inflation: 0.2%

Budget Balance (% GDP): -3.7

Population: 10.4m

Freed temporarily from the straitjacket of EU budget demands, the centre-right government of Kyriakos Mitsotakis will focus on recovering the loss of nearly a quarter-century of growth to the pandemic. With a huge fiscal gap and a public debt around double the economy's size, the fight-back will be slow. Financial support equal to nearly 18% of GDP from the EU rescue fund will help, but as living standards fall, the government will need all the goodwill it has earned from its sound handling of the crisis.

Hungary

GDP growth: 4.8%

GDP per head: $16,600 (PPP: $34,260)

Inflation: 2.7%

Budget Balance (% GDP): -3.9

Population: 9.6m

A weak currency and high debt levels have denied Viktor Orban's government the ammunition to fight the economic effects of the pandemic, though an early lockdown limited the damage. A $6.5bn grant from the EU rescue fund will support the recovery, offsetting a contraction in other EU aid. Mr Orban, in his third consecutive term and backed by a strong majority, will centralise power, defying EU pressure.

Ireland

GDP growth: 4.3%

GDP per head: $84,630 (PPP: $90,870)

Inflation: 0.5%

Budget Balance (% GDP): -5.3

Population: 5.0m

Micheal Martin, the prime minister leading the first coalition between rival parties Fianna Fail and Fine Gael, along with the Greens, took office at the pandemic's height but at least has some warning of the second great challenge: the definitive departure in 2021 from the EU of a key trade partner, Britain—perhaps without a trade deal to soften the blow. Border arrangements between Ireland and Northern Ireland will be resolved only at the last minute, so some disruption to trade is inevitable. Covid-19 recovery permitting, the coalition will press for greater spending on health, housing and welfare, and (on behalf of the Greens) decarbonising the economy.

Italy

GDP growth: 5.8%

GDP per head: $33,630 (PPP: $42,610)

Inflation: 0.8%

Budget Balance (% GDP): -5.2

Population: 60.4m

National interest has helped unite a fractious coalition government, but the prime minister, Giuseppe Conte, lacks the backing to advance basic reforms to the economy, such as cutting red tape and reducing corruption. Asset purchases by the European Central Bank will underwrite Italy's shaky sovereign debt, as long as the country returns to strict fiscal discipline as the pandemic subsides. The economy will endure one of Europe's most severe virus-induced recessions and recovery will be slow. The budget gap will narrow from a 2020 blow-out and public debt will decline modestly as a percentage of GDP.

TO WATCH: Sense of proportion. The governing coalition will push for an all-proportional electoral system that would make it harder for the resurgent right-wing Lega and far-right Fratelli d'Italia to win power.

Latvia

GDP growth: 4.9%

GDP per head: $17,680 (PPP: $22,850)

Inflation: 0.9%

Budget Balance (% GDP): -2.4

Population: 1.9m

The centre-right government took office just in time to confront the start of the covid-19 outbreak, and duly declared a state of emergency. As the economy rallies, fault lines in the coalition will re-emerge. New Unity, the party of the prime minister, Krisjanis Karins, is the smallest in the coalition, while three allied parties are new to government. Two more, the populist Who Owns the State? party and the Eurosceptic National Alliance, will push policy away from the country's long-standing centre-right consensus. Reliance on exports has made the economy especially vulnerable during the crisis, but rising European demand will support growth in 2021.

Lithuania

GDP growth: 3.8%

GDP per head: $22,230 (PPP: $40,360)

Inflation: 1.6%

Budget Balance (% GDP): -2.4

Population: 2.7m

A shifting coalition was replaced by an equally fragile governing alliance in elections in October 2020, led by the opposition Homeland Union-Lithuanian Christian Democrats. The country's longer-term goals—addressing a low birth rate, mass emigration and strengthening ties with the EU and NATO—will remain, but repairing the damage from covid-19 will be the priority. The economic recovery will be substantial, but will not wipe out the losses of 2020.

Netherlands

GDP growth: 4.1%

GDP per head: $55,980 (PPP: $59,140)

Inflation: 1.1%

Budget Balance (% GDP): -2.1

Population: 17.4m

The ruling coalition, formed after almost seven months of post-election negotiations in 2017, lacks a majority in either house and has limped through its term. Even so, thanks to a mostly positive public response to its handling of the pandemic, it should emerge on top from elections in March, with the People's Party for Freedom and Democracy—led by the prime minister, Mark Rutte—as the largest party. Its programme of tax cuts will take second place to reviving the economy.

TO WATCH: Rescue resentment. Critics will attack the coalition's support for the EU rescue pact, which will require a net payment equal to 3.8% of GDP.

Norway

GDP growth: 3.0%

GDP per head: $70,130 (PPP: $66,670)

Inflation: 1.4%

Budget Balance (% GDP): 1.3

Population: 5.4m

An effective pandemic response has strengthened the position of the centre-right coalition heading into elections in September. Acting as a minority government since the withdrawal of the far-right Progress Party in early 2020, the coalition relies on opposition support to pass legislation, slowing progress on its policy agenda. Low oil prices mean less export income, but the well-heeled sovereign oil fund gives the government some fiscal room to soften the impact of the pandemic, which it has done with wide-ranging support measures.

TO WATCH: Medical trip. The Norwegian Association for Psychedelic Science, which researches mind-bending drugs and their clinical potential, aims to hold its first conference in 2021.

Poland

GDP growth:	4.2%
GDP per head:	$16,100 (PPP: $35,000)
Inflation:	2.4%
Budget Balance (% GDP):	-3.9
Population:	37.8m

The government, led by the socially conservative and economically interventionist Law and Justice party, will press ahead with institutional reforms that include placing the judiciary under greater political control and restraining independent media. The EU will grumble, but Poland's allies in the bloc will head off punitive action. Budgetary support and a rally in private consumption will help restore most of the economic ground lost to the pandemic, itself modest by European standards.

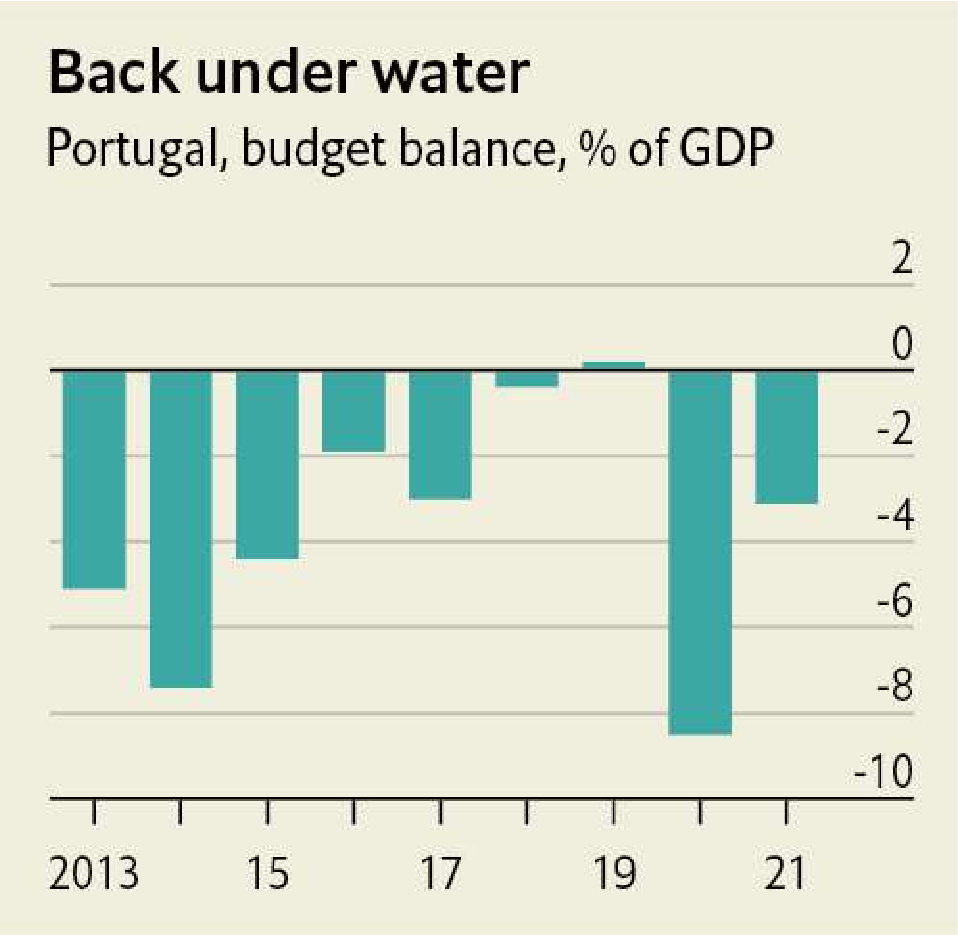
Portugal

GDP growth:	5.0%
GDP per head:	$23,410 (PPP: $35,430)

Inflation: 0.4%

Budget Balance (% GDP): -3.0

Population: 10.2m



The second-term minority government of the prime minister, António Costa of the Socialist Party, will find it harder than in its first term to secure parliamentary support for its legislative agenda, though pandemic-induced solidarity will help for a while. After a budget surplus in 2019, virus-related spending caused the deficit to balloon and outlays will be constrained in the coming years. The economic blow from the domestic lockdown and international-travel bans was substantial, and recovery will be slow.

Romania

GDP growth: 4.2%

GDP per head: $13,050 (PPP: $32,650)

Inflation: 2.8%

Budget Balance (% GDP): -6.6

Population: 19.1m

After a hiatus when the main parties put on a united front in the face of the pandemic, political instability is returning. The main opposition Social Democratic Party is in disarray, and the minority government, led by the National Liberal Party (PNL), will serve out the rest of the parliamentary term, which runs until early 2021. The parliamentary election, due to be held by March, will lead to a centre-right coalition centred on the PNL. The rally from the pandemic recession will be limited.

Russia

GDP growth: 3.0%

GDP per head: $10,540 (PPP: $28,470)

Inflation: 3.9%

Budget Balance (% GDP): -2.0

Population: -2.0

Covid-19 slammed the economy, and low oil prices, soft global demand, cautious fiscal policy and Western sanctions will slow the recovery in 2021. Constitutional changes have strengthened the office of the presidency and allowed Vladimir Putin to occupy it, in theory, until 2036. The government will deploy a mix of tools to quell opposition, from arrests and poisonings to online trolls. As ever, Mr Putin's regime will project Russian influence in its neighbourhood and beyond.

Slovakia

GDP growth:	6.4%
GDP per head:	$20,470 (PPP: $34,090)
Inflation:	1.9%
Budget Balance (% GDP):	-4.6
Population:	5.5m

The country suffered one of Europe's lightest health impacts from covid-19 but one of its heaviest economic downturns, and 2021 will be dedicated mainly to clawing back the lost ground. The right-leaning government of the prime minister, Igor Matovic, and his Ordinary People and Independent Personalities party and its partners took office during the lockdown and deployed a range of fiscal measures. The coalition, though united around an anti-corruption agenda, will struggle to agree on spending priorities, and outspoken party leaders could clash. The economy will rally, but not by enough to restore 2020's losses.

Slovenia

GDP growth:	5.0%
GDP per head:	$24,740 (PPP: $40,150)

Inflation: 1.5%

Budget Balance (% GDP): -5.1

Population: 2.1m

The prime minister, Janez Jansa of the centre-right Slovenian Democratic Party, leads the latest in a succession of fragile coalitions. The administration, like its three immediate predecessors, may not finish its term. Mr Jansa's sympathies with climate sceptics and anti-immigration nationalists will spark more popular protests. Covid-19 infections and fatalities were relatively light, but an economy dependent on tourists and supply-chain links with hard-hit Italy has suffered disproportionately and recovery will take time.

Spain

GDP growth: 6.8%

GDP per head: $29,600 (PPP: $40,450)

Inflation: 0.9%

Budget Balance (% GDP): -7.4

Population: 46.8m

One of Europe's most severe outbreaks of covid-19 brought an initial flush of unity to Spain's turbulent party politics. But ideological enmity quickly resurfaced, and there was no guarantee in late 2020 that the coalition of the centre-left Spanish Socialist Workers' Party and the far-left Podemos would make it beyond the vote on a 2021 budget, let alone complete a term that nominally ends in 2023. The health crisis was matched by an economic one, from which recovery will be slow and accompanied by sharp declines in living standards.

Sweden

GDP growth: 2.9%

GDP per head: $55,690 (PPP: $56,880)

Inflation: 1.2%

Budget Balance (% GDP): -2.5

Population: 10.2m

A relatively hands-off response to the covid-19 outbreak ultimately did not cushion the economy and contributed to a high death rate, especially in old-age homes, undermining early support for the centre-left coalition government of the prime minister, Stefan Lofven. A cross-party commission has struggled to agree on a migration policy that will head off a challenge from the far-right Sweden Democrats without offending liberal sensibilities, and this will remain a live political issue as temporary legislation expires in 2021. A coalition agreement that would have shifted economic policy rightwards will remain on hold as the government strives to restore the economy.

TO WATCH: Last dance. Avicii, a superstar DJ and songwriter who took his own life in 2018 at the age of 28, will get his own museum in Stockholm.

Switzerland

GDP growth: 3.5%

GDP per head: $84,770 (PPP: $70,270)

Inflation: 0.3%

Budget Balance (% GDP): -1.2

Population: 8.7m

The right-wing Swiss People's Party (SVP), which holds the largest share of parliamentary seats and two places in the seven-member Federal Council (the cabinet), faces a rising challenge from the Greens, the fastest-growing party. An SVP-sponsored referendum on limiting EU immigration was rejected in September 2020, further damaging the SVP's flagging brand. A strict covid-19 lockdown, which provoked rare street protests, suppressed contagion and deaths but at a high economic cost, which in 2021 will be only partially repaired.

TO WATCH: Outsiders. Switzerland and Britain will implement a trade deal replicating existing arrangements when Britain's post-Brexit transition runs out at the end of 2020.

Turkey

GDP growth: 3.6%

GDP per head: $7,690 (PPP: $29,900)

Inflation: 10.8%

Budget Balance (% GDP): -4.8

Population: 85.0m

The president, Recep Tayyip Erdogan, responded to the slump caused by covid-19 by pressing the central bank to relax monetary policy and by pushing more credit into the economy through state-run banks, undermining the country's already fragile financial stability. The foreign creditors on which the country relies are becoming increasingly cautious, while scarce foreign reserves will make it hard to defend the lira, deepening the risk of a currency crisis. The country is heading for a hard landing in 2021 and is becoming ever more isolated.

TO WATCH: Sultan lotion. The hunt for oil and gas to reduce the country's dependence on imports will expand, ensuring friction with Greece and other regional players over energy-exploration rights in the eastern Mediterranean.

Ukraine

GDP growth:	5.7%
GDP per head:	$3,750 (PPP: $13,630)
Inflation:	6.7%
Budget Balance (% GDP):	-4.4
Population:	41.7m

The ambitious reform programme proposed by the president, Volodymyr Zelensky, was knocked sideways by the pandemic, and the lockdown erased much of the economic growth achieved since the shock of Russia's annexation of Crimea in 2014. Cracks in Mr Zelensky's Servant of the People party, papered over during the pandemic, will reappear as the emergency subsides. International creditors will be patient for now, but a return to reforms will be required if Ukraine is to keep up with its bills, while simmering conflict in the east will weigh on growth prospects.

United Kingdom

GDP growth: 6.9%

GDP per head:	\$40,290 (PPP: \$47,130)
Inflation:	0.5%
Budget Balance (% GDP):	-7.1
Population:	68.2m

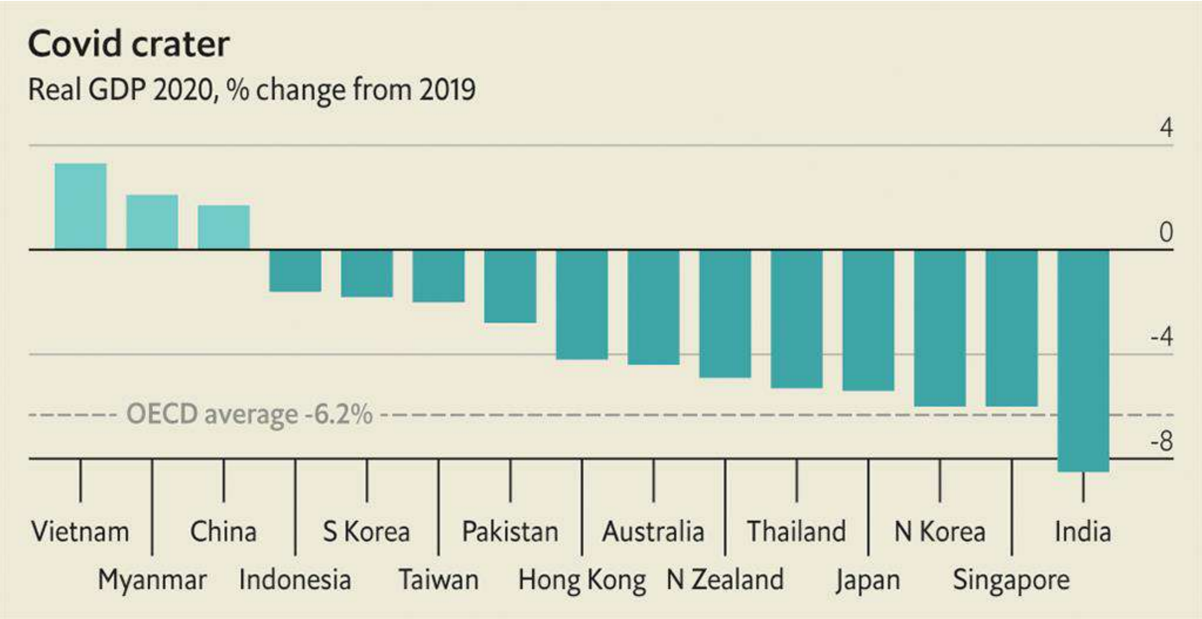
The country will start 2021 fully outside the EU, perhaps with no new trade agreement with its largest partner. The impact of this will be significant in some sectors, but the blow from covid-19 will be far greater. A late and poorly designed response brought a terrible toll in lives and economic damage, though decisive fiscal interventions mitigated the blow for many. The Conservative Party government of the prime minister, Boris Johnson, had earlier pledged an investment programme to lift productivity, but that could be curtailed by demands for fiscal consolidation within his own party.

TO WATCH: Scoxit. Elections for the Scottish Parliament and the expected renewal of the Scottish National Party's majority will fuel demands for a new referendum on Scottish independence.

In Person

Nicola Sturgeon, the daughter of a dental nurse, has been a toothache for British governments since becoming Scotland's first minister in 2014, with her relentless campaign for Scottish independence. She will be seeking a majority for her Scottish National Party in elections for the Scottish Parliament in May, and has a fair chance of winning one. She will be helped by the failure of other British parties to appeal to Scottish voters, and the frustration of EU-supporting Scots with Brexit. Her bid to achieve a second independence referendum—after a first, in 2014, went narrowly against the nationalists—faces economic headwinds. But, as with Brexit, emotion will outweigh economics in a referendum, if Westminster can eventually be arm-twisted into granting one.

Asia



Australia

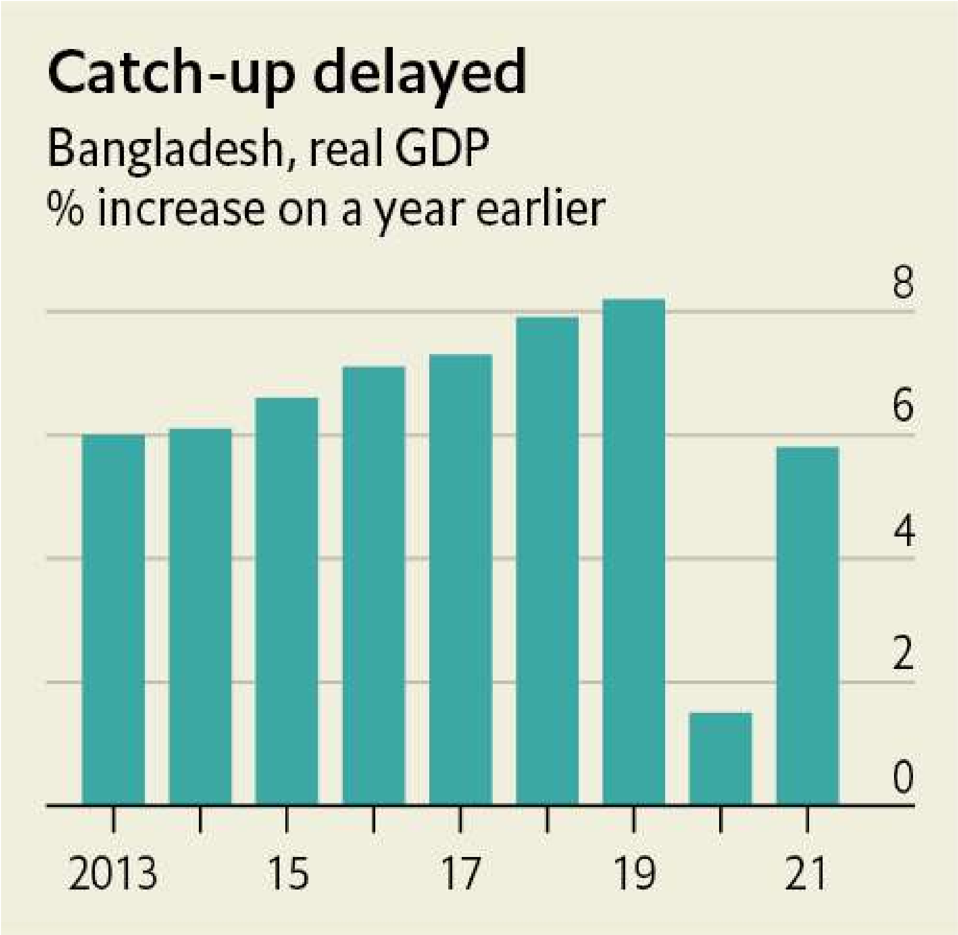
GDP growth:	1.6%
GDP per head:	$56,700 (PPP: $53,160)
Inflation:	1.5%
Budget Balance (% GDP):	-5.6
Population:	25.8m

The economy contracted sharply in 2020 despite an early government response to covid-19, and the rebound will be modest as global trade stays soft. The prime minister, Scott Morrison, will lose popularity as pandemic-imposed hardship persists, and this could be the last full year in office for the three-term Liberal-National coalition as elections approach in 2022. Fallout from the crisis, internal disagreement over energy and climate policy, and the government's thin majority will hamper progress on its legislative agenda.

TO WATCH: Island chain. The Pacific Agreement on Closer Economic Relations Plus (PACER Plus), a trade and aid pact linking Australia, New Zealand and nine Pacific island nations, takes effect in 2021.

Bangladesh

GDP growth:	5.8%
GDP per head:	$2,200 (PPP: $5,550)
Inflation:	5.6%
Budget Balance (% GDP):	-6.8
Population:	166.3m



The shock to employment and living standards from the covid-19 pandemic will fuel opposition to the government under the prime minister, Sheikh Hasina Wajed, now in its third successive term. Even so, the ruling Awami League's grip on political and military power and its entrenched patronage networks will guarantee its survival. The economy will rally, but it will take another year to recover the 5%-plus trend GDP growth of the past decade.

TO WATCH: Locked up. Protests will spike if Khaleda Zia, an opposition leader jailed for corruption but freed on health grounds, is sent back to jail.

China

GDP growth: 7.3%

GDP per head: $11,300 (PPP: $18,710)

Inflation: 3.1%

Budget Balance (% GDP): -5.0

Population: 1.40bn

The president, Xi Jinping, will use political capital gained from the rapid response to covid-19 to press his domestic agenda, sidelining critics, tightening his grip on the security apparatus and promoting allies to influential positions. In the face of mounting antipathy from Western and regional powers, the government will redouble its commitment to self-sufficiency in areas including energy and technology, while exploiting the image of a hostile world to stoke domestic support. The economy will bounce back from the slowdown in 2020.

Hong Kong

GDP growth: 2.4%

GDP per head: $50,670 (PPP: $62,030)

Inflation: 1.4%

Budget Balance (% GDP): -2.2

Population: 7.6m

The territory's draconian new national-security law will keep protesters off the streets, the "localist" movement out of public debate and the legislature packed with pro-government officials. The authorities will seek to quell wider discontent by tackling structural long-term issues such as a housing shortage, but the negative fiscal drag imposed by covid-19 will delay plans. The economy will rebound, recovering much of the ground lost to the virus, but the impact of Beijing's assault on the "one country two systems" model will prove hard to combat.

India

GDP growth:	6.7%
GDP per head:	$2,150 (PPP: $6,850)
Inflation:	4.0%
Budget Balance (% GDP):	-6.8
Population:	1.39bn

In his second five-year term, the prime minister, Narendra Modi, is widely popular and the opposition is weak, further strengthening his hand. But the virulent covid-19 outbreak that erupted late in 2020 after the relaxation of an initial national lockdown—and the extensive economic damage caused by the restrictions—highlight the risk of social unrest. Communal clashes and protests by religious groups will erupt from time to time. A programme of market liberalisation and infrastructure investment will be accelerated to help rally an economy that has been battered by the pandemic.

TO WATCH: Pacific gravity. Further flare-ups will occur over infrastructure works on the northern border with China, allying India more tightly with countries seeking to restrain Chinese influence in the region.

Indonesia

GDP growth:	4.3%

GDP per head: $4,260 (PPP: $12,840)

Inflation: 3.2%

Budget Balance (% GDP): -6.0

Population: 269.8m

The president, Joko Widodo (known as Jokowi), enjoys strong public support but has no party of his own, so must offer compromises on his policy programme to maintain political elbow-room. He is backed in the legislature by the Democratic Party of Struggle and Golkar party and has representatives of six parties in his cabinet. As a result, stability will take precedence over reform, but initiatives in job creation and infrastructure investment will make progress. Economic growth stalled under covid-19, which surged late in 2020, but will rebound strongly as exports and domestic demand recover.

Japan

GDP growth: 1.7%

GDP per head: $39,950 (PPP: $42,060)

Inflation: 0.5%

Budget Balance (% GDP): -8.7

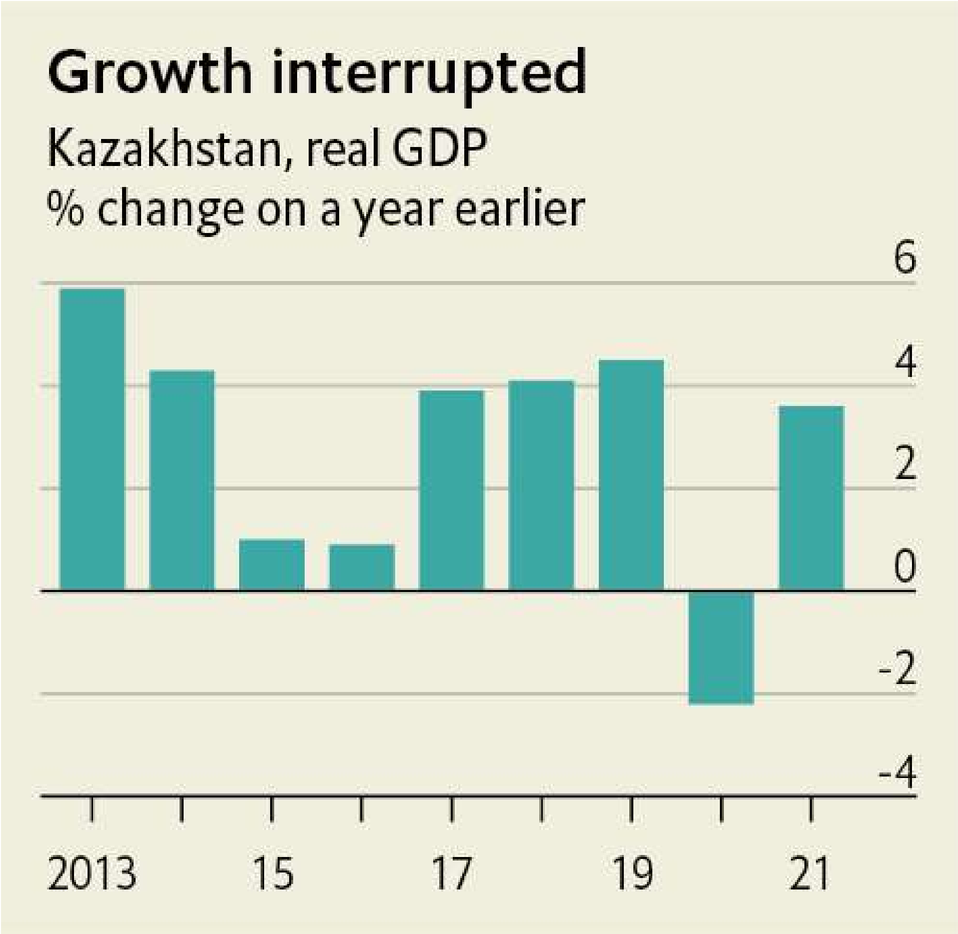
Population: 126.1m

The ruling Liberal Democratic Party (LDP) elected Suga Yoshihide as the party's president, and hence prime minister, in late 2020, after the resignation for health reasons of Abe Shinzo, Japan's longest-serving prime minister. Mr Suga will maintain his predecessor's approach towards revitalising the economy. A patchy pandemic response has eroded the government's popularity, but the LDP and its legislative partner, Komeito, will dominate lower-house elections due in October. (An earlier snap election is possible.) Measures to combat the pandemic brought a steep recession, and recovery will be slow.

TO WATCH: Passing the torch. The delayed games of the XXXII Olympiad will take place in the summer of 2021, though the 2020 branding will remain.

Kazakhstan

GDP growth:	3.5%
GDP per head:	$8,930 (PPP: $26,820)
Inflation:	6.3%
Budget Balance (% GDP):	-2.5
Population:	19.0m



The president, Kassym-Jomart Tokayev, will consolidate his control as his long-serving predecessor, Nursultan Nazarbayev, watches from behind the throne. A second pandemic surge (and second lockdown), compounded by a slump in oil prices, brought a long run of economic growth to an end, though the government responded with aid measures paid for in part from its well-stocked sovereign-wealth fund. The rebound will be quick, with the lost ground fully recovered before year-end. The oil price will also tick up, though not by much.

Malaysia

GDP growth: 5.0%

GDP per head: $10,620 (PPP: $28,330)

Inflation: 1.3%

Budget Balance (% GDP): -6.9

Population: 32.8m

Politics have not yet settled since the ousting in 2018 of the United Malays National Organisation (UMNO) after more than 60 years in power. There have been two governments since and, judging by the weakness of the current Perikatan Nasional coalition and its leader, the prime minister, Muhyiddin Yassin, 2021 will bring a third, though elections are not scheduled until 2023. Mr Muhyiddin may prevail in an early vote, but a return to an UMNO premiership is possible. Political uncertainty will damage an economy already reeling from covid-19.

New Zealand

GDP growth: 1.4%

GDP per head: $40,760 (PPP: $41,680)

Inflation: 1.6%

Budget Balance (% GDP): -7.8

Population: 5.0m

Strengthened by a widely lauded response to covid-19, the prime minister, Jacinda Ardern, led her ruling Labour Party to a resounding election victory in October. The centre-left party won 49% of the vote and a rare outright parliamentary majority, which will push policy to the left. The public-health success came at the cost of a deep recession. Recovery will be slow.

Pakistan

GDP growth: 0.8%

GDP per head: $1,180 (PPP: $4,690)

Inflation: 6.0%

Budget Balance (% GDP): -7.6

Population: 225.2m

The Pakistan Tehreek-e-Insaf government under the prime minister, Imran Khan, will retain power through a tacit agreement with the army, which runs security policy and foreign affairs. Opposition parties will combine to obstruct the legislative programme, but with their leaders in jail or under investigation they will not threaten the government's survival. Public spending and record remittances from expat workers cushioned the blow from covid-19, but getting back even to the recent modest rate of growth will take a couple of years.

Philippines

GDP growth: 5.8%

GDP per head: $3,610 (PPP: $9,150)

Inflation: 3.2%

Budget Balance (% GDP): -6.8

Population: 111.0m

The economy will bounce back strongly from the covid-19 recession, falling short of recent trends but more than compensating for the ground lost in 2020. A surge in infections threatened to undermine the authority of the president, Rodrigo Duterte, and a squeeze in living standards will further inflame public opinion. Constraints on civil liberties, including a gag on the media, will mute opposition.

TO WATCH: Cover girl. Mr Duterte will spend the year polishing the image of his daughter, Sara Duterte, mayor of Davao City and potential presidential candidate in 2022.

Singapore

GDP growth: 3.9%

GDP per head: $64,190 (PPP: $101,990)

Inflation: 1.3%

Budget Balance (% GDP): -6.6

Population: 5.6m

Notwithstanding the biggest stimulus package in its history and the successful suppression of the virus, the country suffered one of Asia's biggest recessions in 2020 and recovery for the export-led economy will be slow. Preparations by the prime minister, Lee Hsien Loong, to transfer power to the fourth generation of leaders from the ruling People's Action Party, in charge since 1959, will be put on hold after the PAP's disappointing performance in the general election of 2020. Instead he will focus on improving government performance in areas that concern younger voters, such as immigration, reducing housing costs and improving social welfare.

South Korea

GDP growth: 2.4%

GDP per head: $32,870 (PPP: $44,530)

Inflation: 1.3%

Budget Balance (% GDP): -5.9

Population: 51.3m

The president, Moon Jae-in, will redouble his reform push, buoyed by his Minjoo Party's success in securing a parliamentary super-majority in the 2020 general election. The government got a pre-election boost from its effective response to the coronavirus outbreak, which minimised the impact on health and the economy. Policy will focus on inequality, boosting small and medium-sized businesses and deepening labour-market reforms. The economy will return to trend growth.

TO WATCH: Back to the brink. North Korea's traditional belligerence will return as the love-in with Donald Trump fades into memory.

Sri Lanka

GDP growth:	2.3%
GDP per head:	$3,940 (PPP: $13,580)
Inflation:	5.1%
Budget Balance (% GDP):	-8.5
Population:	21.5m

In elections in 2020, a landslide win for the Sri Lanka People's Front (SLPP) gave sweeping authority to the government, headed by the powerful Rajapaksa family (Mahinda is prime minister and Gotabaya president). They immediately vowed to tweak the constitution to increase presidential powers. The main opposition party is, like the SLPP, supportive of the Sinhala-speaking Buddhist majority. A gradual pick-up in exports will help the economy recover, though only partially, from the covid-19 recession.

Taiwan

GDP growth: 1.5%

GDP per head: $27,500 (PPP: $57,480)

Inflation: 0.2%

Budget Balance (% GDP): -0.9

Population: 23.6m

The president, Tsai Ing-wen, and her Democratic Progressive Party (DPP) secured a second term in 2020. The DPP's victory came with a reduced majority, but the defections were mainly to sympathetic parties, so its legislative advantage will be only slightly eroded. Policy will focus on benefits and house-building to tackle inter-generational inequality, infrastructure investment and promoting next-gen information technology and renewable energy. A decisive response to covid-19 minimised both public-health and economic impacts, and activity will rally.

TO WATCH: Word play. The 13th English as a Lingua Franca conference (ELF13), delayed from 2020 by covid-19, will take place in Tainan in the summer.

Thailand

GDP growth: 3.2%

GDP per head: $8,000 (PPP: $18,940)

Inflation: 1.1%

Budget Balance (% GDP): -5.1

Population: 70.0m

Protests against the military-backed government of Prayuth Chan-ocha, a former coup leader, and against the king, are growing, drawing in middle-class urbanites who previously supported the establishment in the country's long-running "red shirt" versus "yellow shirt" power struggle. The government should be able to outlast the protesters, but a military crackdown cannot be ruled out. As covid-19 subsides, the government will try to improve business conditions for foreign investors. A partial economic recovery is all that can be expected.

Uzbekistan

GDP growth:	6.3%
GDP per head:	$2,220 (PPP: $8,970)
Inflation:	12.2%
Budget Balance (% GDP):	-3.1
Population:	33.9m

The president, Shavkat Mirziyoyev, will push ahead with tax reform and privatisation. The government will try to improve relations with neighbours while maintaining key economic partnerships with China and Russia. The pandemic slashed demand at home and abroad, but the economy will bounce back strongly in 2021.

TO WATCH: Close combat. The capital, Tashkent, will host the World Judo Championships after the original choice, Vienna, was ruled out over a government scandal.

Vietnam

GDP growth:	5.2%
GDP per head:	$3,780 (PPP: $11,430)
Inflation:	2.1%
Budget Balance (% GDP):	-4.8
Population:	98.2m

A new team will take over the ruling Communist Party after the 13th National Congress in early 2021, probably with Nguyen Xuan Phuc, the prime minister, becoming general secretary. The transition will be smooth, and the government's programme of economic liberalisation will resume following the covid-19 interruption, including measures to attract foreign direct investors and restructure state-owned firms. The economy will slot back into its high-growth groove as the slowdown caused by the pandemic fades.

In Person

In a political set-up that shuns personality, let alone personality cults, Nguyen Xuan Phuc, prime minister of Vietnam and one of the favourites to take over as general secretary of the Communist Party, fits the bill to a tee. A seasoned administrator with a background in management studies, he has shown a steady hand, not least in his effective handling of covid-19—aided by a healthy distrust of China's initial reassurances. Still, his lack of experience in the propaganda side of national leadership could be costly. His focus will be to tackle an entrenched system of back-scratching among politicians and business leaders, sometimes crossing the line into corruption, which is off-putting to foreign investors. The new team will also need to find an accommodation with China on territory the two countries dispute in the South China Sea.

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North America

Canada

GDP growth:	4.0%
GDP per head:	$45,930 (PPP: $50,650)
Inflation:	1.5%
Budget Balance (% GDP):	-8.3
Population:	38.1m

The Liberal Party government, led by the prime minister, Justin Trudeau, lacks a majority in its second term and must seek support among the three main opposition parties to pass legislation. The country rallied round Mr Trudeau as covid-19 struck, but he will find the going much harder as the pandemic fades. Policy slip-ups could bring the government to an early end. The economy was hit by the virus and low oil prices in 2020 and although the health crisis will pass, oil will stay cheap. Full recovery will take years.

Mexico

GDP growth:	3.3%
GDP per head:	$8,940 (PPP: $19,160)
Inflation:	3.9%
Budget Balance (% GDP):	-3.2
Population:	130.3m

The president, Andrés Manuel López Obrador, and the government led by his Morena party face a reckoning at mid-term elections in June. They will be helped by popular anti-corruption measures and a weak opposition but hurt by a late and lacklustre response to covid-19. On balance, they should retain their majority. The government will pursue redistributive policies to support the poorest, but a slow recovery following a deep recession in 2020 means there will be less to go round.

TO WATCH: Northwards. After focusing little on foreign policy, Mr López Obrador will seek better relations with America, Mexico's main economic partner and home to almost all of its 12m emigrants.

United States

GDP growth:	3.6%
GDP per head:	$64,790 (PPP: $64,790)
Inflation:	1.7%
Budget Balance (% GDP):	-9.2
Population:	332.9m

Joe Biden's victory in the presidential election will return America to a semblance of normalcy, and will shift policy left of centre. But legislating will be difficult, and the pandemic is taking a severe toll—the country has just over 4% of the world's population but has suffered nearly 20% of recorded covid-19 deaths. The availability of a vaccine, even though "anti-vaxxers" may shun it, will support the economic recovery. Even so, the bounceback will be underwhelming; America's $21.5trn economy won't return to 2019 levels until late in 2021. Racial-justice protests will erupt regularly; police will need years of retraining before they learn to ask questions first and shoot later.

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Latin America

Argentina

GDP growth:	6.0%
GDP per head:	$8,530 (PPP: $20,500)
Inflation:	45.3%
Budget Balance (% GDP):	-6.4
Population:	45.6m

The government of the president, Alberto Fernández, may get help from the IMF after a deal with private creditors in 2020. It will be welcome: covid-19 will leave a big hole in an economy that was already labouring under price controls and structural weaknesses, and another devaluation is inevitable if IMF support is not forthcoming. The government will lose some seats in mid-term elections in October but should retain a majority. Inflation will drift upwards as some price controls are eased.

Bolivia

GDP growth:	3.8%
GDP per head:	$3,350 (PPP: $8,090)
Inflation:	1.5%
Budget Balance (% GDP):	-8.8
Population:	11.8m

Luis Arce of the Movement for Socialism party won a presidential election in late 2020, which will mean a return to the interventionist policies that marked his time as economy minister under the former president, Evo Morales. The country must deal with deep economic and fiscal imbalances amid competing pressures to promote a recovery from a deep, coronavirus-induced recession.

Brazil

GDP growth:	3.0%
GDP per head:	$6,940 (PPP: $15,040)

Inflation: 2.9%

Budget Balance (% GDP): -7.5

Population: 213.3m

The president, Jair Bolsonaro, will prioritise re-election in 2022 over pushing his pro-market reforms in a congress where his Liberal Social Party requires support from a fragmented opposition to get anything done. A contest for the leadership of the lower house, set for February, will clarify battle lines, with opposition centre-right parties keen to control the legislative agenda. A relaxed covid-19 response protected the economy but caused many deaths.

TO WATCH: Centred. Elected as a far-right populist, Mr Bolsonaro will woo centrist support to avoid impeachment, without straying from his base.

Chile

GDP growth: 4.6%

GDP per head: $13,940 (PPP: $25,010)

Inflation: 2.7%

Budget Balance (% GDP): -8.1

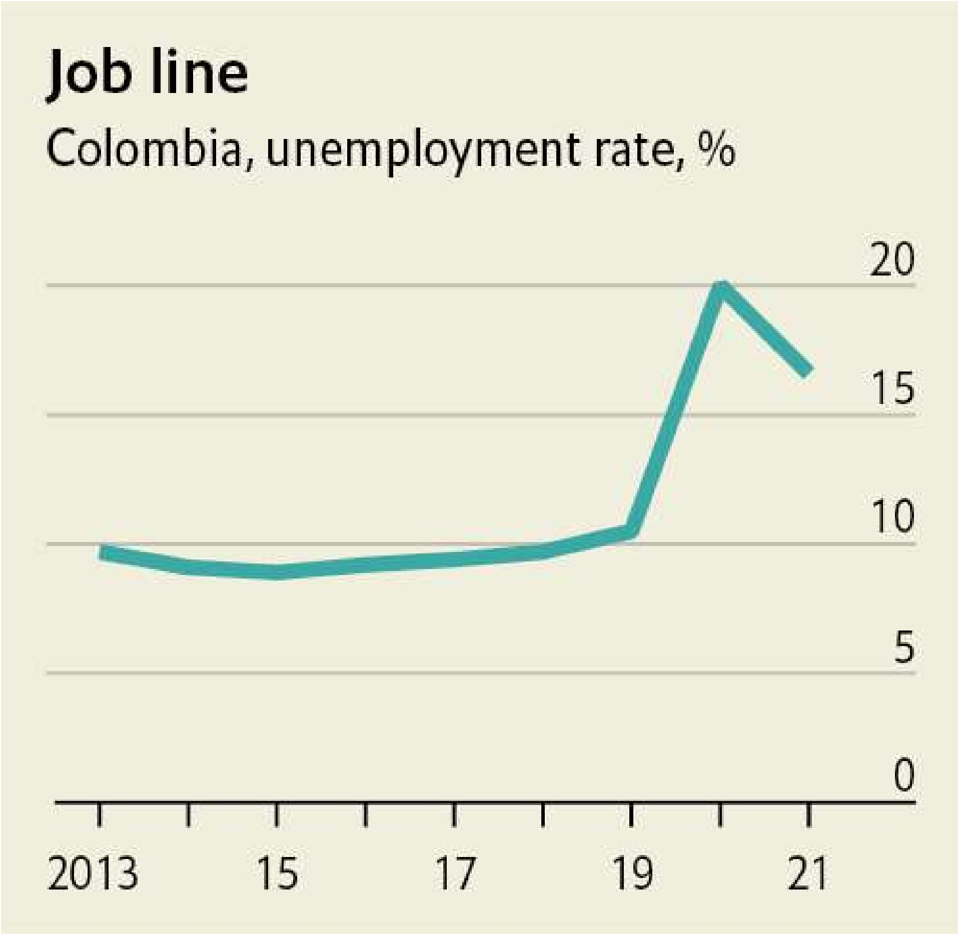
Population: 19.2m

Voters overwhelmingly approved a plan to rewrite the Pinochet-era constitution in a referendum in late 2020. The vote was held in response to mass anti-inequality protests that began in November 2019. Drafters of the new constitution will be elected in April and their work will be ratified, again by referendum, in 2022, potentially shifting a long-standing cross-party political consensus to the left. An effective covid-19 response shielded the economy and will ensure a decent recovery.

TO WATCH: Copper bottom. Copper production will rally, replenishing a sovereign-wealth fund depleted by a generous fiscal response to the virus.

Colombia

GDP growth:	4.4%
GDP per head:	$5,550 (PPP: $15,080)
Inflation:	2.9%
Budget Balance (% GDP):	-5.4
Population:	51.3m



The president, Iván Duque of the rightwing Democratic Centre party, will resume ambitious pro-growth reforms as the health crisis ebbs, including changes to taxation, labour laws, pensions and health care, alongside the sale of state assets. But this will serve to restore only part of the heavy losses from covid-19. The slow recovery will add to social tensions over inflows of Venezuelan migrants, peace arrangements with the FARC guerrilla movement and violence in the countryside.

Cuba

GDP growth:	2.3%
GDP per head:	$9,880 (PPP: $13,480)

Inflation: 6.0%

Budget Balance (% GDP): -5.5

Population: 11.3m

A pro-market reform agenda, already proceeding slowly, was suspended as covid-19 struck and will resume haltingly as the emergency subsides. The president, Miguel Díaz-Canel, will gradually yield day-to-day policymaking to the prime minister, Manuel Marrero, in a departure from the centralised leadership structure. The epidemic has battered a fragile economy; the recovery will be feeble.

Ecuador

GDP growth: 5.1%

GDP per head: $5,720 (PPP: $11,000)

Inflation: 0.0%

Budget Balance (% GDP): -2.5

Population: 17.8m

The president, Lenín Moreno, will approach the general election in February unloved by the public, obstructed by the opposition majority in congress and assailed by a host of challenges. Fiscal straits meant there was little support for a population wracked by coronavirus, and austerity will hamper recovery. Protests will resume as the health emergency eases and the next government, probably under centrist control, will inherit a fractious public and a limp economy.

Paraguay

GDP growth: 2.9%

GDP per head: $4,930 (PPP: $13,070)

Inflation: 2.1%

Budget Balance (% GDP): -5.1

Population: 7.2m

An exemplary early response to covid-19 was marred by a later surge in cases.That undermined a potential bid by the health minister, Julio Mazzoleni, to become the presidential candidate of the ruling Colorado Party in primaries due early in 2021, although the election itself is not until 2023. The president, Mario Abdo Benítez, will focus on shoring up political alliances amid a public backlash over corruption allegations in the government. The recession will be one of the region's mildest.

Peru

GDP growth: 9.2%

GDP per head: $6,340 (PPP: $12,220)

Inflation: 2.3%

Budget Balance (% GDP): -7.0

Population: 33.5m

A particularly harsh pandemic, economically and medically, will provide ammunition to nationalist parties ahead of April's general election, in which the centre-right incumbent, Martín Vizcarra, cannot stand. The winner will inherit an economy bashed by the region's biggest recession but recovering nonetheless, after a decade of strong growth. Congress will be fragmented and rowdy.

TO WATCH: Freed up. If Mr Vizcarra escapes arrest at the end of his term, he will be the first of the country's past five presidents to do so.

Uruguay

GDP growth:	3.5%
GDP per head:	$14,710 (PPP: $23,960)
Inflation:	7.5%
Budget Balance (% GDP):	-4.0
Population:	3.5m

Luis Lacalle Pou of the centre-right National Party leads a majority government flush with public support after effective management of covid-19. Labour unions will resist efforts to reform social security, and taxes could rise to narrow the post-pandemic fiscal gap, but productivity and competitiveness reforms should gain ground. Two big construction projects, a pulp mill and an overhaul of ports and railways, will help the economy recover.

Venezuela

GDP growth:	-1.7%
GDP per head:	$2,110 (PPP: $4,480)
Inflation:	640%
Budget Balance (% GDP):	-16.7
Population:	27.8m

The president, Nicolás Maduro, will remain in office for now amid plunging living standards and growing hostility abroad, but his regime is unsustainable. The longer he survives the more chaotic his demise will be. If the army withdraws support, he is finished. The economy, in dollar terms, contracted by two-thirds between 2018 and 2020 and will shrink again in 2021.

In Person

With Latin America's age of dictators largely over, the route to absolute rule today starts at the ballot box. The latest caudillo to tread this road is Nayib Bukele, president of El Salvador, who won election in 2019 to become the region's youngest national leader (he turns 40 in 2021). Confronting the established parties, he campaigned against poverty, crime and corruption, but the democratic mask quickly fell away. In February 2020, piqued by a hostile legislature, he marched his soldiers up the aisle like a latter-day Cromwell. When the Supreme Court struck down his harsh covid-19 measures, he persisted. When gang murders spiked, he crammed jailed gang members together, hands tied and stripped to their underwear. Many citizens like his hard line, and legislative elections scheduled for February should strengthen his grip.

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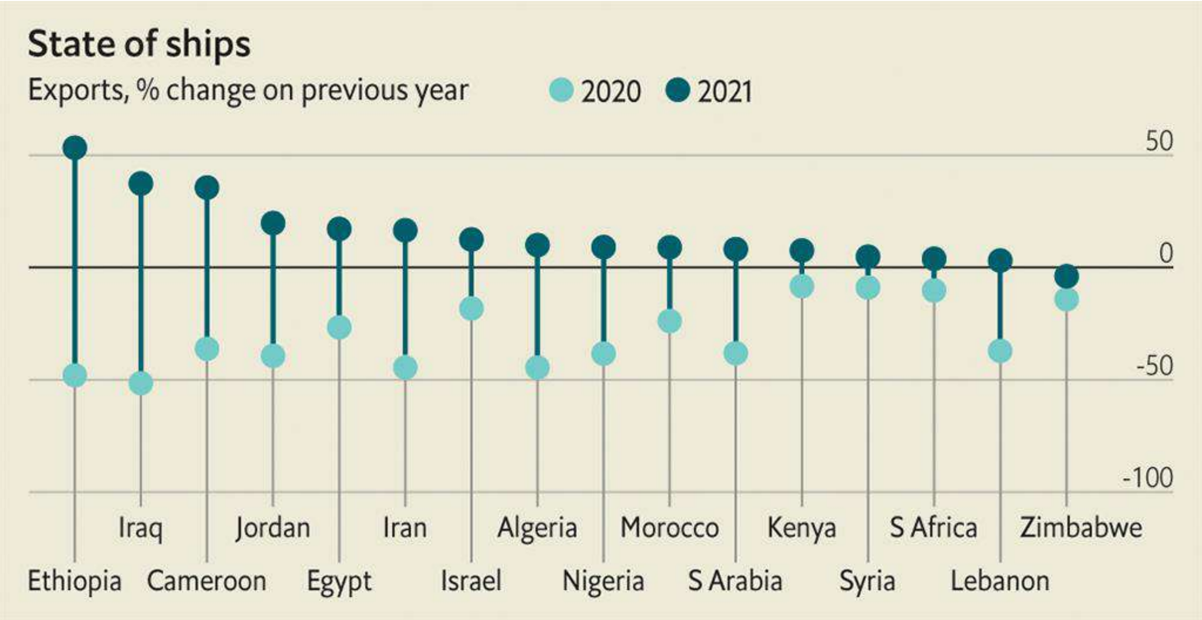
Middle East and Africa



Algeria

GDP growth: 1.3%

GDP per head: $3,710 (PPP: $10,870)

Inflation: 2.2%

Budget Balance (% GDP): -12.5

Population: 44.5m

Public protests will re-emerge as the health emergency subsides, reflecting frustration with the regime over its perceived failure to address grievances that forced long-time autocrat Abdelaziz Bouteflika to resign in 2019. The re-drafted constitution, due to be approved by referendum in late 2020, does little to demote the business, military and political alliance that wields power. The economy will languish after a deep recession in 2020.

Angola

GDP growth:	-0.1%
GDP per head:	$2,000 (PPP: $6,410)
Inflation:	19.1%
Budget Balance (% GDP):	-3.1
Population:	33.9m

The president, João Lourenço, will push to dismantle the power networks established over nearly 40 years by his predecessor, José Eduardo dos Santos, but will move slowly to avoid a backlash from vested interests. The IMF will provide support to bridge a fiscal crisis. Low oil prices will compound the economic blow from covid-19, yielding a second successive year of recession.

Cameroon

GDP growth:	2.5%
GDP per head:	$1,500 (PPP: $3,670)

Inflation: 2.7%

Budget Balance (% GDP): -5.0

Population: 27.2m

A growing armed separatist movement in the Anglophone west will threaten stability, compounding discontent with the seven-term president, Paul Biya, over his response, and over attacks in the far north by Boko Haram, a militant Islamist group. The economy will pick up from its pandemic dip as natural gas starts to flow through a new offshore terminal at Kribi port. Delayed infrastructure projects will resume.

Egypt

GDP growth: -2.3%

GDP per head: $3,710 (PPP: $12,380)

Inflation: 5.1%

Budget Balance (% GDP): -10.6

Population: 102.8m

The president, Abdel Fattah el-Sisi, will focus on reviving the economy from its viral funk. He has plenty of time: a constitutional reform allows him to rule until 2030, pending re-election in 2024, and with a legislative majority and little opposition, he probably will. A tighter post-covid budget will bring protests, but the regime is well protected by support from the armed forces.

Ethiopia

GDP growth: 3.1%

GDP per head: $900 (PPP: $2,250)

Inflation: 19.3%

Budget Balance (% GDP): -6.0

Population: 117.9m

The risk of civil war will grow after the prime minister, Abiy Ahmed, sent the army into the northern region of Tigray to quell opposition. Delayed legislative elections will probably take place early in 2021, reinforcing the majority held by the ruling Prosperity Party. Economic liberalisation will take a back seat as the government tries to restore its high-growth credentials, stunted by two plagues—covid-19 and locusts.

Iran

GDP growth: 2.0 %

GDP per head: $6,150 (PPP: $11,510)

Inflation: 21.3%

Budget Balance (% GDP): -6.7

Population: 85.0m

The pandemic was an additional blow to an economy already assailed by Western sanctions, implacable opposition by America and a sharp decline in oil prices—all of which points to a win for a hardliner in the presidential election in June. The slow response to covid-19 will stoke public anger and a humanitarian crisis in an already-weakened health system. After a deep recession in 2020, a strong recovery in China will boost Iran's economy.

Iraq

GDP growth: 0.7%

GDP per head: $4,450 (PPP: $ 10,070)

Inflation: 1.9%

Budget Balance (% GDP): -13.2

Population: 41.2m

Oil markets will take time to recover from reduced global demand caused by the pandemic, and Iraq's oil-reliant economy will stagnate after a deep recession. The transitional prime minister, Mustafa al-Kadhimi, will try to rally the economy and confront the country's deep governance challenges, but only if he secures the job permanently in elections called for June.

Israel

GDP growth: 2.5%

GDP per head: $42,390 (PPP: $40,320)

Inflation: 0.2%

Budget Balance (% GDP): -8.6

Population: 9.4m

A unity government formed in the face of the emerging pandemic envisaged the prime minister, Binyamin Netanyahu, of the right-wing Likud party, handing power to Benny Gantz, of the centre-right Blue and White party, in October, for a further 18 months. But the coalition is shaky and may not see out its term. Fiscal support measures will be withdrawn as the year progresses, and unemployment will rise, undermining the recovery.

TO WATCH: The trial of Mr Netanyahu on corruption charges will begin in earnest in January. He may be replaced as Likud leader regardless of the verdict.

Jordan

GDP growth: 2.1%

GDP per head: $3,690 (PPP: $8,420)

Inflation: 0.9%

Budget Balance (% GDP): -12.3

Population: 11.6m

Public discontent will mount over falling living standards, higher unemployment and post-pandemic austerity. The virus will limit Western financial support and bring expatriate workers back home from economically straitened neighbouring states, adding to social strains. There will be protests, but King Abdullah II will remain secure. Fragile public finances further weakened by the pandemic response will hold back recovery.

Kenya

GDP growth: 2.0%

GDP per head: $1,790 (PPP: $ 4,460)

Inflation: 6.0%

Budget Balance (% GDP): -9.0

Population: 55.0m

An effective response to covid-19 will raise support for the president, Uhuru Kenyatta. Tensions within and between the two main parties will become more intense as the government enters its final year, and a split in Mr Kenyatta's Jubilee Party is on the cards as supporters of his deputy, William Ruto, seek a platform. Emergency international funding will help revive the economy.

TO WATCH: Building bridges. Mr Kenyatta's stronger footing will allow him to pursue a rewrite of the constitution discussed with the opposition, including a dilution of executive powers.

Lebanon

GDP growth: 1.1%

GDP per head: $9,440 (PPP: $12,620)

Inflation: 98.8%

Budget Balance (% GDP): -7.7

Population: 6.8m

Nowhere is vulnerability to catastrophe more in evidence than in Lebanon, where even covid-19 was eclipsed by a fertiliser explosion in August 2020 that obliterated Beirut's port and brought down the government. The transitional prime minister, Mustafa Adib, resigned when he failed to form a government; Saad Hariri has taken over. A complete economic meltdown cannot be ruled out. An IMF rescue package is possible if a new government can be formed.

Libya

GDP growth: 20.9%

GDP per head: $4,230 (PPP: $ 10,970)

Inflation: 7.7%

Budget Balance (% GDP): -2.6

Population: 7.0m

A proxy war is pitting the self-styled Libyan National Army (LNA) against the UN-recognised Government of National Accord, fuelled by international backers seeking regional influence. A UN-sponsored process of political normalisation will remain suspended until a ceasefire is brokered. The pandemic compounded a devastating blockade of the country's oil exports by the LNA, and the economy will only partially recover.

Morocco

GDP growth: 1.6%

GDP per head: $3,180 (PPP: $7,700)

Inflation: 0.8%

Budget Balance (% GDP): -8.2

Population: 37.3m

Growth will resume after covid-19 and drought wracked the economy, though persistent unemployment and regional inequalities will fuel discontent. This, and divisions within the ruling Justice and Development Party, will hamper the government, but it will retain its authority under the king, Mohammed VI. Expect a lukewarm economic rally.

Nigeria

GDP growth: 1.0%

GDP per head: $2,090 (PPP: $5,050)

Inflation: 16.8%

Budget Balance (% GDP): -3.1

Population: 211.4m

The main task for the president, Muhammadu Buhari, will be dealing with the decline in the economy brought on by the pandemic and the related slump in oil prices. But he must also confront an Islamist insurgency in the north-east, separatism in the south and anti-police protests that erupted in late 2020. The crisis will boost talk of market-friendly reforms, but the government's resolve to pursue them will fade as the economy rallies.

Saudi Arabia

GDP growth:	2.0%
GDP per head:	$20,520 (PPP: $46,150)
Inflation:	1.6%
Budget Balance (% GDP):	-7.8
Population:	35.9m

The ailing king, Salman bin Abdel-Aziz al-Saud, will rely on his son, Mohammad bin Salman al-Saud, the crown prince, to handle the fallout from covid-19 and a drop in oil prices. In turn, his heir will prepare for his eventual accession to the throne by suppressing rival members of the royal family. As the pandemic fades, he will rev up his policy of social liberalisation blended with rigid political control.

South Africa

GDP growth:	1.5%
GDP per head:	$5,110 (PPP: $12,390)

Inflation: 4.1%

Budget Balance (% GDP): -9.0

Population: 60.0m

The president, Cyril Ramaphosa, will have his hands full sustaining a post-pandemic economic rebound, forestalling a debt crisis via spending cuts, preventing land reform from becoming a land grab and just keeping the lights on. He will face resistance from elements in the ruling African National Congress. The findings of a major anti-corruption report are due in March.

Syria

GDP growth: -1.7%

GDP per head: $1,400 (PPP: $ 3,780)

Inflation: 54.5%

Budget Balance (% GDP): -6.9

Population: 16.3m

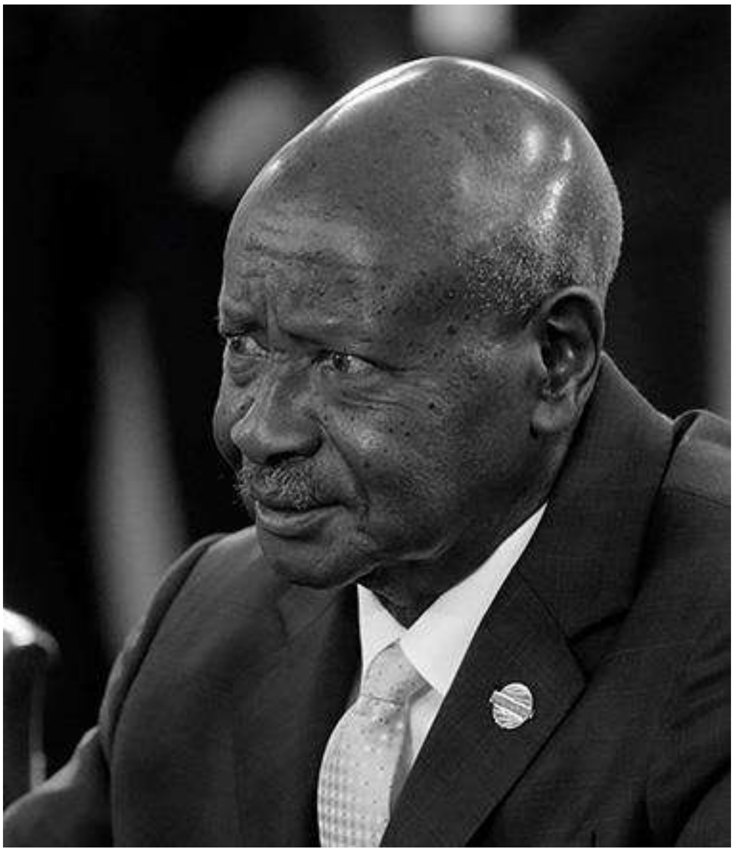
Recession brought on by the pandemic will persist in an economy ravaged by war, international sanctions and the blast in Beirut, a key regional import route. Protests will increase as economic hardship bites, but the regime of the president, Bashar al-Assad, has the resources and the political clout to stay secure. A pro-forma presidential election will take place in April or May.

Zimbabwe

GDP growth:	0.4%
GDP per head:	$1,390 (PPP: $2,480)
Inflation:	223%
Budget Balance (% GDP):	-6.5
Population:	15.1m

Social strife, economic hardship and political instability were the best the country could hope for before covid-19 struck. In its wake, the government of the president, Emmerson Mnangagwa, will face increasing popular protest. Mr Mnangagwa will sideline opponents and rivals and hold on to power—as long as he retains military support.

In Person



Uganda's president, Yoweri Museveni, has held power since 1986 and the advantages of incumbency should see him to a 6th term in elections due early in 2021. But he faces a young challenger in Robert Kyagulanyi, also known as Afrobeats singer Bobi Wine, who built his "People Power" movement after becoming an independent MP in 2017, then launching a political party in July 2020. The self-styled "ghetto president" promises his mostly young, mostly poor, red-beret-wearing supporters relief from Mr Museveni, who is using the pandemic to launch a police crackdown and harass and intimidate his political opponents. The odds are against Mr Kyagulanyi, but he just might uncork a flood of popular sentiment that carries him to power.

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World in numbers: Industries

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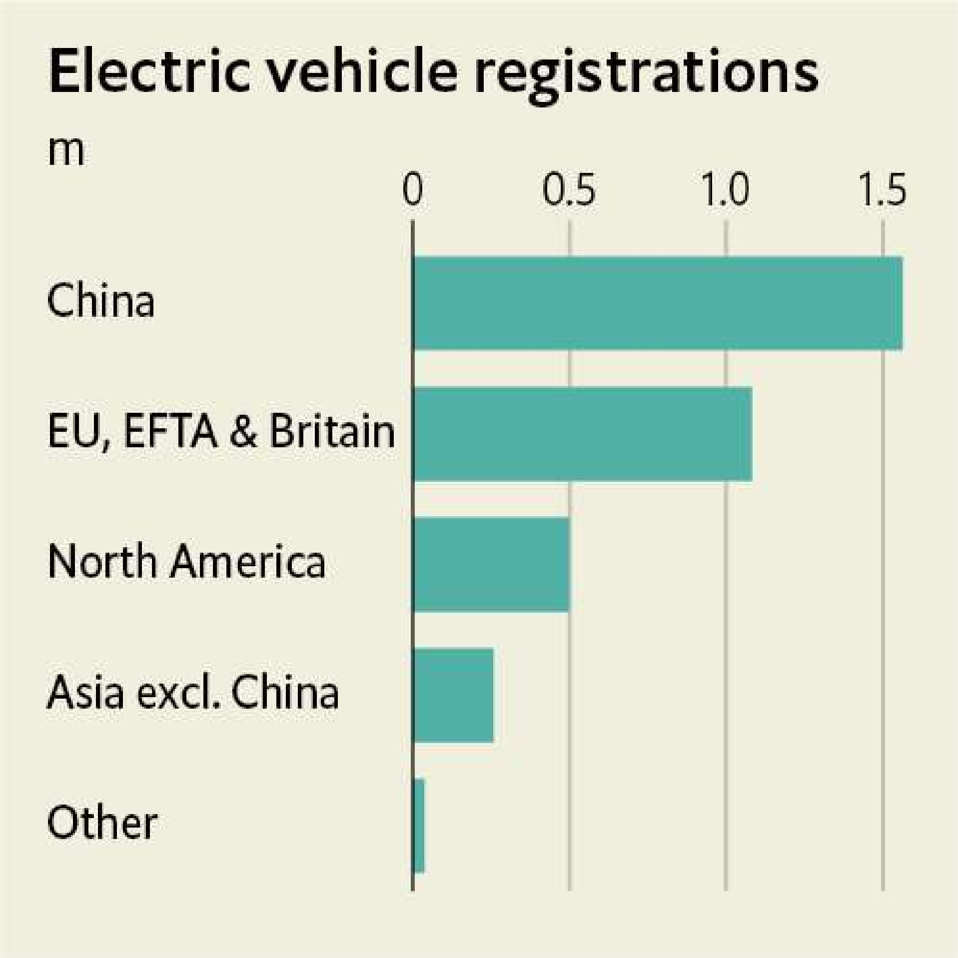
Automotive



Sales of cars in 2020 were expected to shake off the sluggishness of recent years; instead, the pandemic brought disaster. Carmakers will get some relief from pent-up demand in 2021, when sales of both new passenger cars and commercial vehicles will accelerate by around 15% from the prior year. Europe and America will lead the way but Asia, the usual driver of progress, has no deep slump to come back from and will be in a lower gear. No region will regain its 2019 levels. Global sales will still be 5% lower than before the pandemic, at 84m vehicles.

Electric vehicles will be sparkier, with 3.4m sales in 2021—up from just 2.1m in 2019. China, which previously accounted for more than half of the EV market, will see its share drop to 45%, despite extending tax breaks. The EU will lead on growth as it tightens its emissions rules again and disburses yet more subsidies for electrics. Tesla and others will expand in China, while China's BYD will head for Norway, where four out of ten cars run on batteries. Self-driving cars will lag behind, though BMW will reach "level 3" automation, making cars that can drive themselves, conditions allowing. Firms bent on going further will struggle.

Carmakers will combine forces to mend their dented finances. Honda will team up with General Motors in North America. Fiat Chrysler and Groupe PSA, newly merged, will become Stellantis, overtaking GM to form the world's fourth-biggest carmaker. Some car companies will prune plants to cut costs. Honda will close its British factory in Swindon in July; Nissan will leave Barcelona in December 2021. Indonesia has also lost a Nissan plant but will gain one from Hyundai, keen to expand in South-East Asia. New ventures will offer solace elsewhere, too. Ineos, hitherto a petrochemicals company, will begin making cars at a former Daimler factory in France.

TO WATCH: Electric spin-offs. Irked by the higher share prices of pure-EV brands such as Tesla, GM may sell a stake in its EV business. Hyundai plans its own EV spin-off, Ioniq. Although it will be a sub-brand, with no stake sale, Hyundai's share price should benefit.

Defence and aerospace

The fortunes of commercial planemakers in 2021 will be determined by travellers' willingness to fly, which will in turn depend on the course of the pandemic. Airlines' travails have prompted billions of dollars of losses at Airbus and Boeing. The planemaking duopoly has had to slash production and delay deliveries; more order cancellations could follow. In 2021 Moody's, a rating agency, expects the industry to churn out 30-40% less large commercial aircraft than it did pre-coronavirus.

Planemakers' best hope is that disease-conscious consumers prove willing to take short, domestic flights, lifting demand for narrow-body jets. Boeing's grounded 737 MAX (possibly renamed the 737-8) would be among them, once regulators clear it to fly again. However, Boeing will first deliver the 450 already built. Its profits will recover to $5.7bn in 2021, Moody's projects, well below the $13bn it made before the MAX fiasco. A challenge to the MAX and Airbus's 320 NEO could loom closer as China's Commercial Aircraft Corporation (COMAC) belatedly begins delivering its mid-size C919.

Defence will be the safer business. Many countries are set on military modernisation and replacing outdated equipment. Geopolitical risks are rife, pandemic or no: Sino-American tensions could even spread into the realm of space-based weapons. America's government, the biggest defence spender, is helping domestic weapons-makers. Still, even defence spending may not escape cuts if pandemic-induced debt-worries multiply.

TO WATCH: War, virtually. Covid-19 promises to spur defence strategists' use of virtual reality for war-gaming. "Synthetic environments" offered by the likes of SoftBank-funded Improbable help planners model responses not just to conventional threats but to a rampaging killer virus. Surely it could never happen.

Energy

Energy demand collapsed during the pandemic. Crude-oil consumption fell as consumers and companies were locked down and oil-guzzling sectors such as travel were hit hard. As the world economy picks itself up, pent-up demand will help the global appetite for oil recover slightly, by 5%, to an average of 96m barrels a day in 2021. America and China, the two biggest oil addicts, will match this rate. Asia will be the source of over 60% of new oil demand in coming years.

Oil companies have the tricky task of matching output to the uncertain economic trajectory. America's shale producers are the chief losers from low prices. As billions of dollars of their low-grade debt comes due in 2021, expect more bankruptcies; this will contribute to a plateauing of US output. The OPEC-Russia deal to cut 5.8m barrels a day from oil markets in 2021 will prop up prices, though backsliding is inevitable among Russia's powerful private-sector oil firms. Still, political strife in Iran, Libya and Venezuela will help restrain supply. The price of benchmark Brent crude will limp to an average of $45 a barrel in 2021.

Oil's tumble has dragged down prices for liquefied natural gas. LNG's cheapness will help boost demand by nearly 5%. A further increase will be driven by the continuing shift from coal-fired to gas-fired power plants. Low prices for fossil fuels will tarnish hopes that the post-pandemic world will have a green tinge, though solar power and wind-energy production will again swell at double-digit rates.

TO WATCH: Blocked pipe. Gazprom's Nord Stream 2 pipeline linking Russia to Germany via the Baltic could finally start pumping gas in the first quarter. America will do its best to stop it. Its sanctions have already helped delay the $11bn project. America, itself a burgeoning producer of natural gas, wants to loosen Russia's hold on the European market, but it can only delay the inevitable. Nord Stream 2, once fully operational, will be able to carry 55bn cubic metres a year to the EU, 11% of its pre-covid needs.

Entertainment

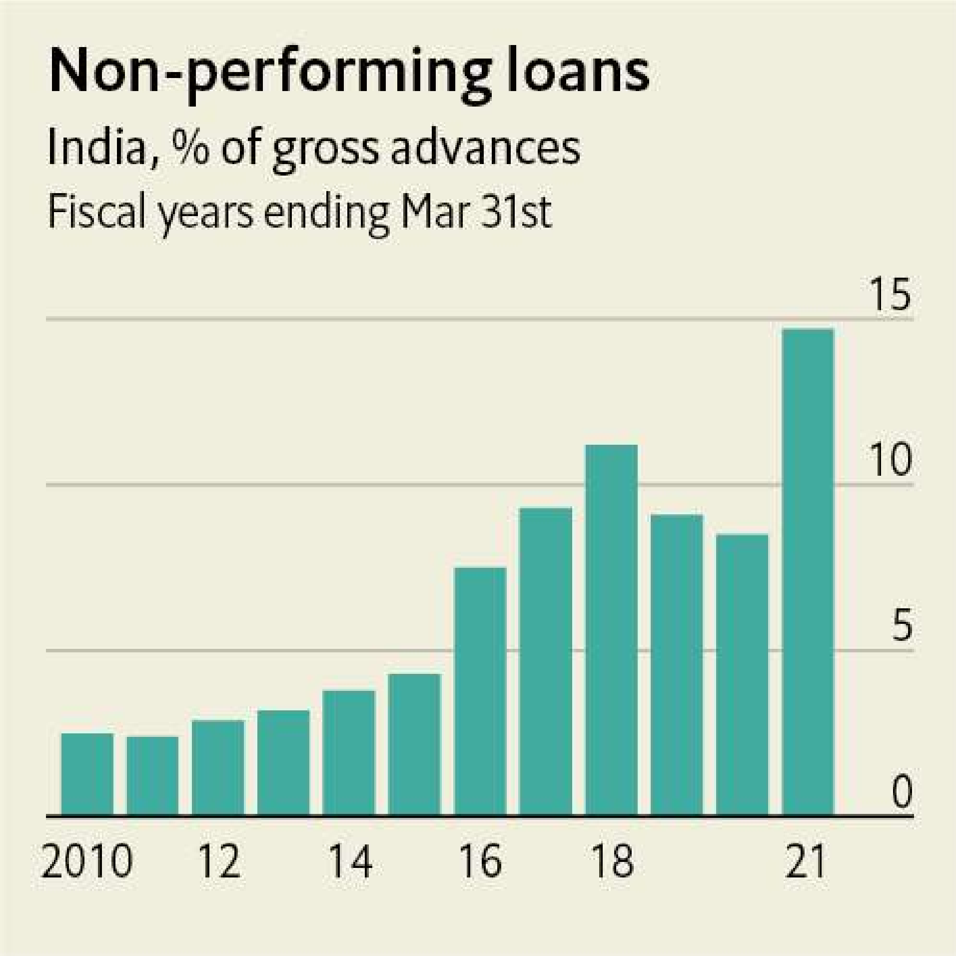
Entertainment's jazziest performer will again be over-the-top (OTT) services such as video streaming. Still, OTT subscriptions growth will slow as incomes suffer, rising by just 11% in 2021 after a 26% expansion in 2019, according to PwC, a consultancy. The appetite for video will not keep pace with the blossoming range of viewing options. ViacomCBS, a media giant, will weigh in with a revamped and renamed "CBS All Access" streaming service. Netflix will lose some licensed content (notably "The Office") to rivals but will stay on top thanks to its vast content library and popular algorithm-based viewing recommendations.

Box-office revenue will surge by 78% in 2021 yet lag behind 2019 levels by 38%, given caps on cinema capacity. After a dire 2020, American takings will jump by 80% to $6.4bn, says PwC, as delayed big-ticket films ("Top Gun: Maverick", for instance, and "Dune", a sci-fi epic) lure back punters. But production hold-ups in 2020 will stall long-awaited releases such as "The Batman", from Warner Bros, for another year, until 2022.

To prosper, streaming platforms and production houses alike must conjure up enticing new works. Filming has recovered in Asia but will hit a bottleneck in 2021 in Hollywood. Pandemic-related restrictions on shooting will prod a few brave production houses to tap artificial intelligence: "b", a Hollywood sci-fi movie due to be made in 2021, will star Erica, a Japanese humanoid robot.

TO WATCH: Microsoft ups its game. Gaming wars are increasingly playing out on cloud platforms, not consoles. Microsoft wants to harness its cloud expertise to do battle with Sony and Nintendo and next-generation-competitors Google, Amazon and Nvidia. Its Project xCloud, launched for Android smartphones in 22 countries in 2020, lets subscribers stream console games on mobile devices. Microsoft's cloud assault could be propelled in 2021 by the arrival of its long-awaited game, "Halo Infinite".

Financial services



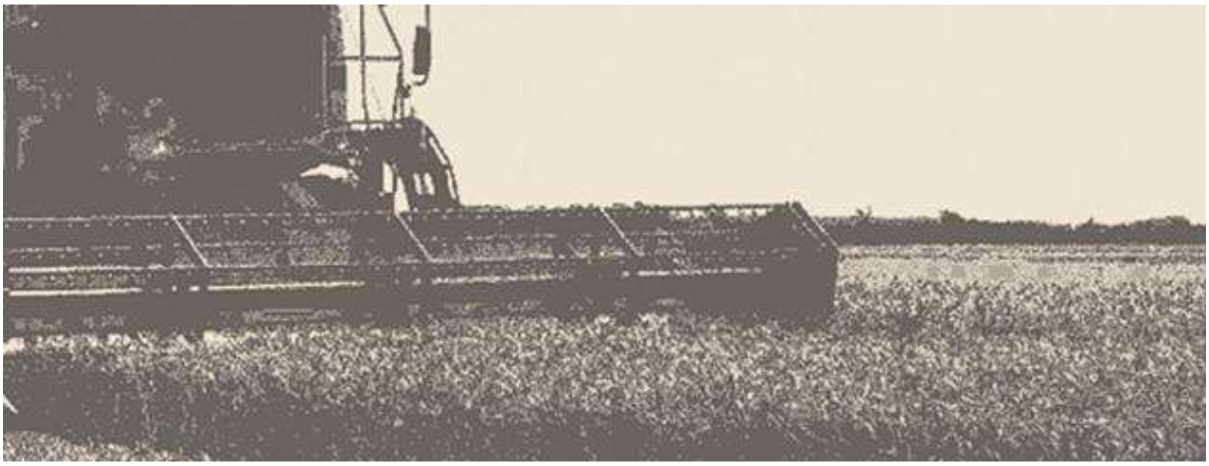
Finance firms may not have caused the covid-driven economic crisis but will nonetheless bear the brunt of it in 2021. Debt is already soaring and bankruptcies will rise. American lenders are well placed to withstand even the severest of scenarios. By contrast, European banks will brace themselves for consolidations, with lenders in Greece and Cyprus particularly vulnerable. Indian banks' non-performing loans will near 15% of all credits. China's lenders will also struggle as bad debts near $500bn. Countries with the weakest financial systems, including Syria, Lebanon and Yemen, will navigate sovereign-debt crises.

Banks will scramble to increase loan-loss provisions, while central banks and governments juggle low interest rates and deflation risks. Regulators will keep close watch, but will also be tested by new payment platforms (think WhatsApp Payments), as the lines between banks, tech firms and retailers blur. Digital currencies will add a further challenge: Russia will allow their free circulation from January and China is launching its own.

Stockmarkets that suffered in 2020 will rebound, as those in Hong Kong and London weather political upheavals. Trading will widen as mobile apps like Robinhood allow novice investors to dabble, bolstering stockmarkets in developing countries. Insurance, too, will widen its appeal as it recovers from 2020's setbacks, with China leading the charge. Emerging-market premiums will shoot up by 7% in 2021, predicts Swiss Re, a reinsurance company.

TO WATCH: CIPS v SWIFT. The tussle between China and America over Hong Kong's status may entangle international payments. If America tries to block China's access to SWIFT, China will turn to its own Cross-Border Interbank Payment System (CIPS). Should CIPS prove cheaper than SWIFT, more of the global trading system could shift away from the dollar.

Food and farming



Demand for food is stickier than toffee, which in the midst of a global pandemic bodes well for farmers (if less so for consumers). The Economist Intelligence Unit's index of agricultural prices rose by just under 1% in 2020 and will climb a further 2% or so in 2021. Beverages and grains promise to be particularly resilient.

For producers, though, troubles await. A stronger dollar will suppress poorer countries' appetite for food imports even as it encourages producers to increase output. Trade protectionism will provide plenty of grist for worriers. Food supply chains have been rocked by the pandemic, which has also caused labour shortages. In Britain, the shortfall will be compounded after the Brexit transition arrangement expires at the end of 2020: tens of thousands of EU workers normally help British farmers harvest produce.

A topsy-turvy 2021 lies in wait for commodities, including cocoa. A deal between market heavyweights Ghana and Ivory Coast is supporting producers, but as global prices dip by 10% in 2021, the cohesion between the two may yet crumble. The coffee trade, too, looks frothy. Prices of sought-after arabica beans will shrivel by 6% while those of rival robusta beans will surge by 16%; still, arabica will remain roughly twice as expensive. Coffee retailers will have to cater to post-covid tastes. Expect a new wave of coffee machines and home-delivery services.

TO WATCH: Vertical ascent. High-tech “vertical farming” could help overcome covid-era food woes. Cultivation occurs indoors in stacked trays that can be tended by (sickness-immune) robots. Supply lines can be shortened because farms tend to be located closer to consumers. Larger farms will sprout in 2021 in places as far-flung as Britain’s Bedfordshire and Houston, Texas.

Health care

The rollout of covid-19 vaccines will be the hope and headache of 2021. Finalising trials and scaling up production will be hard, the costs of delivery vast. Health-care workers will be first in line for immunisation, particularly in rich countries. Gavi, an international vaccine alliance, will lead efforts to provide at least 2bn doses for poorer countries. Overall, vaccine producers will earn up to $100bn and draw fire if they are seen to be profiteering. The anti-vax movement will seize on any safety failures.

Meanwhile, covid-19 deaths will ripple past 2m by April. Evidence will build of long-term effects, including brain damage and chronic fatigue. Hospitals will scramble to catch up with delayed non-covid care but struggle with quarantine rules. Cancer deaths will also rise after delays in screening. Telemedicine will catch on rapidly everywhere, as insurers step up to cover the bills. Mergers between hospitals in America will help cut costs, though some deals will falter amid economic uncertainty.

Global health-care spending, squeezed during lockdowns, will bounce back by just over 6% in dollar terms. Asia will lead the way as China’s latest five-year plan accelerates reforms intended to spur innovation among insurers, hospitals and clinics. Pressure on prices in America and China will slow growth of pharmaceutical sales to 5%, despite those vaccine sales. Even so, the industry will be one of the few able to invest in expansion.

TO WATCH: Digital dilemma. Delayed by covid-19, the EU's new Medical Device Directive comes into full force in May as regulators scurry to catch up with smart-health apps and wearables. Fitbit and Apple are monitoring closely.

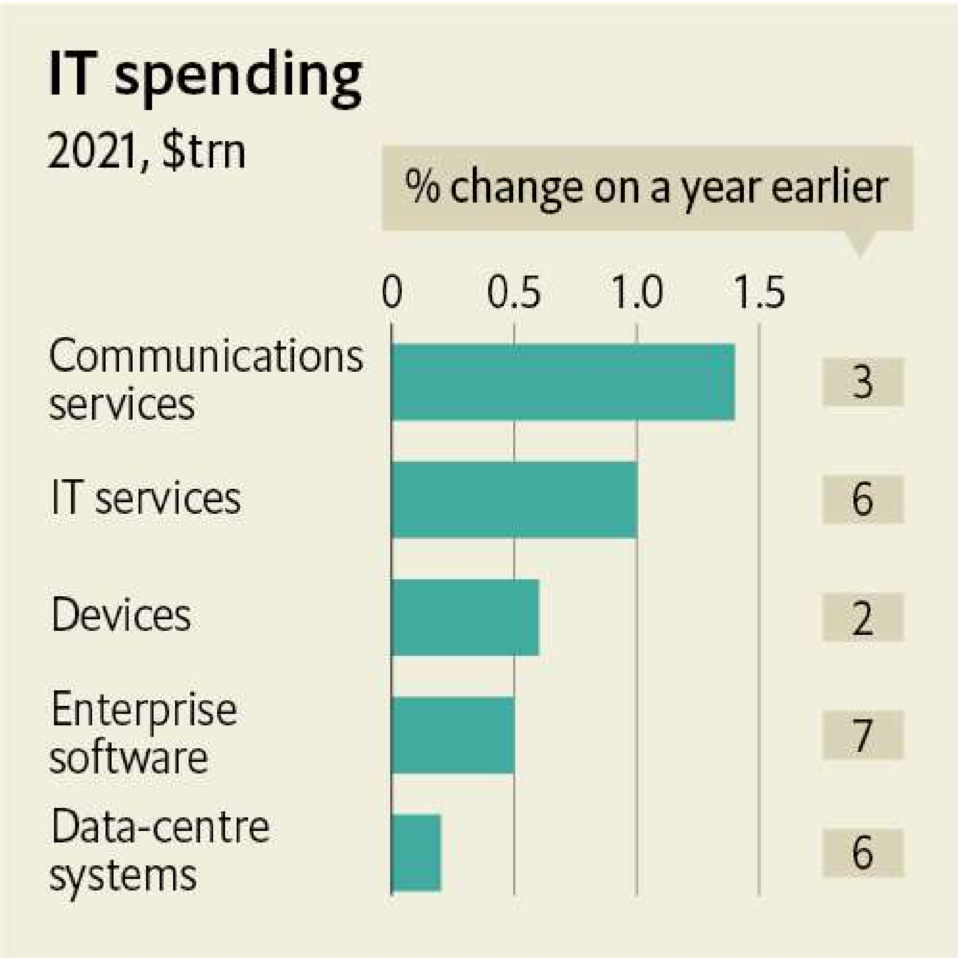
Infrastructure

Governments face a dilemma. Infrastructure is capital-intensive and their debts have exploded: rich nations' debt-to-GDP ratio will exceed 120% by the start of 2021 and poorer countries are building their own gargantuan piles. Yet infrastructure can offer a rewarding target for stimulus spending: the gap between the investment needed globally and expected outlays runs into trillions of dollars. Overall, the urge to spend will win out in 2021. Gross fixed investment, a rough proxy for infrastructure spending, will strengthen by 8% globally. It dropped by 10% in 2020 as coronavirus distracted governments and construction workers stayed at home.

Many of the keenest builders will be in the developed world. Nine of the 25 fastest-growing spenders will hail from Europe, with France and Ireland growing by 20% or more. Britain, too, will make it into the top 25 as its Conservative government tries to use infrastructure improvements to boost the Midlands and the north of England. For scale of investment, though, no one will match China: its fixed-asset investment will rebound by nearly 7% in dollar terms to $6trn, 30% of the global total. China wants to channel cash towards improving its digital infrastructure, but more traditional targets (rail, road and urban infrastructure) will benefit, too. India's spending, though much lower, will surge by 18% as Narendra Modi's government makes infrastructure a pillar of recovery.

Elsewhere the setback for spending will be longer-lasting. Under Joko Widodo, Indonesia had hoped to throw money at creating new connections between its myriad islands. But the president's goals are under threat from both the virus and Indonesia's paltry fiscal income (less than 14% of GDP). Big improvements to Indonesia's infrastructure will be elusive in 2021.

Information technology



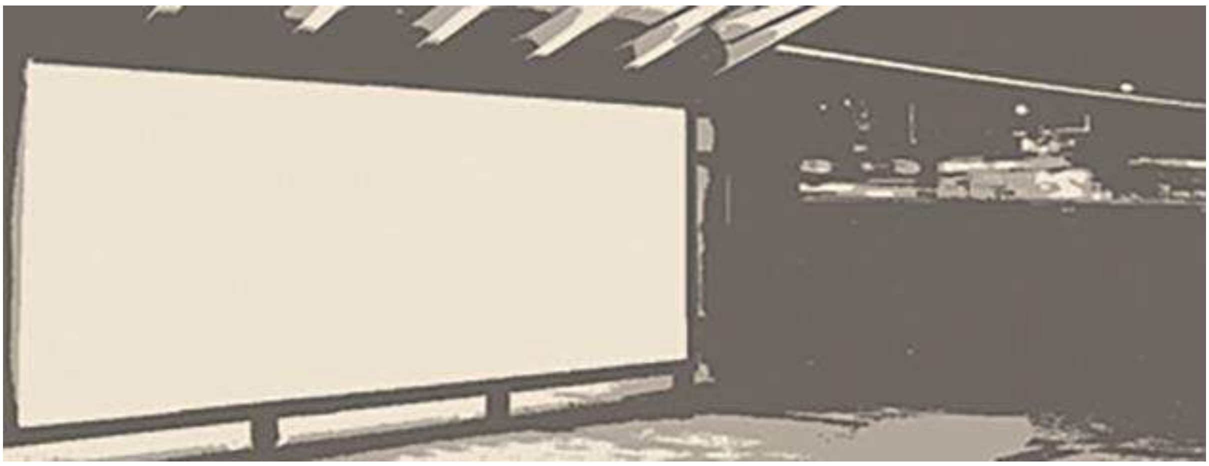
The pandemic is giving a shot in the arm to swathes of IT. Social distancing will boost technologies including robotics, the internet of things, virtual workspaces and video conferencing. Software will be the top performer, with spending up by 7% in 2021, topping 2019, Gartner forecasts. As remote working spurs the need for backup systems and cloud-based software, “infrastructure as a service” is set to rocket by 28% to $64bn. Market leaders such as Amazon, Google and Microsoft will race to add data centres; Asia and Africa are prime targets.

Purveyors of cutting-edge wearables will seek to capitalise on the post-lockdown popularity of mobile gaming and “at-home entertainment” (or “Netflixing”). Apple may add augmented-reality content to Apple TV+, a streaming service, in 2021 before launching compatible headsets. In India, Reliance Jio plans to release AR glasses designed for the mass market.

The picture is not all rosy. Though overall IT spending will grow by 4% to $3.7trn, that will still be 3% less than before covid-19. Fewer workers in offices means hardware demand will languish 14% below recent highs. Remote working also creates opportunities for online baddies. Even pre-pandemic, cybercrime losses were projected to hit $6trn in 2021, twice the level in 2015. The raft of new e-commerce startups are prime targets for phishing sorties. So are telehealth providers, which have been allowed by some regulators to weaken their defences as they struggle to cope with surging demand.

TO WATCH: Big-tech opportunity. India’s tech scene faces new challenges. Slowdowns in America and Europe will weigh on IT-services companies such as Infosys and TCS. Amid Sino-Indian tensions, Indian e-commerce and tech startups will have to look beyond Chinese investors for funds. Sensing an opportunity, America’s tech giants will pour billions into India in coming years.

Media



After declining by around 7% in 2020, ad revenues will rise by 6% to $573bn, according to Magna Research. Rescheduled sports events (see Sport) will loosen advertisers' purse strings. But the global ad-take will come up $9bn short of pre-coronavirus days. Asia-Pacific will grow fastest (by 8%), helped by an expected $800m splashed out on the Tokyo Olympics. North America, least hurt in 2020 owing to political ad-spending in an election year, will grow slowest (4%). Still, with $222bn in ads, America will all but recover ground lost in 2020.

Advertising via traditional media will just about return to positive territory. Newspapers and magazines will shed yet more ad dollars, hastening the transition to digital-subscription models, even in developing Asia. Revenues for television and radio will expand by 2% and 1% respectively, according to Zenith Media. Out-of-home and cinema ads will surge (by 16% and 65% respectively) following steep dips in 2020, but fail to reach previous highs.

Ad placements on social media and video content will proliferate. More streaming companies will be tempted to launch ad-backed free versions to snare viewers, as have Pluto TV (owned by CBS), Peacock (Comcast) and India's SonyLIV. User-generated content on platforms such as Instagram Reels or TikTok will find favour. Video ads will get even shorter, to attract eyeballs on Instagram Stories or Facebook Thumbstoppers.

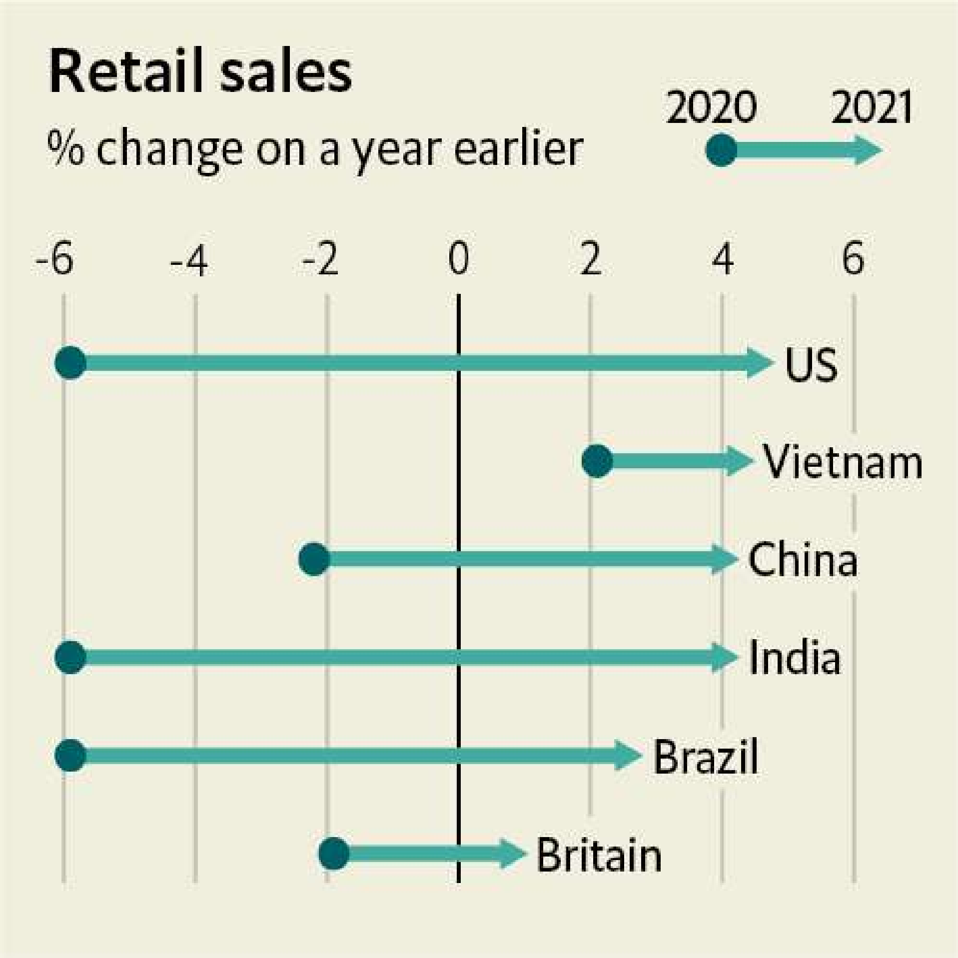
Metals and mining

Metals prices were flagging with oversupply even before coronavirus, for steel in particular. Amid the economic wreckage, they have been hit hard again—far harder than their agricultural cousins. The silver lining? Having dwindled further in 2020, metals prices will bounce back faster in 2021. A moderate rise in demand will deplete stocks and push up the EIU's base-metals index by 5%, though prices will not attain their former shine.

Big spending on infrastructure in China, especially, ought to support suppliers of industrial metals such as copper. Indeed, the strength of China's economic recovery will be pivotal for many miners. Producers will also pray the Sino-American trade conflict does not harm carmakers, a source of demand bolstered by growing need for electric-vehicle batteries. Meanwhile, strikes at copper mines in Latin America and Indonesia will restrain output. Prices will increase by about 5% in 2021. Protectionism is a menace to other industrial metals, too. Take aluminium: America's import tariffs will divert supplies away from its shores; crimped output will keep prices high there. Aluminium prices, bashed out of shape in 2019-20, will climb by more than 4% in 2021.

Among precious metals, gold, perhaps unsurprisingly, has shone brightly in these uncertain times: average prices were 27% higher in 2020. But as economies recover, consumption will fall by 7% and prices will be flat in 2021.

Retail

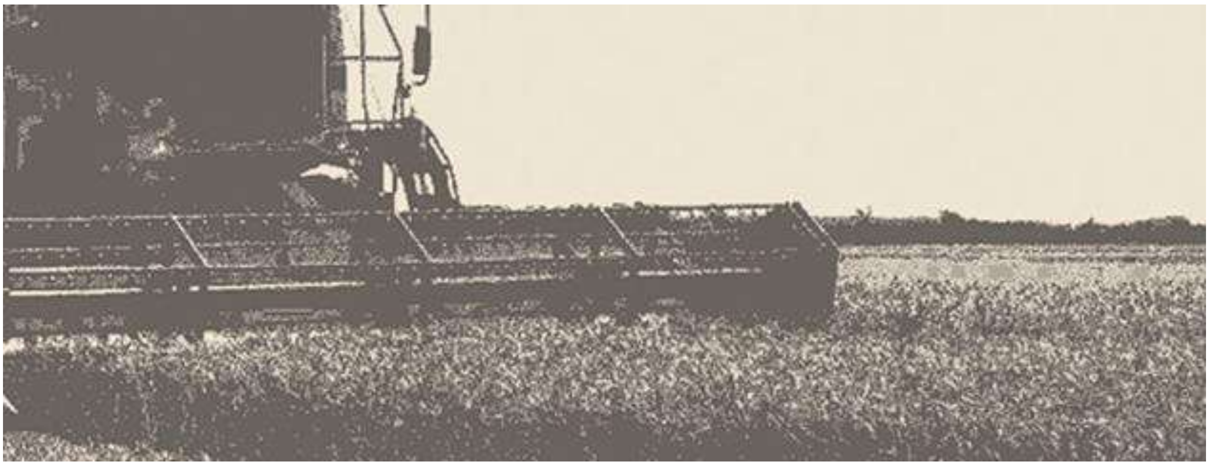


Having declined by nearly 5% in 2020, global retail sales will expand by 3% in 2021. Asia will lead the charge, with sales in Vietnam and China growing by around 4% and the Philippines by 7%. India, having taken a beating in 2020, will not regain its former lustre, with sales up 4%—sluggish by its standards. Africa's retail boom must wait: covid-19 has blighted incomes there. Globally, sales will be lower than before the pandemic and retail, ever a cut-throat business, will get bloodier. Rivalry between emerging-market retailers and foreign interlopers will intensify. Reliance Industries' online marketplace, JioMart, will bring the fight to Amazon and Walmart-owned Flipkart.

Consumers' covid-inspired buying habits will become ingrained. Under lockdown, 47% of Americans over 55 started shopping more online, according to an e-Marketer survey; many new converts will stick around. Because online shoppers crave slick delivery services, sellers will be obliged to invest in technology and logistics, favouring deep-pocketed players and encouraging tie-ups between retail, tech and payments firms. In America, click-and-collect sales will climb by 10%, having ballooned by 60% in 2020.

In the coming years more people will shop from their sofas, check out goods using augmented reality and order them via smart speakers. Retailers have a chance to cut the cost of running physical stores: many will invest in improving their own websites or listing on online marketplaces such as Amazon or Facebook Shops. Struggling stores will morph into warehouses, losing out to big-box retailers that collect lots of brands beneath one roof. Prepare for more bankruptcies.

Sport



The sports industry aspires to make a spectacular comeback in 2021 but will fail to generate the $580bn in revenues predicted pre-pandemic. Postponed events will fill schedules. In Tokyo, the Summer Olympics and Paralympics will stick proudly to their name ("Tokyo 2020") as they welcome more than 11,000 athletes and admit new sports such as skateboarding and surfing. Medals will be made with metal recycled from 6.2m mobile phones. The UEFA Euro 2020 football tournament, also postponed, will avoid possible travel bans by spanning 12 European cities. Its sister tournament, the 2021 Copa América, will take place in Colombia and Argentina.

China, too, will stage postponed competitions after lifting a ban on international sporting events imposed in mid-2020. Not postponed—coronavirus permitting—will be the Rugby League World Cup in Britain, which has long been scheduled for late 2021. The success of these events will drive the recovery of businesses in related industries, from hospitality to the $85bn sports-betting market.

Even so, sponsors and advertisers will be wary of renewing contracts as corporate finances falter, while social distancing limits ticket sales. Crowds will not live up to the name, though fans unfazed by contagion risks are likely to snap up refunded tickets. Millions will be content to watch the action online, where the e-sports industry will mount a $1.2bn challenge. TV sports rights will stay cheap despite new bidders. That augurs badly for America's National Football League, whose $1bn deal with Disney comes to a close after 2021.

Telecoms

Booming online shopping and remote working will fuel record demand for mobile and internet services. But the pandemic's economic fallout will stop the number of mobile and broadband subscribers rising by more than about 3% from pre-covid levels. American and Chinese operators will focus on expanding and monetising their fledgling 5G coverage. Europe will play catch-up, rushing to launch 5G services after dragging its feet in 2020 over whether to use Huawei's technology. Meanwhile, Latin America, Africa and South Asia will be busy upgrading from 2G and 3G to high-speed 4G LTE. Mobile revenues will rise more quickly in developing countries than developed ones, climbing by 2%, according to GSMA, an industry body.

The handset market will fragment further. Huawei will be hurt by America's ban on using its technology. The Chinese company's loss will not necessarily be Apple's gain. South Korea's titan, Samsung, is well placed to thrive if it can win over new users with affordable 5G phones. Other Chinese players (Xiaomi, Oppo and Vivo) should make strides and low-cost makers such as Transsion (China, again) and VinSmart (Vietnam) will claim new ground in Africa and Asia.

Sino-American tensions, Brexit and slowing economic growth will prod the EU to loosen its competition policies. The overturning in 2020 of a ban on a merger between O2 and Three will encourage other post-pandemic link-ups. Watch for consolidation in countries with more than three operators, such as Spain.

TO WATCH: Chipping Huawei. Once America's sanctions sever supplies of crucial chips for Huawei's smartphones, its handset shipments could plummet by 75% in 2021. Huawei is set to lose its status as the second-largest smartphone vendor, but don't write it off. It has other business lines and a huge domestic market to fall back on—plus a big R&D budget to push for self-reliance in chipmaking.

Travel and tourism

Few industries were walloped harder by the pandemic than travel and tourism. More tourists will venture forth in 2021, but they will face cancellations and quarantines. International arrivals in the world's 60 largest economies will rise by 8%—but languish 15% below 2019 levels. Both leisure and business travel will still be suffering. Morgan Stanley reckons 31% of business travel will shift to online meetings. Millions of tourism-related jobs will be at risk.

All things being equal, Asia should recover fastest, as Thailand and New Zealand lift their travel bans. Macau, where tourism brought in more than half of pre-pandemic GDP, will welcome back non-Chinese visitors. But travellers from China (the world's top tourism spender) will tread cautiously, while America (the biggest earner) will stay selective about visitors. In Europe, Britain will face new checks once the Brexit transition deal expires, and Venice will levy a tourist tax to limit visitor numbers. Public events such as the delayed Tokyo Olympics and Dubai Expo will be socially distanced.

Domestic travel, already 75% of tourism revenue in rich countries, will fill some gaps. Even so, spending at hotels and restaurants, though up on 2020, will be 9% down on 2019 in dollar terms. Government funding will keep many travel companies going. Yet airlines, despite receiving $123bn in aid, will make a loss of $15bn in 2021. Cargo demand will outpace passenger numbers, but that will not prevent some airlines from vanishing. It will not be plain sailing for cruise lines either, as cancellations accumulate.

Business

Business

The new geography of business

Vijay Vaitheeswaran: US business editor, The Economist, NEW YORK

The pandemic forced firms to experiment furiously in 2020. Now comes the reckoning

2021 in brief

A new airline planned by David Neeleman, founder of JetBlue Airways, is due to start service in March, despite the airline industry facing its worst financial crisis ever. The airline, called Breeze Airways, is expected to focus initially on underserved airports in the south-eastern United States

IT WAS INNOVATION at warp speed. The best firms in many industries responded to the outbreak of covid-19 with impressive agility. Employees adapted to new working methods such as video-conferencing from the kitchen table. Suddenly unprofitable business lines were swiftly replaced by once-risky approaches like “click and collect” shopping. Digitisation went into hyper-drive, sending e-commerce, online entertainment, telemedicine, e-learning and food delivery soaring. This outpouring of enthusiasm and ingenuity is impressive, but the hard truth is that a lot of it is unsustainable.

In 2021 chief executives face a year of reckoning, as they deal with innovation fatigue inside their firms and a complex business environment outside. An analysis for *The World in 2021* by superforecasters at Good Judgment, a forecasting firm, predicts that an effective covid-19 vaccine will not be widely available during much of 2021. There are also lots of conflicting views on how quickly the global economy will recover. Bridgewater, the world's biggest hedge fund, reckons the pandemic will cost companies around $20trn globally.

If firms are to survive the difficult year ahead, the executive mindset must shift from innovation to transformation. In particular, bosses must address three geographic dilemmas for which there are no easy answers.

First, where should firms make their products? Companies find themselves on the front line of political fights over tariffs, technology, climate change and racial injustice. In part, this reflects a failure of leadership from politicians, which has prompted consumers and employees to demand that bosses step up instead. It also reflects the fact that firms are now pawns in wider geopolitical battles—just ask Huawei, TikTok, Harley-Davidson, America's tech giants or the French wine industry, all of which have been caught up in trade, tax and technology spats beween America, China and Europe.

In this fast-changing and uncertain regulatory landscape, deglobalisation seems an obvious response. But Kevin Sneader, global managing partner at McKinsey, a consultancy, challenges the notion that supply-chain efficiency must be traded off against resilience, arguing that "over time these 'resilience costs' could be innovated away" by new ways of doing things. That will require bosses and company boards to make hard decisions about how to modify their global supply chains to make them shorter, faster, smarter and safer.

The second geographic quandary is: where will customers want to buy things? The rise in e-commerce during the crisis has clearly boosted online retailers like Amazon but there may be other, more surprising beneficiaries too. Mauro Guillén of the Wharton School predicts that companies like Canada's Shopify, which serves as the online back-end for smaller businesses, will enable sustainable e-commerce "within 25 miles of your home, which didn't exist before". In America and Britain, which have strong digital infrastructure but underdeveloped e-commerce when compared with China, the shift towards online shopping could prove permanent.

But the picture varies greatly by industry and market. Although 60% of Italians shopped online during the pandemic, only 10% found it satisfying. In many parts of continental Europe, which have poorer infrastructure for delivery and online engagement, some consumers will revert to in-person purchasing after the pandemic.

The trickiest question is: where should employees work? Remote working, forced on firms by the pandemic, has proved popular. Jonas Prising, the boss of Manpower, a human-resources consultancy, says his clients report high worker satisfaction and surprisingly strong productivity. “A shift toward remote hiring liberates us to get a whole new level of talent, and for sure will lead to a greater diversity in hiring,” says David McCormick, Bridgewater’s chief executive. KPMG, a consultancy, says nearly three-quarters of chief executives agree.

Even so, remote working can be a double-edged sword. Gary Hamel of the London Business School says it can magnify management problems such as tyrannical bosses, excessive bureaucracy and resistance to new ideas. Christian Ulbrich, CEO of JLL, a property-management giant, thinks employees who have a decent home-office arrangement, or who have care-giving responsibilities, will not want to come back to headquarters.

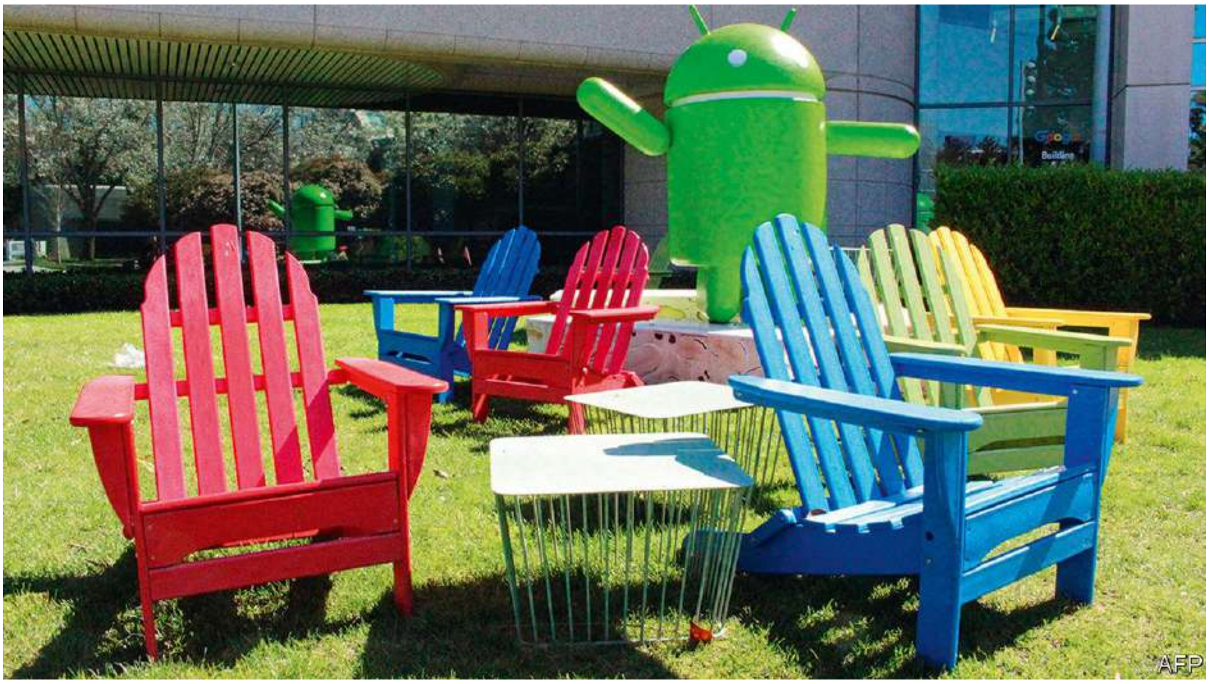
That could be problematic. Many bosses are less effective at communicating electronically than in person, and prolonged separation is reinforcing departmental silos and entrenching elite power. Younger employees already miss socialising at work. Older ones will tire of staring at screens in cramped apartments—especially if Zoom calls invade their evenings and weekends. Even a senior executive at a tech giant that makes remote-collaboration software longs for the in-person “ideation” sessions and water-cooler gossip of yesteryear.

So bosses should prepare themselves, and their companies, for a hybrid future with a mix of remote working, smaller headquarters and co-working hubs in satellite locations. They will have to adapt their management styles and pay closer attention to morale and well-being. In KPMG’s survey of bosses, “talent risk” has shot up from number 12 on its list of risks to long-term growth before the pandemic struck to number one now. That means bosses who want their firms to emerge stronger from the crisis must be ready to compete harder for talent in a world turned upside down.

Beyond the Valley

Ludwig Siegele: US technology editor, The Economist, SAN FRANCISCO

The technology industry's centre of gravity is on the move



Where did everyone go?

SILICON VALLEY has always been more of a mindset than a place. Its defining feature is a willingness to make high-risk investments in promising but unproven technologies. As it has cycled through technologies—from personal computers and the internet to smartphone apps and cloud computing—its bearings have shifted. Pushed by the pandemic, it is on the move again, in several respects.

Start with the real world. Silicon Valley's ground zero used to be Palo Alto, the city where Stanford University is located, and at one end of Sand Hill Road, the preferred location of its leading venture-capital (VC) firms. But in recent years its geographic centre has moved north, to San Francisco, where most unicorns (startups worth more than $1bn) are based. Now that covid-19 has turned that city into something of a ghost town, Silicon Valley is spreading out in different directions.

For a time it was easier to find leading VC s in bars in Napa Valley, a wine region to the north, than in San Francisco (but wildfires have since driven them elsewhere). Tech workers who can work remotely for the foreseeable future have decamped to Marin County, also to the north, and Lake Tahoe to the east. Startups, meanwhile, are looking for their proverbial garages much farther afield. To make their funds last longer, many have rented Airbnbs in cheaper places.

Things are also shifting in a technological sense. If one sector has benefited most from the pandemic, it is cloud computing: in many industries it has turbocharged the process of digital transformation, which often involves moving workloads into shared data centres. Silicon Valley has big cloud-computing firms of its own, not least Google, but the market leaders, Amazon and Microsoft, are based in Seattle, farther north on the Pacific Shelf.

Yet the most important realignment is financial in nature. The tacit understanding between west- and east-coast business elites over how to share the spoils of tech investing is under threat. The key element of that deal has long been initial public offerings. They are designed so that investors in private markets, mostly VC s and related entities, can cash out while letting investment banks, and institutions active in public markets, make money from flotations. But some VC s are now pushing for "direct listings", in which the initial share price is set by an auction rather than by investment bankers. That reduces fees and makes it easier for early investors, many of them VC s, to cash out at a high valuation.

A newer approach is to use a special-purpose acquisition company, though it is not yet clear whether this trend will benefit Silicon Valley more than Wall Street. SPACs, as they are known, are shell firms that go public promising to buy one or more private businesses with the proceeds from the listing. They have a dubious history; many have underperformed the broader stockmarket. But SPACs will get even more popular in 2021, as well-known VC s such as Reid Hoffman prepare to launch their own.

In 2021 it will become clearer where the new Silicon Valley will settle geographically, technologically and financially. Whatever happens, it is clear, now more than ever, that it is less a specific place and more a multi-dimensional, ever-changing space.

From “techlash” to “techslog”

Ludwig Siegele: US technology editor, The Economist, SAN FRANCISCO

Reining in the tech giants, whether through lawsuits or legislation, will take time

2021 in brief

The trial begins in March in Delaware of Elon Musk, the boss of Tesla, who is accused of breaching his fiduciary duties and personally enriching himself through Tesla’s purchase in 2016 of SolarCity, a company that was founded by his cousins and failing financially

“A STRONG AND widespread negative reaction to the growing power and influence of large technology companies, particularly those based in Silicon Valley.” That is how the Oxford English Dictionary (OED) defines “techlash”. The word, popularised in these pages in 2013, has since been used in thousands of articles. Yet despite the term’s popularity, not a lot has actually happened to rein in the power of the tech titans. This will change in 2021. The techlash will begin in earnest—in the courts and in parliaments.

Most headlines will be about the antitrust lawsuits in America. The most potentially consequential was filed by the Department of Justice, in conjunction with some states, against Alphabet in October 2020. It accuses Google’s parent of having illegally defended its dominance in online search. Epic Games, meanwhile, the maker of "Fortnite", a popular online game, is pursuing a case against the way Apple controls access to its App Store and the 30% cut it takes on most transactions there. And the Federal Trade Commission may launch an antitrust suit against Facebook, accusing it of using its market power to stifle competition.

Yet any of these lawsuits—and other, unexpected ones—could easily drag on for years. Policymakers across the Western world now mostly agree that lengthy after-the-fact (*ex post*) court proceedings are not the best way to deal with tech giants. What is needed, they say, is a reform of antitrust law and forward-looking (*ex ante*) regulation. A committee of America's House of Representatives published a report in October 2020 that lays out what such a reform might look like. It mainly calls for rules modelled on the Glass-Steagall Act, repealed in 1999, which separated investment and commercial banking to avoid conflicts of interest. An equivalent for the tech industry would separate digital platforms from the goods and services that are offered on top of them. In other words, Amazon would be banned from selling its own products within its online marketplace and Apple could no longer offer apps of its own.

The European Union is planning to go even further. Its Digital Services Act, due to be unveiled by early 2021, will include rules on how big online firms should moderate content, deal with user complaints, treat rivals that also use their platforms, interconnect with competing services and share data. Google, for instance, could be forbidden from giving its own services a leg-up in its search results, and Facebook might be compelled to open up Messenger and WhatsApp, its messaging services, to allow interoperability with rival systems such as Telegram and Signal.

But critics of the tech titans should not get their hopes up. These legislative efforts to rein in the tech giants will also take time. The incoming Biden administration will probably want to deal with more pressing questions, such as the economy and health care, before turning to technology regulation. The eu is known to be slow: it took a decade to produce its landmark General Data Protection Regulation. And the longer the pandemic drags on, the more dependent people will find themselves on the services the tech giants provide, and the more entrenched their positions will become.

The word "techlash" evokes quick change. But if history is any guide, tech regulation will be a slow process, with many fits and starts: more hard slog than rapid whiplash. The word "techslog" would be more appropriate—though it seems unlikely to make it into the OED.

Bilateral damage

Stanley Pignal: European business correspondent, The Economist, PARIS

European businesses once hoped to benefit from squabbles between China and America. No longer

Europe’s approach to China as a trade partner has hardened

TRADE WARS are generally bad news for companies in any of the countries involved. But might they throw up benefits for those lurking on the sidelines? That was the hope of some European firms in recent years as Donald Trump stepped up America’s trade war with China. But this approach has failed to deliver the expected benefits—and in 2021 its drawbacks will become more apparent.

Europe’s hope was that Chinese and American companies, unable to buy from each other as trade tempers flared, might turn to European firms instead. A UN study in 2019 forecast that Europe would pick up $70bn of fresh exports a year as trade patterns moved in its favour, largely from Chinese firms needing new suppliers. A geopolitical tiff in 2020 kicked up a tangible example: when the Trump administration placed sanctions on Huawei, a Chinese maker of telecoms equipment, American operators (and many others) keen to upgrade their network gear bought from Nokia of Finland and Ericsson of Sweden instead.

The thinking was based on the premise that Europe could avoid getting caught in the crossfire. Increasingly, that is not the case. When it comes to trade restrictions, Europe has been on the receiving end of both American and Chinese hostility, and more seems likely in future. Meanwhile, Europe's approach to China as a trade partner has hardened.

Compared with the all-out trade war he waged against China, Mr Trump started mere tiffs with Europe. But the areas of tension are long-standing and seem likely to endure. In October 2019 America imposed tariffs on $7.5bn of EU imports, and in November 2020 the EU hit back with tariffs on $4bn of American goods, in a row over state subsidies for aircraft manufacturers. Further conflict looms in 2021 if Europe imposes a tax on large tech companies—which America interprets, with some justification, as singling out its own firms.

Trade with China has hardly been smoother. In this case it is largely a matter of Europe cooling to Chinese firms. Human-rights abuses in Xinjiang and the crackdown in Hong Kong have angered Europeans. But those came on top of concerns that Chinese firms were morphing from customers of European industrial groups into competitors. Though still committed to free trade, European policymakers now decry past "naivety" when it comes to dealing with China. In 2021 the EU will flesh out ways to retaliate against Chinese firms if state funding is deemed to be helping them undercut European rivals. Partly in response to covid-19, the EU wants to repatriate supply chains of "strategic" industries—a term that is used loosely, and can apply to just about any sector.

Europe has also fallen foul of China by siding with America. Several countries, including Britain and France, have acceded to American demands that they limit Huawei's involvement in their telecoms networks. And China is not afraid to remind European countries that it can open and close its markets as it pleases: in September, for example, German pigs were banned from the Chinese market on trumped-up sanitary grounds.

Even if Europe stays on good terms with both its biggest trade partners, their continuing squabble will affect its firms. What is categorised as a Chinese export may also be a European company's product. Ericsson and Nokia manufacture gear in China, for example, and German carmakers building vehicles in America for the Chinese market have also been caught in the trade tumult.

More generally, Europe stands to lose from the unravelling of the free-trade system it has helped build, alongside America, since the second world war. More than half of European firms' sales are overseas, compared with less than a third for American companies, according to Morgan Stanley, a bank. The great rejigging of supply chains resulting from the partial uncoupling of the Chinese and American economies will also affect European companies. The few bits of extra business they might pick up on the side will feel like scant consolation.

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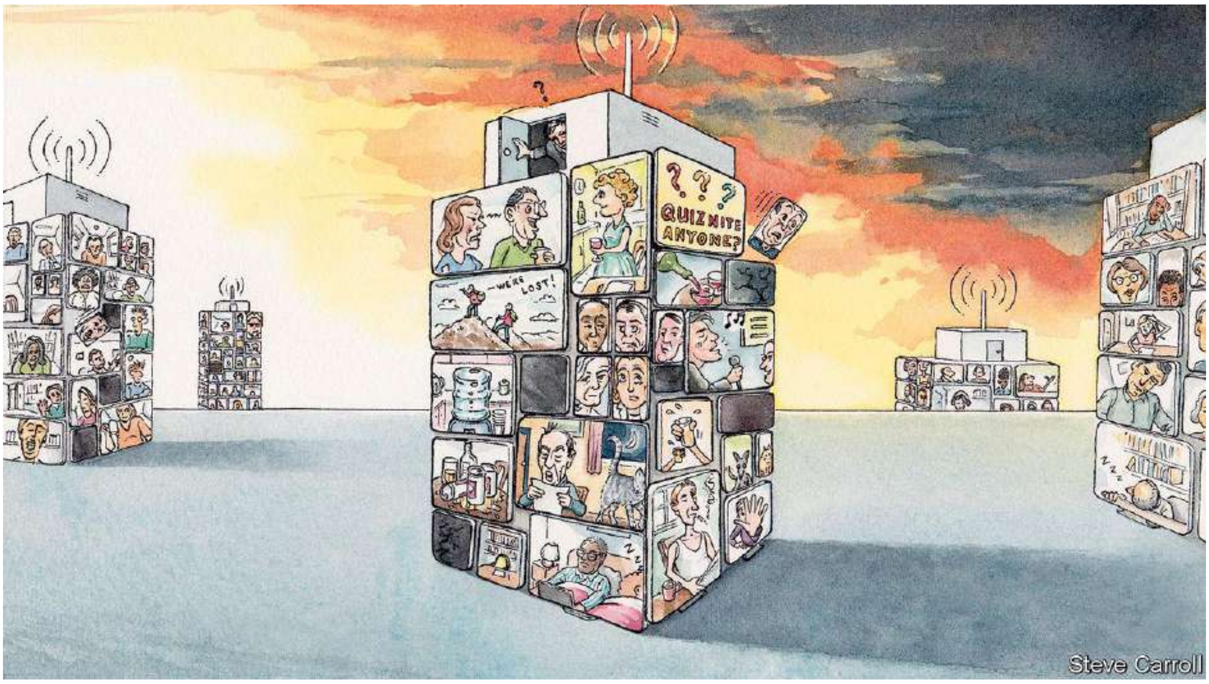
Bonding from home

Philip Coggan: Bartleby columnist, The Economist

Firms will need to find new ways to bring their employees together



WHAT QUALITY will business leaders be emphasising in 2021? The answer, surely, is teamwork. Corporate life in 2020 was disrupted by the pandemic and the need for many employees to work at home. Most companies got by, but they were living on the social capital they had accumulated in previous years. In 2021 they will want to refill the tank.

Many managers will have been surprised by how well the working-from-home experiment went. Research suggested that, before 2020, employees who stayed at home tended to be isolated from those who remained in the office. They regarded themselves as second-class citizens. But the pandemic meant that everyone was in the same boat, or rather the same living room. Managers learned that staff could be productive when not in the office; employees got used to taking part in video meetings. A study by the National Bureau of Economic Research found that home workers put in almost an hour extra a day compared with when they were in the office.

The new arrangements worked because employees were already familiar with their roles and were used to the rhythm of the organisation. The weekly planning meeting could take place online; team discussions could be held on Slack or WhatsApp. Managers knew their staff's individual strengths and weaknesses and thus whom to nag and whom to leave alone.

Over time, however, this coherence could deteriorate. Managers and staff will face new problems and will need to develop methods for tackling them. New staff will join and existing staff will transfer to new jobs. Accumulated knowledge will be less useful. New ways of working will have to be developed, which may need closer co-operation than can be achieved over a video link.

An element of productivity also results from serendipity: the chance discussion with someone outside your team. Those water-cooler moments are less likely when people are working from home. Employees may start to relate only to those within their immediate team or messaging group. The sales team may lose touch with product design, for example. Eventually this will erode the networks on which a company's health may depend.

That is why companies will spend 2021 trying to restore the collective spirit. Even if employees do not come back to the office full-time, they will probably be asked to return for at least one or two days a week. When they do, they will be engineered into meeting with those outside their immediate hierarchy, to stop the company turning into a battle between "us" and "them".

All this may also involve some socially distanced version of awaydays, designed to break down barriers between departments. Zoom drinks events are already common but some employers have sent wine or beer to employees to encourage participation. Other events include trivia quizzes, online karaoke and scavenger hunts in which workers compete to find items within their own homes. Companies will survey employees to test the state of morale. Human-resources departments will be called upon to do a lot of extra work, beyond the firefighting role of sorting out problematic relationships.

The big risk in the medium term is the emergence of two cultures, as has happened in the gig economy, where the workforce is split into a small number of core staff and a larger number of contracted or casual workers. The pandemic may create another split, as older, established workers stay at home and younger staff, despite going into the office, have fewer opportunities to bond with colleagues, build professional networks and climb the ladder. Team spirit will be harder to create than before—whatever fine words the chief executive uses.

Power struggle

Simon Wright: industry editor, The Economist

As motor vehicles go electric, the battle for industry supremacy will intensify

Our friends electric

LIKE THE move from horse-drawn carriages to contraptions powered by internal-combustion engines, the migration from cars powered by fossil fuels to electric vehicles (EVs) will have a profound effect on personal transport. Covid-19 caused a 20% drop in global light-vehicle sales in 2020, to about 70m, but they will pick up in 2021. And, led by China, the proportion of vehicles powered by batteries will grow quickly.

This shift will change the way people travel. Electric power requires a fundamental rethink of a car's internal architecture, turning it into a computer on wheels. An array of new electronic systems brings connectivity and produces data, making possible new business opportunities, better mobility services and, eventually, cars that are fully self-driving. During 2021 the companies in the electric-car ecosystem—Tesla, its copycats, established carmakers and tech giants—will be jockeying for position in the race to an electrified future.

The surging share price of Tesla, now the world's most valuable carmaker, provides a big incentive for incumbents and newcomers to catch up. Tesla may lead in battery technology and software, but to make those advantages stick it must prove that "production hell" is behind it. The firm's boss, Elon Musk, dreams of making 20m cars a year; in 2019 he made 370,000. Scaling up manufacturing has caused Tesla its biggest headaches. Will its new "gigafactories" in Texas and near Berlin come online as smoothly as a new plant in Shanghai, providing proof that Tesla can expand at will?

Tesla may have some catching up to do in large-scale production, but established carmakers face an equally daunting challenge: learning how to write software. Electric cars require integrated software, not just to ensure that batteries and motors work together to provide the best performance, but to connect the car to the outside world. Incumbent carmakers are struggling to combine disparate electronic systems from different suppliers to create the seamless experience offered by Tesla, which constantly improves its cars with smartphone-style "over the air" software updates.

Pivoting from mechanical engineering to developing software and providing the mobility services that customers will increasingly demand (such as ride-hailing and ride-sharing) is not the only challenge. Incumbents must also wind down investments in combustion-engine technology and make the alliances needed to catch up on batteries and software. Expect more joint ventures and investments in startups, as they try to share costs, shift away from petrol power and bring in new thinking.

And what of the Tesla wannabes, from China's Li, Nio, WM Motor and Xpeng to American firms such as Fisker, Lucid and scandal-hit Nikola? Cash from excitable investors has poured in and established carmakers are also taking stakes—as are tech giants, keen to get involved as transport goes digital. But which companies will have staying power? Can the wannabes persuade investors that they have proprietary technology that will give them a long-term advantage?

Flashy launches of vehicles are one thing, but as the industry's travails show, working out how to make cars at scale, when bits and bytes are as important as brakes and bodywork, is quite another. Establishing retail and maintenance networks is no joyride, either. The coming year will make clearer which of Tesla's competitors, new and old, can stay in the race.

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More than just a game

Daniel Knowles: international correspondent, The Economist

The line between video games and spectator sports will blur

Action-packed

VIDEO-GAME sales soared in 2020 as people sought ways to cope with being confined at home. But even when they are allowed to go outside again, will they want to? The launch in November of the PlayStation 5 and the Xbox Series X, the next generation of video-game consoles, led to sales being rationed to cope with demand. With them come a host of new games, including the latest titles in blockbusting series such as "Call of Duty" and "Assassin's Creed"—more good reasons to stay indoors.

It is not just the usual model of selling games that executives hope will do well in 2021. The past year also saw a boom in the viewership of e-sports—that is, teams playing video games professionally for spectators. Even before the pandemic, games such as "Counter-strike" (a counter-terrorism shooter) and "League of Legends" (a fantasy strategy game) could fill stadiums with spectators. The virus gave them a bigger boost. As traditional sports such as football and baseball shut down, e-sports—which can be played from home—were shown on terrestrial television for the first time in many countries. Formula One teams and English Premier League football clubs even experimented with having their players play video games for an audience instead. Video-game technology has also been used to fill empty stands with fake crowds for some sports broadcasts.

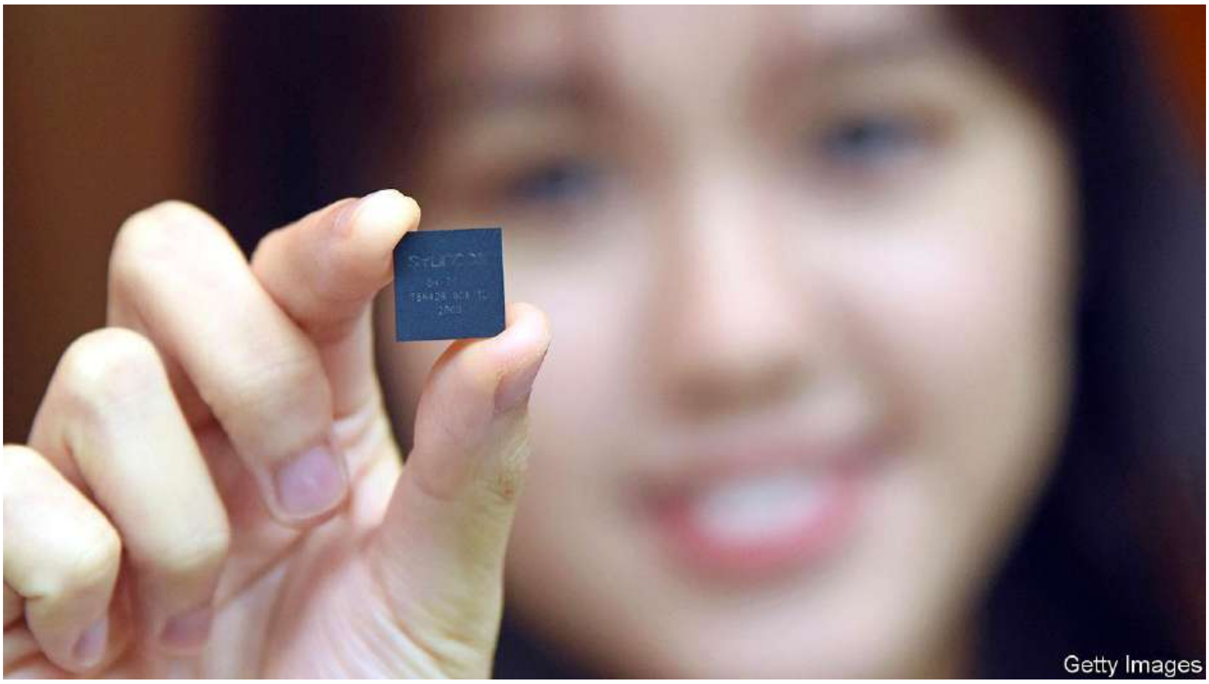
As the line between video games and traditional sports blurs, companies will strive to capitalise on the popularity of e-sports in 2021. Guild Esports, a team owned by David Beckham, an English former footballer, which competes in four different e-sports, is among those hiring professional players this year. In October the firm raised £20m ($26m) on the London Stock Exchange. Events which had to be scaled back in 2020 because of the pandemic should restart, too. The "Fortnite" World Cup, which debuted in 2019 but was cancelled in 2020, seems likely to kick off again. In 2019 Epic Games, the maker of "Fortnite", provided $30m in prize money for the event. Blizzard, which runs leagues for "Overwatch" (another cartoonish shooting game) in half a dozen countries, may even be able to restart events in stadiums.

Will the money pouring into e-sports get a payoff? That is less clear. For all their growth, e-sports are chiefly a form of marketing for video games. Teenagers are keen, but their attention spans are short—and new games come out all the time. Traditional sports have much deeper roots. It is far from clear whether e-sports teams can build brands of even a fraction of the scale of a minor Premier League football team. But if you do not play, you cannot win.

Bargaining chips

Hal Hodson: Asia technology correspondent, The Economist

A crucial year for China's semiconductor firms



THROUGH TRADE wars and pandemics, China remains the world's workshop. But there is still one vital product its manufacturers cannot make competitively: the microprocessor chips that power smartphones and cloud servers, whose number-crunching underpins the world's leading companies. In this arena America and its allies, especially South Korea and Taiwan, remain dominant. China is trying hard to catch up. America is trying hard to stop it.

This struggle will intensify in 2021. American officials learned a lot about global microprocessor supply chains during their recent campaign against Huawei, China's telecoms-equipment giant. The walls they threw up around the company, to cut it off from vital chip supplies, went from leaky to robust. They can now deploy that understanding against China's nascent chipmaking industry.

Manufacturing chips requires huge multimillion-dollar machines that each carry out just one step of the complex chipmaking process. A few of those machines are made exclusively in the United States by American companies, mini monopolies that are ripe targets for new export-control rules prohibiting sales to Chinese chipmakers. That would set Chinese efforts back years. Chinese firms working on equivalent machines are nowhere near ready.

There is a less aggressive alternative. America could, with Joe Biden as president, adopt a more nuanced approach. Instead of Donald Trump's unilateral, hard-man tactics, America could try to build a consensus with its allies about the common threat a thriving Chinese chipmaking industry would pose.

This would mean striking agreements with friendly governments about which technologies could be sold to Chinese companies, and which pose a threat. The market for selling advanced technologies into China is worth hundreds of billions of dollars, too big to ignore. If America and its allies do not move together, a blockade may create an opportunity for Japan, Europe or South Korea.

Instead of expecting allies to sign up to its own export controls, America would involve them earlier on, identifying mutual interests and threats. This would allow for a joint effort to squeeze and shape China's technology ecosystem, without the risk of losing all contact with it, and thereby all control. But if America chooses not to pursue this course, in 2021 China's chipmakers will enter a new, and potentially more hostile, phase in which they must thrive without America, or die. It may take time, but given the country's record over the past 40 years, few people would bet against them on that.

Books bounce back

Alexandra Suich Bass: senior correspondent, politics, technology and society, The Economist, DALLAS

Will 2021 be another strong year for books?

The pandemic bolstered the case for books as an alluring, enduring diversion

THE YEAR 2020 is on track to be one of the best for print books in America since 2004. Sales of e-books and audiobooks had double-digit growth in the 12 months to the end of September, compared with a year earlier, but sales of print books grew too, by nearly 7%. This may sound like an unlikely plot twist, given that many bookstores stayed closed during pandemic-driven lockdowns, publishers delayed planned releases of new titles and Amazon prioritised fulfilling orders for hand-sanitiser over the latest page-turners.

Yet the pandemic also bolstered the case for books as an alluring, enduring form of entertainment and education. Print books and audiobooks offer respite for screen-weary souls, both young and old. The debuts of many political books, including the first volume of Barack Obama's memoirs, and the nationwide protests for racial justice, which drove curious readers to older non-fiction titles on race and civil rights, were further boons for book-buying. What looked like it was going to be a terrible, horrible, no good, very bad year for books turned into a fine one.

What next? In 2020 escapist books got a boost: romance and crime will sell well in 2021, too. So will biographies, children's books and graphic novels. Another trend to watch is the strength of the backlist, as readers opt for time-tested books over new releases. The backlist's share of sales rose from 64% in 2019 to 68% in 2020, according to Kristen McLean of npd, a research firm.

In 2020 more people bought books online, and this will hold true in 2021. Amazon benefited, but so did a newer outfit, Bookshop.org, which routes sales to independent bookstores. Audiobooks will spread, and an emerging genre, between audiobook and podcast, will expand further. And the appeal of print will grow in a time of screen fatigue. E-books account for 27% of the consumer book market and have not dislodged print books to the extent digital doyens predicted.

Itchy feet

Henry Tricks: Schumpeter columnist, The Economist

Some executives can’t wait to hit the road again

AT FIRST IT was a revelation. Breakfast could be even better in the kitchen than in the Four Seasons. Children could make you laugh more than in-flight entertainment. You could put away the high heels and the brogues, the trouser suit and the Hermès tie. Limos, leg room, power lunches and chocolates on the pillow? All swept aside by the miracle of Zoom.

No longer. It has taken a gradual return to the office, Zoom fatigue and a jolt of panic over slumping sales forecasts to make some executives itch to hit the road again. They may still be itching in early 2021. The cancellation of post-holiday jamborees like CES, the tech show held annually in Las Vegas in January, and the postponement of Davos, a winter sojourn for the globalised high and mighty, suggest executive lounges will be ghostly for some time yet. But some aspects of business travel will return, especially those where journeys are short and hold out the prospect of a sale at the end of them. About eight out of ten business trips are domestic, according to the Global Business Travel Association (GBTA), an industry group. Its latest survey suggests almost two-thirds of business professionals expect domestic business travel to pick up by the spring of 2021.

International travel is a different matter, though. Until a covid-19 vaccine is widely available, and while quarantines are prevalent, it is hard to make forecasts. Even when restrictions are eased, history suggests the rebound will be slow. GBTA says it took more than three years for global business travel to return to prior levels after the terrorist attacks of September 11th 2001, and the financial crisis of 2007-09. This time the headwinds are even stronger. The pandemic overlays fear of travel with economic hardship, at a time of trade wars and "slowbalisation". For the first time ever, video-conferencing has proved to be a workable replacement for travel, and is much cheaper. According to Morgan Stanley, a bank, corporate travel managers recently said they expected virtual meetings to replace almost one-third of travel in 2021.

That bodes ill for the $1.5trn business-travel industry. During previous crises, airlines, hotels and event organisers slashed fares and rates to stoke demand. There is little point in doing that when health, not cost, remains travellers' top concern. Some hotels may shift their focus to leisure tourism, though margins are much lower. The industry will lobby for more travel corridors, an end to quarantines, covid-19 tests at airports and liability waivers. But ultimately, its biggest hope lies in a vaccine.

The current assumption is that one will be fairly widely available by the second half of 2021. If so, executives' desire to get back on the dealmaking trail will revive. For all that the pandemic has given them a welcome opportunity to catch up on family time (and sleep), business travel comes with considerable perks, such as pampering, "me time" and dinners on the company dime. These are powerful incentives for it to rebound.

The power of green technology

The technology industry has a key role to play in fighting climate change, says Sundar Pichai, chief executive, Google and Alphabet

Our goal is to show that 24/7 carbon-free energy is possible

AFTER DECADES of incremental steps forward, 2021 will be the most significant year yet for combating climate change. Two recent developments have made this possible.

First, as science tells us that we have a decade to reduce emissions dramatically or face the worst impacts of climate change, many of those impacts have already arrived at our door. From the historic and deadly wildfires in Australia and California, to severe flooding around the world, there is no denying that climate change is already disrupting our daily lives. At the same time, support for climate action has never been stronger—from Generation Z's solutions-oriented mindset, to political support that increasingly crosses party lines, to Europe's large-scale ambition to become the first carbon-neutral continent, society is ever more unified against the threat of climate change.

Second, we are seeing promising technologies and policies that will bring carbon-free energy within reach. Not long ago, it was hard to imagine a 24/7 carbon-free electricity supply. At its most basic level, the wind does not always blow and the sun does not shine at night. But new technologies—including better energy storage and the reduction of costs associated with wind and solar power by 70% and 89% respectively over the past ten years—are bringing 24/7 carbon-free energy closer to reality.

Another of those technologies is artificial intelligence (AI). At Google, we are working on ways to apply AI to optimise electricity consumption within our data centres. In collaboration with our sister venture, DeepMind, we have developed solutions that have reduced the amount of energy used to cool our data centres by 30%. This approach could be used by commercial buildings, including airports and shopping malls, to do the same. AI can also be used to make wind power more predictable, which will increase the value, utilisation and adoption of renewable energy.

Meanwhile, sensors on satellites can locate large-scale emitters of carbon dioxide at a very fine-grained level. This could dramatically improve the effectiveness of the Paris climate agreement. Technology is also helping cities reduce their carbon emissions. According to the Global Covenant of Mayors, an international alliance of over 10,000 cities and local governments committed to fighting climate change, less than 20% of cities outside western Europe have the time, resources and data to meet their climate commitments. With platforms like our own Environmental Insights Explorer, cities can use anonymised, aggregated mapping data to estimate the carbon footprint of their buildings and transport, and realise their solar-energy potential—a critical step, as cities continue to contribute over 70% of the world's greenhouse-gas emissions.

Technology is also helping communities adapt to the effects of climate change that are already apparent. As one example, we are able to use satellite data to map wildfires in real time and better predict how they might spread. In India, flood forecasting models use AI to predict when floods will hit and how deep the waters will get, helping save lives. Machine learning is also being applied to "nowcast" rainfall sooner and with more accuracy than conventional forecasting methods, helping people make safer, more informed decisions.

Driven by these promising trends and tools, companies have made bigger sustainability commitments in shorter time frames. At Google, we have eliminated our carbon legacy using high-quality offsets, and set a goal to operate on 24/7 carbon-free energy in all our data centres and campuses worldwide by 2030. Our aim is to demonstrate that a 100% carbon-free electrical grid is not just possible but also economically viable. We hope that companies of all sizes will join us in this effort.

In addition to concrete and ambitious company commitments, the world also needs enabling policies and global frameworks to ensure we are working towards the same goals. We know it's possible: we have seen this kind of collaboration during the pandemic, as the private sector worked with governments to deliver personal protective equipment, medical devices and contact-tracing apps needed to fight the virus. Stronger public-private partnerships will be just as critical in fighting climate change.

Throughout history, every generation has confronted big challenges. Climate change will be our generation's most profound challenge—and in 2021, the world will take its biggest steps yet to meet it.

Finance

Finance

Protectors v preservers

Callum Williams: senior economics writer, The Economist

Labour markets in the rich world will diverge again in 2021

2021 in brief

The Bank of Korea begins trials of an experimental central-bank digital currency (CBDC). With China quickly moving towards the launch of its own digital currency, reports say the Bank of Korea will initially test its blockchain-based CBDC in a virtual environment

LOOK ONLY at the unemployment figures, and you would struggle to believe that in 2020 the world economy has suffered its sharpest downturn since the Depression. In some countries unemployment did soar: America's rate rose from 3.5% to a peak of 14.7%. In many others, however, the labour market barely blinked. In October 2020 unemployment rates in Germany and Britain were only a tiny bit higher than they were before the pandemic hit. These strange contrasts will persist in 2021.

The superior performance of some countries is in part the product of a milder hit from coronavirus. In Australia, for instance, where the labour market has held up fairly well, GDP fell by "just" 7% in the second quarter of 2020, compared with more than 10% for OECD economies as a whole. But in this crisis the relationship between the blow to GDP and the rise in unemployment is not as strong as it typically is during recessions, suggesting that two other factors matter more: policy and statistics.

Take policy first. During the pandemic rich countries, broadly speaking, have sought either to protect people or to preserve jobs. The first group—call them the "protectors"—includes America, Canada and Ireland where governments have sent vast quantities of cash to people in the form of stimulus cheques and more generous unemployment benefits. This has the goal of ensuring that people have income even if they lose work. The second group, the "preservers", which includes most of the rest of Europe and Australia, has instead focused on paying workers' wages via short-time working schemes and furlough programmes. By design, therefore, the preservers would be expected to have experienced a smaller rise in unemployment than the protectors.

But the apparently superior labour-market performance of the preservers is also a product of the oddities of statistics, observes a report from the Institute for Government, a British think-tank. "Unemployment" does not mean the same thing in every country. In Britain and Ireland people who are out of work are generally not counted as unemployed if they have an attachment to an employer. The European Union generally counts furloughed workers as employed. But American and Canadian statisticians tend to classify people as unemployed the moment they stop working, even if temporarily. In April 2020 Australia's official unemployment rate was 6%, but it might have been as high as 12% if it had been calculated using American or Canadian conventions.

In 2021 labour markets across the rich world will keep moving in different ways, but with the patterns of 2020 reversed. For the protectors, the conversation in 2021 will be about how quickly unemployment will fall towards its pre-pandemic level (see United States section). For the preservers, especially in Europe, the conversation will be about how much unemployment is going to rise. That is because furlough schemes are ending—the British government wants to wind down its scheme as soon as possible and Spain's is likely to end in early 2021.

Both governments will face heavy criticism as unemployment goes up. Some European governments, keen to avoid a jump in unemployment, have pledged to keep furlough schemes going for a while yet (though often with employers expected to pay a higher share of workers' pay). Short-time working schemes in France and Germany will last well into 2021 and possibly beyond. In both of those countries, unemployment will probably increase, though not by much.

It may seem obvious that the Franco-German approach is best. No one likes to see higher unemployment. But the problem with keeping much of the workforce on furlough, aside from the enormous running costs of such schemes, is that it prevents people moving from parts of the economy which, in a post-pandemic world, need fewer workers (say, high-street shops) towards bits of the economy which need more (say, e-commerce warehouses or parcel delivery). Ultimately, that is bad for the economy as a whole. Knowing the right moment to wind down a furlough scheme—and at some point, they will all need to be wound down—is difficult. During 2021 Europe will have to wrestle with that question.

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After the fall

John O'Sullivan: Buttonwood columnist, The Economist

There will be surprisingly few corporate defaults

Default is in our stars

Cheap money and fiscal support will keep a lot of big firms alive

ONE CONSEQUENCE of the coronavirus pandemic is that the slummier end of the corporate-bond market has become gentrified. The terminology softened long ago: bonds that are not of investment grade used to be called "junk" but are now labelled high-yield or speculative-grade. The neighbours are a lot classier, too. Renault, Kraft Heinz and Marks & Spencer are among the well-known firms to have lost their investment-grade status. It is likely that 2020 will set a record for the value of such "fallen angel" debt.

Companies had sold around $1.5trn of investment-grade bonds by the end of the third quarter—enough to ensure that 2020 will also be a record year for bond issuance. Firms also exploited their bank-credit lines to the limit. Overall, business debt in America rose from 75% to 90% of GDP in the first half of 2020.

After the binge, the hangover. The huge rise in corporate leverage combined with an uncertain economic outlook increases the chances that debts will not be repaid in full or on time. Bond defaults have already picked up sharply. By early October the 12-month trailing rate of default on junk bonds had risen to 6.3% in America and 4.3% in Europe, according to s&p, a rating agency. More defaults will follow in 2021.

How bad things get depends on a tussle of opposing forces. One is the virus and its lingering effects. Almost no one expects the economy to have fully recovered by the end of 2021. In October, in its twice-yearly World Economic Outlook, the IMF forecast that America's GDP will return to its 2019 level only in 2022. Already it is clear in Europe that the rebound in activity from the trough of recession in March and April is losing momentum, because of a resurgence of infections. A faltering recovery puts more corporate-bond issuers at risk of default.

Yet there are powerful influences working in the other direction. One is fiscal policy. The various government-led short-time working schemes, furloughs and support programmes have helped keep a lot of financially stressed companies alive. A big concern is that fiscal stimulus will be withdrawn too abruptly, as it was in Europe after the global financial crisis of 2007-09. But lessons have been learned. The establishment of a euro-area Recovery Fund is one encouraging sign. Early indications from France, Germany and Italy suggest that fiscal policy will remain broadly supportive in 2021. And further stimulus is on the way in America, one way or another.

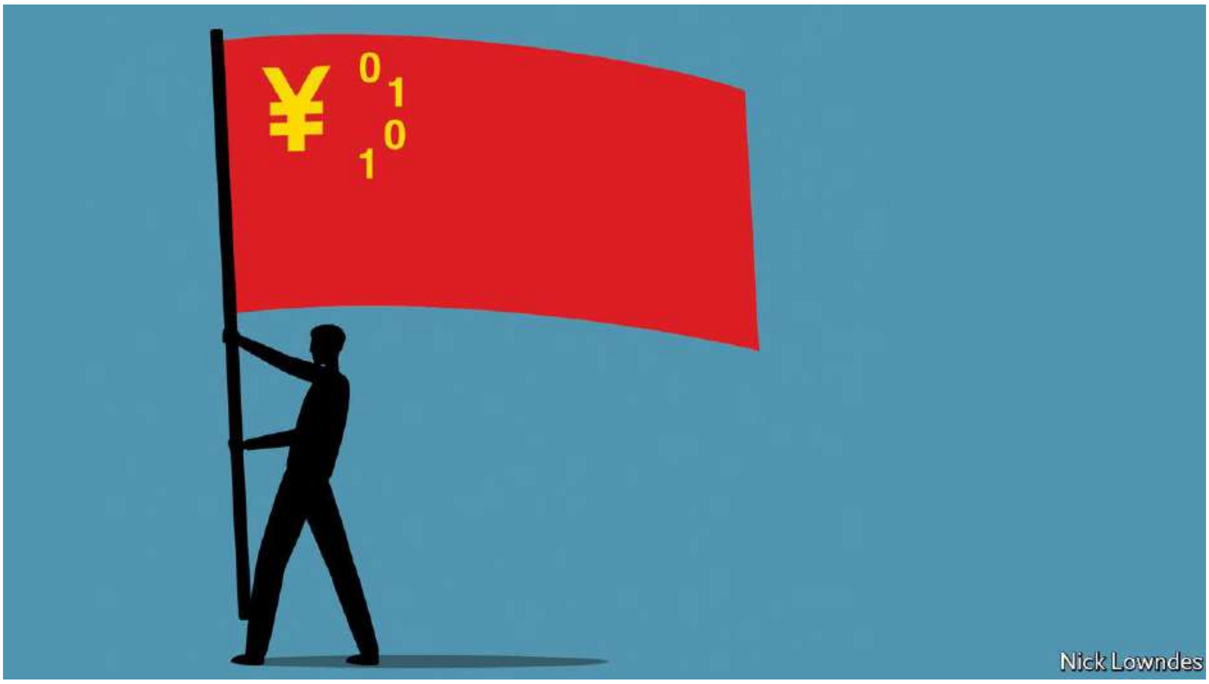
A second factor is bond-market liquidity. The burst of issuance during 2020 owed a lot to America's Federal Reserve, which said in March that it stood ready to buy corporate bonds, prompting investors to start buying bonds in anticipation. The markets unfroze. Big firms could raise plenty of cash to tide them over. Rich-world central banks, including the Fed, are committed to keeping monetary policy extremely loose. And investors will buy new corporate-bond issues, and roll over old ones, if only for the lack of good alternatives. Yields on government bonds are vanishingly small in America. In Europe the safest bonds have negative yields. Corporate bonds are riskier, but have higher yields to compensate.

Credit is the lifeblood of the economy. As long as firms can borrow, they can survive. That is why the corporate-bond market sets the tone for riskier assets, such as shares. There will be more corporate defaults, thanks to a weak recovery and high debt. But cheap money and fiscal support will keep a lot of big firms alive that would otherwise go to the wall. Defaults will peak at lower levels than seemed possible in the spring of 2020. The angels that have already fallen will not be further disgraced. A few may even find redemption in 2021.

New money

Simon Rabinovitch: Asia economics editor, The Economist, SHANGHAI

China launches the world’s first official e-currency



THERE IS A good chance that the digital yuan will enter circulation in 2021. It is a debut that will initially make little difference, but could, over time, change the way central banks conduct monetary policy.

The People’s Bank of China has filed more than 100 patent applications for a digital currency and has overseen a range of trials, putting the e-yuan into use in a few cities and on several apps. So far the experiments have gone smoothly, and soon people will have the option of downloading a government-issued digital wallet. Unlike commercial ones such as WeChat Pay and Alipay, the official version will be equivalent to an account at the central bank with the same solidity as hard cash.

For the millions who already use a smartphone instead of a debit card, it will feel like just another payment app. Yet some talk of digital currency as a revolutionary product that could spell trouble for banks as people withdraw money from savings accounts and put it directly into their ultra-safe official e-wallets. What is more, if digital currency were ever to fully replace cash, central banks would, in theory, gain three new powers:

to lower interest rates below zero with little difficulty; to issue cash directly to those most in need; and to see more precisely who has money and how it is spent.

In China the central bank is not trying to reinvent monetary policy—at least not yet. Its motivations derive from more immediate challenges. Given the rise of mobile payments, it worries that the big tech platforms have too much power. The digital yuan will offer an alternative. It will also give China a conduit for moving money across its borders without having to rely on swift, a global payments system that comes under American influence. But China's first objective is much more basic still: to check whether the technology behind the digital yuan works and whether people actually want to use it. Money has been around for some 3,000 years. This update will take time.

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No shortage of strife

Soumaya Keynes: trade and globalisation editor, The Economist, WASHINGTON, DC

Which trade wars will smoulder on in 2021?

GLOBALISATION TOOK a beating in 2020, when covid-19 disrupted international commerce, causing travel restrictions, border checks and export restraints. Damaged further by crashing demand, at its trough in May, the volume of globally traded goods was 18% lower than a year earlier. Though restrictions will ease and trade recover, 2021 will not necessarily be calmer.

With painful memories of the global scramble for personal protective equipment, policymakers are aware of the gap between the issues they control and those for which they are held accountable. So 2021 will bring carrots and sticks, including stricter government procurement rules on who can deliver medical supplies, financial incentives to reshore production, and the need for firms producing “critical supplies” to show their plans for a repeat crisis.

Companies caught up in Sino-American tensions should expect further headaches, amid disagreements over human rights, disputes over Huawei and other tech firms, and China’s continuing intervention in the economy. The Biden administration will mark a change in the American approach, but to more co-ordinated confrontation, rather than less overall. The European Union has already started work to bulk up its defences, including “redressive measures” in areas where it finds that foreign (read: Chinese) subsidies are distorting markets.

Other sources of strife will include American and European pledges to apply “border adjustments” for carbon-intensive imports, as well as subsidies intended to support covid-stricken businesses, which fuel accusations that the playing field is not level. Economic nationalists accused of breaking international trade rules will argue that they are simply putting their own citizens first, as Donald Trump did during the early days of the pandemic.

The firms that organise many of the world’s supply chains will happily accept handouts, or restrictions on their competition. But they will also argue that they can reshape globalisation on their own. Even before the Sino-American trade war, rising labour costs in China were pushing production elsewhere, while export supply chains shortened.

Those calling for trade peace will say supply chains are too complex to be managed by blunt policy directives. Intervention could even make supply chains less resilient, by reducing the ability to produce more in a crisis. Firms could move to a more diversified form of globalisation, in which manufacturers become less reliant on China to serve international markets, and build more redundancy into their supply chains—provided government interventions do not prevent them from doing so.

Unequal impact

Ryan Avent: economics correspondent, The Economist, WASHINGTON, DC

Covid-19 will leave a legacy of increased inequality

2021 in brief

Tax collectors in Europe start knocking on the doors of big tech firms. Digital-services tax payments are falling due in Britain and France, and a levy is also being introduced in Spain

WITH ANY luck, covid-19 will prove less of a disruption in 2021 than it did in 2020. But even if a vaccine allows societies to inch back towards some kind of normality, the long-run economic costs of the pandemic will mount. As the data flow in, they will reveal a dramatic rise in inequality which may persist for decades.

Inequality, though far from a solved problem, came to look a bit more manageable in the years before the pandemic. A slow but steady strengthening of labour markets in the wake of the global financial crisis eventually yielded healthy wage gains for workers across the income distribution, and measures of inequality in many economies levelled off or even declined a little as the 2010s neared their end. At first, covid-19 did not disrupt this trend much, thanks to generous aid packages provided by governments around the world. In America, for instance, stimulus measures worth about 13% of GDP even raised the incomes of some low-wage workers during the pandemic's first few months.

By the end of 2020 the picture already looked quite different. Just how different will begin to become clear in 2021. Economic analysis of pandemics over the past century suggests that they lead to sharp rises in inequality. Five years after a pandemic begins, Gini coefficients (a measure of income dispersion) typically remain about 1.25% above the pre-crisis level: a striking rise for what is typically a slowly evolving variable. Among people with middling to high levels of education, the share of people in work scarcely budges as a consequence of a pandemic, but among those with low levels of education it typically declines by 5%. This time will be no different.

Sustaining generous fiscal-relief measures is difficult at any time, and 2021 will mark a return to more normal government budgets even as covid-19 continues to squeeze economies. In America political polarisation in the aftermath of a bitterly fought election, and concern over historically high levels of public debt, will limit the size of any new stimulus. Meanwhile, state and local government budgets will be cut dramatically after a year of depressed tax receipts. In 2020 European governments waived fiscal rules to give themselves more flexibility to respond to the pandemic. In 2021 pressure to bring borrowing back within allowable levels will rise.

The phasing-out of income support and cuts to public services will have a disproportionate impact on poorer households. Reduced aid will be especially painful given the way in which covid-19 affects economies. For high-wage white-collar workers, remote work is often a good substitute for going into the office. Blue-collar work, in manufacturing or services, is much less flexible. And if widespread remote working becomes a permanent feature of post-covid economies, many low-wage jobs destroyed by the pandemic will never return.

Those on low incomes who are fortunate enough to find employment face other inequities. Greater dependence on in-person forms of work puts the low-paid at higher risk of exposure to covid-19. And as the pandemic keeps children out of schools, many poorer workers face a terrible choice between going to work or looking after their children's education. The digital divide, too, weighs on low-income students without access to online resources or reliable high-speed internet. But the most important and distressing source of pressure on poorer families will be the return of persistently high levels of joblessness. For many low-wage workers, 2021 will be another year of struggle.

Balance-sheet of power

Matthieu Favas: finance correspondent, The Economist

Banks will regain ground against fintech rivals

Point-of-sale lending's latest instalment

2021 in brief

Jane Fraser becomes the first female boss of a big American bank when she takes over as chief executive of Citigroup in February. Ms Fraser, who grew up in Scotland, is currently head of the bank's global consumer division

A FEATURE OF the covid-19 pandemic has been people's and firms' continued reliance on traditional banks. Branches shut and e-commerce jumped up, boosting tech firms and the cloud providers that power the pipework of online finance. But at the same time, governments mandated lenders to distribute support funding to companies and households, many of which parked vast amounts of money in their deposit accounts. That hints at one of the most precious and enduring assets that banks have in their fight against fintech rivals: consumers' willingness to entrust them with their earnings when it really counts. In 2021 the best banks will press this advantage to regain decisive ground.

Some fintechs are still thriving. Firms that equip entrepreneurs and merchants with the ability to process digital payments with one click, like Stripe or Square, have been buoyed by the dash away from cash. So have those, like Marqeta or GoCardless, that help restaurants and gyms collect delivery or subscription fees. "Buy now pay later" upstarts like Klarna or Afterpay, which arrange short-term loans at the point of sale, have gained the favour of thrifty shoppers. Electronic brokers, such as Robinhood or TD Ameritrade, are seeing record volumes of trading as households take to wagering on stocks from the sofa. Friends settle accounts by dipping into their digital purses rather than physical wallets.

But the pandemic is throttling others. Venture capitalists still have a lot of money to spend, yet the uncertain outlook makes them warier of startups that burn cash with no extinguisher in sight. They also prefer older, proven firms to complete newbies, so funding is getting more elusive and may remain so next year. At the same time, the revenues of some popular challenger banks—many of which earn their crust by pocketing fees on each purchase made by account-holders—have dried up as users no longer pick up lattes on their way to work. In the name of growth for growth's sake, others have let costs escalate. All these pressures are forcing struggling fintechs to cut marketing budgets, causing customer acquisition to stall. In 2021 their survival may be called into question.

Established banks, too, have been rocked by covid-19. Many had underinvested in digital, and were caught off guard as lockdowns started. Low interest rates, along with rising loan losses as firms go bust and people lose their jobs, mean they will have little to spend on upgrading their tech. But banks that had the foresight to turn paper and manual processes into lines of ones and zeros were rewarded by millions of app downloads, surging sales and glowing satisfaction surveys. As the laggards are forced to close branches or trim services to cut costs, frustrating their customers in the process, the leaders will gain market share. They will also broaden their offerings by leaning on fintechs for some tasks and products.

As they seek to regain control of their finances in chaotic times, many customers will trust banks more than anyone else to look after their money—at least for a while. It is an asset the banks should do their best not to squander.

Intelligent design

Rachana Shanbhogue: finance editor, The Economist

How simulations can help shape economic policies

HAVING GONE deep into the red during the covid-19 pandemic, governments will grapple in 2021 with getting their finances back in order. After the global financial crisis of 2007-09, those in rich countries tightened their belts too much, choking the economic recovery. This time they will want to be cleverer about it. Some will be more ambitious, seeking to redesign their welfare systems: the pandemic will strengthen public support for stronger social safety-nets. And policymakers in poor countries will want to alleviate poverty and sustain economic development.

How to balance all these aims? An experiment might tell you if a particular tool works, and findings from projects on basic income, such as that run in Kenya by Give Directly, a charity, will influence governments' thinking. But experiments can be neither broad nor timely enough to help governments set a plethora of tax and subsidy rates every year. Conventional economic models do not capture the complexity of human behaviour: that people change what they do as tax rates rise, or that corrupt officials might pocket some public funds. So in 2021 governments will be tempted to throw computational power at their policymaking, using artificial intelligence (AI) to simulate the economy, and the effects of new policies.

“Agent-based” models simulate the behaviour of different types of participants in the economy by allowing them to respond to each other over time: if a public servant can get away with pocketing more money, or a taxpayer with paying less tax, then they will do so. Some simulate surprisingly realistic behaviour by using machine learning to “train” the model using vast sets of data. One such approach is Policy Priority Inference, developed by researchers in Britain and Mexico and sponsored by the UN’s development programme. Already used in Mexico, it takes governments’ spending plans across a range of categories and works out, based on its simulation of corruption, inefficiencies and spillovers, whether a government is likely to hit its development goals, and where more (or less) money should be spent. More poor countries could see the appeal of such an approach.

Interest in rich countries could be piqued, too. Researchers at Salesforce, a software company, and Harvard University have used simulations to show that, much as computers can learn to play Go and develop strategies that might not occur to humans, they can also suggest combinations of tax and spending that maximise economic performance, and which bureaucrats might not have dreamed up. So why not turn to ai for fresh ideas?

None of this means that economists or bureaucrats will find themselves out of work in 2021. Interpreting the models’ results requires expertise. Politicians will not cede their power to raise and lower tax rates. But policymakers and researchers keen to experiment in the aftermath of the pandemic will have an opportunity to expand their toolkits.

The coming covid-19 credit crunch

This crisis really is different, but its consequences are all too predictable, says Carmen Reinhart, chief economist at the World Bank

The run-up to this credit crunch does not fit the historical pattern

THE COVID-19 crisis did not start as a financial crisis, but it is morphing into one—and a global one at that. The headlines of 2020 have been dominated by news of the pandemic's spread, record-shattering falls in output, and surges in poverty and the newly unemployed. Behind these disturbing trends a quieter financial balance-sheet crisis is gathering momentum across a broad swathe of countries. The financial fallout from the pandemic does not respect differences by region or income status. Financial institutions are facing (and will face for some time) a marked rise in non-performing loans (NPLS).

Historically, banking crises emerge after a lengthy expansion in economic activity. Growth is often fuelled by a credit boom and rising leverage. Under the motto of "this time is different", asset-price bubbles emerge during the biblical "seven fat years" (whether in property, commodities, equity or bonds). As the economic expansion slows and turns into recession, loans made during the good times turn sour. Sometimes balance-sheet problems undermine confidence, and runs on banks and financial institutions turn the crisis into a fully fledged panic. Households and firms attempt to deleverage after the crisis, even as banks adopt tighter lending standards. If banks resist writing down bad loans in favour of "evergreening", as was the case in Japan's crisis in the early 1990s and in Europe after 2007-09, the resulting credit crunch may be longer and more severe, even surpassing the biblical "seven lean years".

But this time truly is different. The run-up to the credit crunch in 2021 does not fit the historical boom-bust pattern in many countries. It is not predicated on having experienced an economic expansion or an asset-price bubble. The common threads to the evolving balance-sheet crisis and the credit crunch that will follow are the historic magnitudes and likely persistence of the slump in economic activity. It is also a regressive crisis, disproportionally hitting low-income households and smaller firms that have fewer assets to avert insolvency.

High leverage on the eve of the pandemic will amplify the balance-sheet problems of the financial sector. Companies in the world's largest economies, America and China, are highly indebted and skewed towards high-risk borrowers. The IMF has repeatedly flagged concerns about the pre-pandemic rise in corporate leverage in many emerging markets, where much debt is denominated in dollars. Six months into the covid-19 crisis, S&P had downgraded or cut the outlook on almost 60% of the Latin American companies it rates. For the rest of the world the share is about 35-40%. Exposure to commercial property, as malls remain half-empty, is another source of concern in many parts of the world.

Australia and Canada, among others, have record levels of household debt. In Africa, where the NPL ratio was estimated at around 11% in 2019, microfinance institutions' portfolios will come under stress, as much of their lending is to households with volatile income and no assets. India was already dealing with an NPL ratio of about 9% in the run-up to the pandemic, and new lending in recent years had already stalled as a result of efforts to clean up the balance-sheets of state banks.

Since the onset of the pandemic, a range of policies has been introduced by governments across the world to provide liquidity to the many businesses that have been shuttered during the lockdowns and to support households hit by a sudden loss of income and employment. Grace periods in the repayment of existing loans have been granted. Re-contracting of loans in favour of longer maturities or lower interest rates has also been common. The hope is that because the health crisis is temporary, the financial distress of firms and households will be, too. However, even with a prompt resolution of the pandemic in the form of a globally available vaccine, significant damage has been inflicted on the global economy and the balance-sheets of financial institutions.

Given the emergency, these policies have provided a valuable stimulus tool beyond the conventional scope of fiscal and monetary policy. But by 2021 grace periods will come to an end and it will become apparent whether the problem facing countless firms and households is insolvency rather than illiquidity. An extended credit crunch has been a major headwind to economic recovery in the past. There is little to suggest that it will be different in the post-pandemic landscape.

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Science and technology

Science and technology

A shot in the arm

Natasha Loder: health policy editor, The Economist

The largest vaccination programme in history will begin

2021 in brief

A bold conservation proposal will be put to countries gathering in Kunming in south-west China in May for a UN summit to reverse biodiversity loss: to protect 30% of all land and ocean by 2030. More than 60 countries have signed up to the "30x30" pledge but they do not include Indonesia, Australia or America

IN EARLY 2020, with the coronavirus pandemic tearing across the world, most people thought it unlikely that a vaccine would arrive any time soon. And as work to develop vaccines began, there were dire warnings of the difficulties ahead. That is why it is so remarkable that, heading into 2021, it seems likely that the world is only a few months away from finding one or more vaccines that work. That this can be said with such certainty reflects the number and diversity of approaches being taken.

Scientists have developed many different ways of making vaccines. The oldest method is to take the virus, in this case SARS-CoV-2, and hobble it in some way so it does not cause disease when it is given. This can be done by weakening it, or even killing it entirely. Codagenix, a biotech startup, is making a "live-attenuated" vaccine of this kind. The virus is alive, but its ability to replicate has been restricted. Two Chinese efforts—one from Sinovac and another from Sinopharm—are using inactivated versions of SARS-CoV-2.

In recent times genetic engineering has greatly increased the range of possible vaccines. A popular technique is to take a different, harmless virus and use it as a sort of transport system to deliver a key portion of the SARS-CoV-2 virus. This "sheep in wolf's clothing" approach is being used by one of the leading vaccines, being made by AstraZeneca, a drugs giant. Based on a chimpanzee adenovirus, it infects cells and delivers instructions to make the SARS-CoV-2 spike protein, thus priming the immune system to recognise the real virus.

Most exciting of all are the nucleic-acid vaccines, where a gene that codes for a bit of the virus is injected directly into the body. That bit of the virus is then manufactured inside the body from the instructions provided, again priming the immune system. Two leading vaccine-making firms, Pfizer and Moderna, are pursuing this novel approach. If it works, it is expected to be easier to manufacture at scale than other kinds of vaccine.

Stanley Plotkin of the University of Pennsylvania, inventor of the rubella vaccine, says that what he has seen so far of covid-19 vaccines suggests that those which generate responses to the spike protein will be able to protect people exposed to the virus from developing covid-19, at least in the short term. What remains less clear, though, is whether these vaccines will be able to prevent people from carrying the virus and spreading it to others.

Emergency authorisation of vaccines is likely in late 2020 but supply will be extremely restricted. In the first quarter of 2021, vaccine-makers will have more data that will allow regulators to widen the use of these novel vaccines. Demand will still vastly outstrip supply—a problem that will continue throughout 2021.

The coming year will see difficult political and public debates about how to prioritise the use of this supply. Although there are fears about vaccine nationalism, one of the surprising features of 2021 will be how many countries work out how to work together well to produce and distribute these. The COVAX initiative, to which more than 180 countries have signed up, hopes to avoid the ugly and self-defeating situation in 2020 that saw countries trying to outbid each other for limited supplies of PPE and ventilators. The scheme allows rich countries to subsidise vaccines for poorer countries, with the initial aim of vaccinating 3% of the population in all member countries, starting with front-line health workers. The hope is that coverage can be expanded to 20% by the end of the year, focusing on those at highest risk.

A few countries that look likely to be oversupplied with vaccines, such as America and Britain, will try to vaccinate as many people as possible before the winter of 2021. That will raise ethical questions, as most countries will have to be more strategic. The pandemic could be brought under control without vaccinating everyone. UNESCO, the main UN agency organising the global distribution of vaccines, says universal vaccination will not happen in the “initial years” of the outbreak.

Nada Sanders, a professor of supply-chain management at Northeastern University, says the availability of a vaccine will not lead immediately to vaccinations, because so much else needs to be organised. There are concerns about the availability of everything from medical glass to needles. She says the supply chain needs to be designed and mapped at a global scale, and worries that this will take longer than expected. Analysts at ubs, a bank, warn that “fill and finish”, where the vaccine is put into vials and packaged for distribution, is one of the most significant bottlenecks, followed by shipping. All these issues will pose problems in 2021.

And there is one final complexity. The first vaccines to arrive will need to be kept cold during distribution. Currently at least 25% of vaccines arrive in a degraded state due to problems with the cold chain.

One thing is clear: vaccines will arrive, but they will be distributed unevenly, within countries and among them, simply because of the scale of the distribution problem. In the coming year, many people will struggle to understand why loved ones have been lost to a disease for which there is a vaccine. In 2020 heroic efforts have produced vaccines in months, rather than years. In 2021 further heroic efforts will be needed to get them from the laboratory to the clinic.

Getting better

Slavea Chankova: health-care correspondent, The Economist

A deeper understanding of covid-19's impact should improve the outlook for treatments

With luck, new drugs will be able to prevent infected people from becoming ill

2021 in brief

The United States is due to leave the World Health Organisation in July. President Trump criticised the WHO for being slow to respond to the pandemic and for being too China-centric

IN THE WORLD of drug discovery, it is not uncommon for a promising molecule to take a decade to make the journey from the laboratory to the pharmacy shelf. For covid-19, however, effective treatments are already in use at hospitals around the world. There is a good chance that more treatments will be added to the list in 2021—including some that will dramatically reduce the number of covid-19 sufferers who need to be hospitalised.

Things are moving fast. Just months after the disease emerged, clinical trials of several drugs turned up two winners. Dexamethasone, a cheap steroid, was found to improve survival in the most gravely ill covid-19 patients. Remdesevir, an anti-viral drug originally developed to treat Ebola, turned out to reduce the duration of covid-19 symptoms.

With luck, at least one of the additions in 2021 will be a drug that prevents infected people from becoming ill. Such drugs are already used for influenza, rabies and many other diseases. For covid-19, the drug would be given to people who are at an early stage of infection. It could also be administered as a prophylaxis, both to those at high risk of catching the virus (such as health workers) and those likely to become severely ill (such as residents of care homes with covid-19 outbreaks).

The odds look good. In November 2020 the European Medicines Agency, the EU's drug regulator, was in talks with the developers of 26 drugs for covid-19 that are already in clinical trials, plus 16 drugs that are at a pre-clinical stage.

Scientists will also begin to demystify the lasting, often hidden, effects of the disease on the heart and other parts of the body. Monitoring for such effects, and providing early treatment as needed, would soften any delayed blows from a covid-19 infection, including in people who may be unaware of having caught the virus. Studies looking for such effects have been running since mid-2020, and results will start to trickle in during the coming months.

The prognosis for those who suffer from "long covid", a condition that appears to strike at random but is more common in middle-aged women, is less optimistic. About 1-2% of people with symptoms of covid-19 are still unwell three months after becoming infected, according to a study based on a symptom-tracking app in Britain. Preventing long covid in people who are already ill will be impossible, partly because their early symptoms are not specific enough to identify them as being at risk. But many of them will get better treatment for their lingering illness. Doctors are quickly learning how to diagnose the physical causes of their symptoms (which organs are malfunctioning, for example). As a result, many sufferers will get appropriate rehabilitation care earlier.

Greater understanding and better treatments should make covid-19 less terrifying. For a disease that is here to stay, that would be a good prognosis.

Learning to live with the virus

Slavea Chankova: health-care correspondent, The Economist

What to expect in year two of the pandemic

Spreading out to stop the spread

FOR MUCH OF 2020 the public rhetoric around the pandemic was combative. Politicians and health officials talked about "hammering" the novel coronavirus and "squashing" towering epidemic curves. But the pesky clump of RNA that, in a few months, has killed hundreds of thousands of people, tanked the global economy and wiped out years of progress on poverty has kept marching on. Though vaccines will emerge, reaching every corner of the world with them will remain an aspiration. So a more conciliatory tone is in order. In 2021 humanity will continue to adapt to living with the virus—in ways that make the coexistence less taxing.

The basics will remain the same. Masks and avid hand-washing will still be necessary. People will give others a wider berth in public spaces without even thinking about it. But as the pandemic enters its second year, be prepared for changes in three areas: testing, quarantine rules and the guidelines for social distancing.

Cheap, rapid tests for covid-19 infection will become ubiquitous. Unlike fancy laboratory-based PCR technology, which can pick up even minuscule traces of the virus's genetic material, cheaper antigen tests look for parts of the virus and pick it up when it is present in large amounts. Even some of the best antigen tests miss about a quarter of infections (though these are thought to be at a stage when infected people are least contagious, if at all). But some antigen tests can be done in 15 minutes with palm-sized devices, or with kits similar to home pregnancy tests that cost $5. With more than 80 such rapid tests in the pipeline, accuracy will get better, sample collection will be less horrid (using shallow nose swabs or saliva, for example) and prices will drop to as little as $1 per test.

By the middle of 2021, rapid covid-19 tests will replace temperature screening at airports (which is useless anyway). Employers, schools and entertainment venues will use them routinely to screen for infections. Some people may even add a quick home test to their morning or bedtime routine. Confirmation of positive results may still require a more accurate PCR test; a negative result may not be a guarantee that it is safe to hug granny. But lots of infections will be detected much sooner this way.

A side effect of cheap tests that can be done at home is that many, if not most, of those infected will stay under the radar of official test-and-trace systems. But in much of Europe and America trust in these systems is irreparably broken anyway. Even as things are now, governments can only hope that infected people who are aware of their status will, for the most part, do the right thing—alert their close contacts and keep away from others as much as they can. And for people with no symptoms, staring at a test strip that keeps flashing "positive" day after day may do more for compliance than a message from a tracing app telling them to stay at home.

When it comes to quarantines, many countries will probably follow France and Sweden in reducing their length from two weeks to one, in the hopes of boosting compliance. People will be advised that they could still pose some (albeit lower) risk to others in the second week—so should avoid seeing elderly relatives during that time, for example. Officials checking on quarantined people will be more willing to let them out for some low-risk activities, such as early-morning walks in the park when there are few people about.

In a similar vein, many governments will give their citizens more autonomy about socialising. Convoluted and prescriptive rules about who can see whom, and where and how, will be out. Instead, there will be simple principles for people to follow in whichever ways they choose. For example, people in more countries will be urged, as in Japan, to avoid "the three cs": crowding, close-contact settings and confined spaces. When getting together with friends and family, they will be advised, as in Canada, to think "fewer faces, smaller groups, shorter time together and bigger spaces".

All this should make the second year of the pandemic somewhat more bearable than the first. Raise a glass to that—in a small group, of course.

A vaccine for everyone

Ensuring global access to a vaccine is the only way to tame the pandemic, says Seth Berkley, chief executive, Gavi, the Vaccine Alliance

A global exit strategy offers our best chance of success

IF 2020 WILL be remembered for the devastation and suffering caused by the covid-19 pandemic, the hope is that 2021 will be seen as the turning-point in the outbreak. This is not just wishful thinking. In 2021 we should begin the largest and most rapid global deployment of vaccines the world has ever seen. If successful, it will mark the beginning of the end of the crisis.

This can happen only if we are first successful in developing safe and effective covid-19 vaccines, and if those vaccines are made simultaneously and fairly available to people in all countries, regardless of their wealth. In normal circumstances those are two very big "ifs". Normally it takes more than a decade to develop a vaccine, and people in rich countries get it first.

But these are extraordinary times. The response to this crisis from scientists and vaccine-manufacturers has been unprecedented, with more than 200 candidate vaccines in development and dozens already in advanced clinical trials. Equally, the way global leaders have responded has been unparalleled, with most governments looking beyond the immediate needs of their citizens in favour of a solution that benefits everyone. Not since the Paris climate agreement have we seen such global co-operation and solidarity, and never before in the face of such an immediate and existential threat.

One reason why this kind of global approach is so important, and why governments of wealthy countries are willing to let people in the poorest parts of the world get vaccinated before millions of their own citizens, is quite simply that it is necessary. The sooner people in all corners of the world are protected, the sooner we can end the acute phase of this pandemic, allow life to return to some semblance of normality and reboot our economies. Because as long as large reservoirs of the virus are allowed to persist, the threat of resurgence will remain.

A global exit strategy also offers our best chance of success. There is a good reason why vaccines normally take so long to develop; it is extremely difficult. Those at the preclinical stage, before human trials, typically have less than a 10% chance of success. If they make it to human trials, that rises to less than 20%. In the face of such odds, our best option is working together and hedging our bets. By pooling investment and sharing risk, countries are collectively backing the development of a larger number of vaccines, increasing the chance of success. That has n0t stopped governments pursuing bilateral deals with manufacturers to secure the doses they need for their citizens, as several wealthy nations have done. But by joining the collective effort, too, they in essence have an insurance policy, guaranteeing themselves other vaccine doses even if their bilateral deals fail—and in the process throwing a lifeline to other countries, which would otherwise have limited or no access.

All this is what COVAX was created to do. Involving nearly 90% of the world's governments, and co-ordinated by my organisation, Gavi, along with the Coalition for Epidemic Preparedness Innovations and the World Health Organisation, COVAX maximises our chances of getting safe and effective vaccines, and being ready to produce them quickly at scale. The initial aim is to provide 2bn doses by the end of 2021, which should be enough to protect high-risk and vulnerable people, as well as front-line health-care workers.

We still have a long way to go, first in getting the vaccines through trials, getting them approved and licensed, and ensuring manufacturing is in place so we can move quickly. We are also working to ensure that the infrastructure, supply chains and vaccinators are in place to distribute billions of doses at speed. And all this at a time when health systems have been disrupted by the pandemic and an infodemic of misinformation is threatening to undermine public confidence in vaccine safety.

Nevertheless, despite such challenges, the fact that we have come this far bodes well, not just for how quickly we end this pandemic, but for future preparedness and resilience for the next one. Because there will be a next one; the emergence of novel viruses of pandemic potential is an evolutionary certainty. More than just a multilateral solution to a global crisis, COVAX is also the first step in a collective learning process to improve our global defences—our disease surveillance, early-warning systems and response mechanisms—across the entire world, to ensure that the next time this happens, we are better prepared to act.

Seeking glory in the heavens

Benjamin Sutherland: freelance correspondent

A rich crop of space missions is driven by economic and security interests, not just science

Collision course for Dimorphos

THRILLING SPACE missions are scheduled for blast- off in 2021. To tweak the orbit of an asteroid's moon that is nearly as big as a stadium, America's NASA plans to launch a car-sized craft to smash into it the following year. Neither the asteroid, Didymos, nor its moon, Dimorphos, threatens Earth, but the collision should yield potentially handy "planetary defence" know-how. NASA also plans an uncrewed flight around the Moon, and, with help from the space agencies of Canada and Europe, the launch of the *James Webb Space Telescope*, the biggest and priciest ever. India may put three astronauts into orbit. India and Russia aim to launch lunar landers. And China will begin launching parts of its next and biggest space station, *Tiangong-3*.

It is ambitious stuff for all parties concerned. NASA's asteroid spacecraft must eject an Italian Space Agency observation pod before hitting its target at a closing speed of

6.6km a second. Unfolding the nearly $10bn space telescope's mirror and tennis-court-sized sunshield will require weeks of intricate robotic origami at -230°C. India has never attempted crewed space flight. Its previous lunar lander crashed. Russia must develop new systems for difficult ballistic navigation to an unvisited region near the Moon's south pole, says Lev Zelenyi of the government's Space Research Institute in Moscow. China hopes to complete its space station with a blitz of a dozen launches over two years.

With spending on space outstripping overall global economic growth, spacefarers are keen to continue dazzling in 2021 while also trying to keep costs down. Europe's ArianeGroup hopes the inaugural launch of its big Ariane 6 rocket will help recover business lost to American competitors. Russia also knows it is under pressure to succeed. Its (or, strictly, the Soviet Union's) last moonshot was in 1976, and its lucrative monopoly on delivering astronauts to the International Space Station (ISS) was broken by America's SpaceX in May 2020.

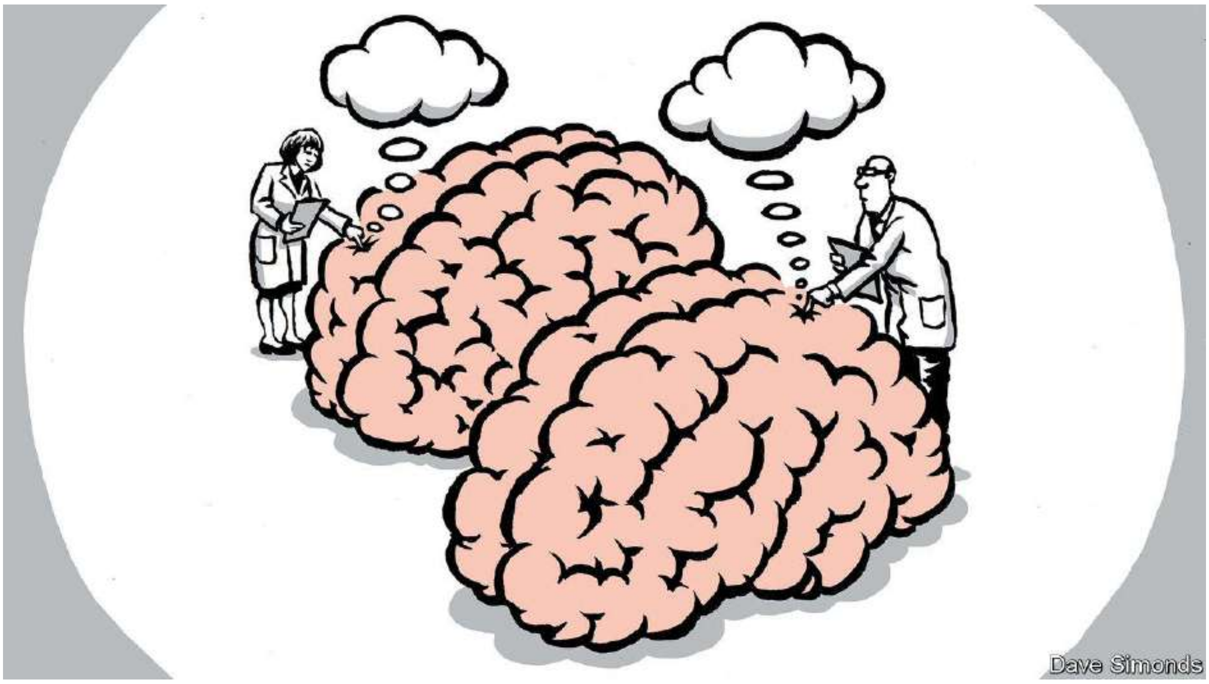
Expect innovation from established players and newcomers alike. In 2021 Rocket Lab, an American- and New Zealand-based launcher of small payloads, may even recover a discarded rocket stage using a helicopter to snag its parachute. Other companies are also trying to show off a little. Blue Origin, owned by Jeff Bezos, plans the maiden launch of *New Glenn*, a rocket with a reusable stage and twice the payload volume of any existing alternative. Boeing hopes to carry its first astronauts to the ISS (an uncrewed flight in 2019 failed to dock). United Launch Alliance's first two flights of the *Vulcan Centaur* aim to loft an unflown lunar lander (by Astrobotic) and an unflown spaceplane (by Sierra Nevada Corp) designed to shuttle cargo and astronauts to low-Earth orbit. Along with a handful of Western outfits, Russia's space agency, Roscosmos, hopes to launch space tourists in 2021.

More is at play than big bucks, however. Many space endeavours in 2021 reflect geopolitical or military calculations. Behind India's manned space flight, for instance, is the "push factor" of rival China, says Raji Rajagopalan, a former assistant head of India's National Security Council. And China's space station offers symbolism and "great value" for developing skills in orbital manoeuvres, according to Wang Guoyu, a Chinese expert on space issues. The upshot, believes William Shelton, a former head of the United States Air Force Space Command, could be better Chinese anti-satellite capabilities. As France's defence minister, Florence Parly, put it in a speech that noted Russia's threatening activity in orbit, yesteryear's "new frontier" has become "a new front".

A conscious choice

Geoffrey Carr: science editor, The Economist

What is the basis of human consciousness? An unusual experiment will put two rival theories to the test



2021 in brief

The Mayflower Autonomous Ship, a joint venture between Promare, a marine research organisation, and IBM, a tech firm, is due to embark on its first trans-Atlantic voyage in April 2021. The research vessel, which has no captain, no crew and no human contact, will collect data about the state of the ocean

IN AN IDEAL world, science would work by making unambiguous predictions based on a theory, and then testing those predictions in ways that leave no wiggle room about which are right and which wrong. In practice, it rarely happens quite like that, especially in biology. But, the coronavirus always permitting, a group of neuroscientists plan to apply this method over the course of the coming year to the most mysterious biological phenomenon of all: human consciousness. They are organising what is known as an “adversarial collaboration competition” between two hypotheses about how consciousness is generated in brains.

The contestants are Giulio Tononi’s integrated information theory (IIT) and Stanislas Dehaene’s global workspace theory (GWT). The competition was dreamed up at the Allen Institute for Brain Science, in Seattle, and is being paid for by the Templeton World Charity Foundation. The practical side of things is being led by Lucia Melloni of the Max Planck Institute for Empirical Aesthetics, in Frankfurt.

Dr Tononi, of the University of Wisconsin, Madison, thinks consciousness is a direct consequence of the interconnectedness of neurons within brains. IIT argues that the more the neurons in a being’s brain interact with one another, and the more complex the resulting network is, the more the being in question feels itself to be conscious. Because the parts of a human brain where neuronal connectivity is most complex are the sensoryprocessing areas (in particular, the visual cortex) at the back of the organ, these, IIT predicts, are where human consciousness will be seated.

Dr Dehaene, who works at the Collège de France, in Paris, reckons by contrast that the action, when it comes to consciousness, involves a network of brain areas—particularly the prefrontal cortex. This part of the brain receives sensory information from elsewhere in the organ, evaluates and edits it, and then sends the edited version out to other areas, to be acted on. It is the activity of evaluating, editing and broadcasting which, according to GWT, generates feelings of consciousness.

One difference between IIT and GWT, accordingly, is that the former is a “bottom up” explanation, whereas the latter is “top down”. Supporters of IIT think consciousness is an emergent property of neural complexity that can exist to different degrees, and could, in principle, be measured as a number (for which they use the Greek letter phi). GWT-type consciousness, by contrast, is more of an all-or-nothing affair. Distinguishing between the two would be a big step forward for science. It would also have implications for how easy it might be to build a computer that was conscious.

The competition’s experiments will be conducted on 500 volunteers at six sites in America, Britain, China and the Netherlands. Three techniques will be used: functional magnetic-resonance imaging (fMRI), magnetoencephalography (MEG) and electrocorticography (ECoG). fMRI measures blood flow, which in turn relates to the level of activity in the part of the brain being examined (the more blood that is flowing through an area, the more active it is). MEG records fluctuating magnetic fields produced by electrical activity in the brain. Neither of these is intrusive. ECoG, however, records electrical activity directly from the surface of the cerebral cortex. This part of the project will therefore rely on volunteers who are undergoing brain surgery for reasons, such as to treat epilepsy, which require the patient to remain conscious throughout the procedure. Half the data collected will be analysed immediately, by researchers independent of the protagonists, who have no axe to grind for either side. The other half will be locked away for future reference, in case confirmatory analyses need to be done.

In the spirit of adversarial collaboration, the two sides have hammered out a set of tests that both agree should produce different results, depending on which theory is correct.

These depend on the fact that GWT predicts brain activity only when attention is actively being paid to something, whereas mere conscious awareness of something is enough for IIT to predict activity. The tests' details vary (some involve stationary letters, objects or faces on a screen while others have shapes moving across the screen). In all of them, though, the distinction between attention and awareness is clear—and so, therefore, are the predictions.

Whatever emerges from the experiment will not be anywhere near a definitive explanation of consciousness. In particular, it will not address the "hard" problem of the phenomenon: the "feeling of what it is like to be something" that was raised in 1974 by Thomas Nagel, an American philosopher, in an essay titled "What is it like to be a bat?" It will, however, by providing what are known as neural correlates of conscious experience, point to directions in which future investigations might usefully travel.

New on the menu

Emilie Filou: freelance correspondent, and Amy Hawkins: digital journalist, The Economist

Get ready to tuck into insects and lab-grown meat

2021 in brief

From 2021, scientific papers that result from work supported by research-funding organisations in 16 countries must be published in “open access” journals or platforms. The “Plan S” initiative aims to improve online access to academic journals

ALTHOUGH TWO billion people around the world regularly eat insects, consumers in the West have historically shunned them as a food source. But concerns about the environmental impact of food production are putting insects on the menu: they are rich in protein and more sustainable to produce than meats such as beef or pork.

Insect products are now available in many countries. You can buy cricket snacks in Britain, mealworm burgers in Germany and supermarket-branded cricket powder in Canada. But it remains a niche culinary interest: research by the International Platform of Insects for Food and Feed (IPIFF) estimates that 9m people in the European Union ate insect products in 2019—just 2% of the population. This is not just because of the yuck factor. Regulation, or the lack of it, also plays a role.

Until 2018 insects were not covered by any EU regulation, for the simple reason that they were not widely considered as foodstuffs. Individual member states imposed their own rules, with attitudes ranging from bug-friendly to insect-phobic. That changed with the introduction of the EU's Novel Food Directive. But although it covers insects, it requires individual authorisations for each species—and the first of those is expected by early 2021.

This will allow makers of insect-based foodstuffs to commercialise their products across the whole of the EU. That, in turn, will encourage them to scale-up capacity. The IPIFF forecasts that production will grow from just 5,000 tonnes in 2019 to 260,000 tonnes by 2030. And if you don't like the sound of whole roast crickets, don't worry: producers are banking on insect powders or ingredients, rather than whole insects, to drive growth (see chart). And even then, you may well end up eating insects indirectly.

Have your steak and eat it

That is because insects could help reduce reliance on environmentally damaging proteins in animal feed, such as fishmeal and soyabeans. A fifth of the world's wild fish catch is used to make fishmeal, which contributes to overfishing in certain areas, while soya production is wreaking havoc in the forests of South America.

Across most of the developed world, insects are already allowed in fish feed and pet food. In 2018 America's Food and Drug Administration also approved the use of insects in poultry feed, which the EU is expected to do in late 2020 or early 2021. European insect producers such as Protix, Ÿnsect and InnovaFeed raised millions of euros after the EU authorised the use of insects in fish feed in 2017; the opening of the poultry-feed market will be another step change. Granted, insects currently cost more to produce than soya, but for feed manufacturers, they offer the prospect of a green, often home-grown protein, which, given the global pandemic and increased consumer awareness, will be worth paying for.

Another way to deal with the environmental impact of meat production is to make meat in a laboratory, rather than on a farm. This involves taking stem cells from an animal and growing them inside a bioreactor, immersed in a nutrient-rich fluid called a growth medium. Once the cells start to proliferate, they can be induced to differentiate into muscle and fat. Scientists then assemble the resulting cells into a product—the simplest being something loose, like mincemeat. More than 50 startups are working on cultured-meat products of various kinds, including burgers, chicken nuggets, shrimp dumplings and steak. In 2021 consumers will be able to try lab-grown meat for themselves.

The main barriers to bringing lab-grown meat to market have been "cost, cost and cost," says David Kaplan, a biomedical engineer at Tufts University. Tissue engineering is prohibitively expensive to do at scale. The humble-looking hamburger unveiled in 2013 by Mosa Meat, a Dutch startup, cost €250,000 ($300,000) to produce. But in January 2020 researchers at Northwestern University managed to reduce the cost of one kind of growth medium, the most expensive part of the process, by 97%. As a result, says

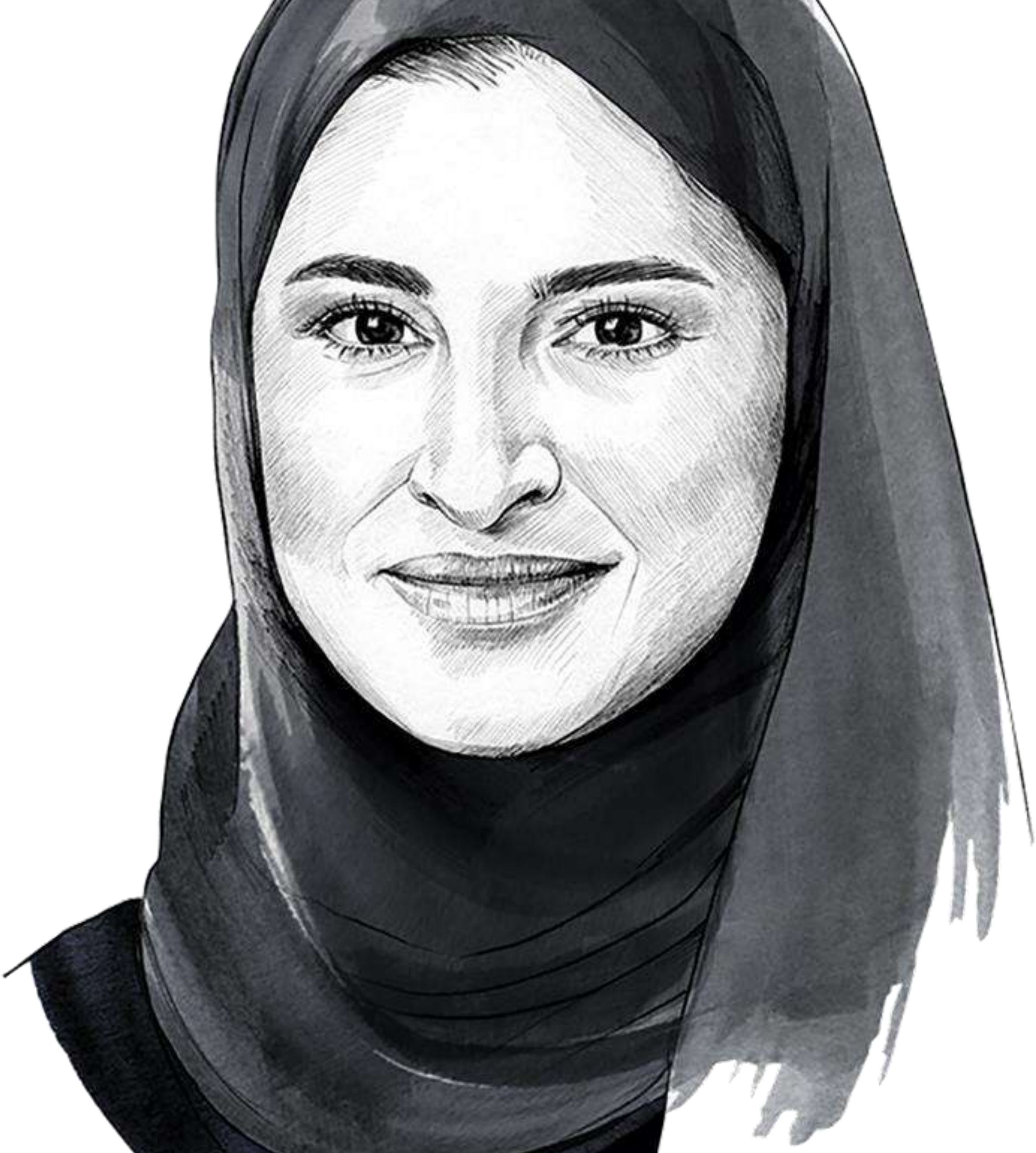
Hannah Tait of Mosa Meat, the cost of lab-grown burgers will have dropped to a far more affordable $9 when they go on sale.

Industry observers reckon that Memphis Meats, a startup based in California, may be the first to launch. In May 2020 it raised $186m, more than the value of all previous investments in cultured meat combined. The success of plant-based meat substitutes, such as those made by Beyond Meat and Impossible Foods, has increased investors' appetites. Europe, Israel and Asia are other global hubs for the industry.

As with insects, there is a yuck factor for some people—but there is also a compelling environmental argument. Cultured meat uses 99% less land and around 90% less water than conventionally produced European meat, making it far more sustainable. Should producers be allowed to call it meat, though? There has been some quibbling about labelling. But "the global regulatory community has been overwhelmingly receptive," says Eric Schulze of Memphis Meats. American and European regulators have already outlined their guidelines.

So expect to see cultured meat on the menu in 2021, says Dr Kaplan. "We have no choice," he says. "If we don't do it, we are in trouble."

Space for opportunity



The plunging cost of access to space presents opportunities—but also imposes environmental responsibilities, says Sarah Al Amiri, minister of state for advanced technology and chair of the UAE Space Agency

The new space punks are agile, aggressive and fast-moving

AS 2020 is remembered as the year of covid-19, we can only hope 2021 is the first post-covid year, and one in which we start to apply the lessons we have collectively learned. There appears to be growing consensus around the idea that the pandemic is not humankind's greatest challenge, but that the spectre of climate change looms with far greater urgency and potential for widespread disaster. Perversely, as our exploration of space gives us greater insights into our planetary systems, it is also fouling the Earth's atmosphere and orbital environment. We are making as much of a mess of the space surrounding our planet as we are of the planet itself.

As providers continue to develop lower-cost launch vehicles and reduce the turnaround between launches, access to space has never been easier than it will be in 2021. It is now the norm for launches to carry multiple payloads as smaller, more agile spacecraft replace larger, heavier satellites. A new generation of small satellites is creating a bewildering array of data sources and applications.

The role of governments in space will shift, with a new emphasis on blue-sky research, funding innovation and developing startups. Governments will also support the sector by acting as customers for data and analytical services, rather than procuring and developing systems.

With the increasing dynamism of the private sector, satellite design and engineering can be done much more quickly, slashing satellite-development times from over three years to under one. The extreme reliability of long-term, large-scale space systems is no longer a requirement, further driving down cost barriers to entry and democratising access to space. The garages that gave birth to Silicon Valley are now space-capable. Clean-rooms can be small, inexpensive facilities or shared resources.

In the year ahead we will realise we can untether not only from Victorian notions of education to prepare young people for the workplace, but from the idea of a "workplace" as we knew it. The space industry provides a striking example. The final stages of the Emirates Mars mission pre-launch process were accomplished by a team working from home—and, in fact, the whole mission was put together by a multinational team working over Zoom and other collaborative online tools. Our mission-control facility is based around a pair of relatively nondescript rooms with screens and laptops. Gone are the days of hundreds of workstations arrayed around 100-metre screens of the kind found at Cape Canaveral.

This is driving an explosion in innovators and operators seeking to explore the commercial potential of space, eclipsing the small coterie of large companies surviving on lucrative government contracts. SpaceX, Planet, Capella and others are reproducing in spacecraft smaller than a kitchen chair what used to take complex systems the size of an SUV. These new space punks are agile, aggressive and fast-moving. The price of

Earth-observation data is plummeting just as quickly as the applications for new data streams are exploding.

One key element of the new datasets we are exploring is a growing understanding of our own planet—of our atmosphere and the changes in our climate that threaten our health, well-being and our very future. With that greater understanding comes greater responsibility and the need to invest in technologies that mitigate our collective environmental impact.

In developing our new solutions, we have given ourselves new problems. One man's miraculous small satellite is another man's space junk. Working in space sciences renders one stark fact obvious. In all of the observed universe, the only breathable atmosphere available to humanity sits snugly around this planet. It is a tiny, tiny layer—75% of our breathable atmosphere lies in a fragile zone that extends an average of 13km from our planetary surface.

New space players will need to address the issue of sustainable access to low-Earth orbit. We will need to do something about the fast-growing and dense corona of junk we have placed around our planet. Developing an innovative approach to dealing with space debris, and safely de-orbiting satellites without incurring additional costs on the development of space systems, will allow this new business model to flourish. In the rush to explore this new frontier, we must not neglect our responsibility to an element of our environment that is just as fragile as our forests, rivers and seas.

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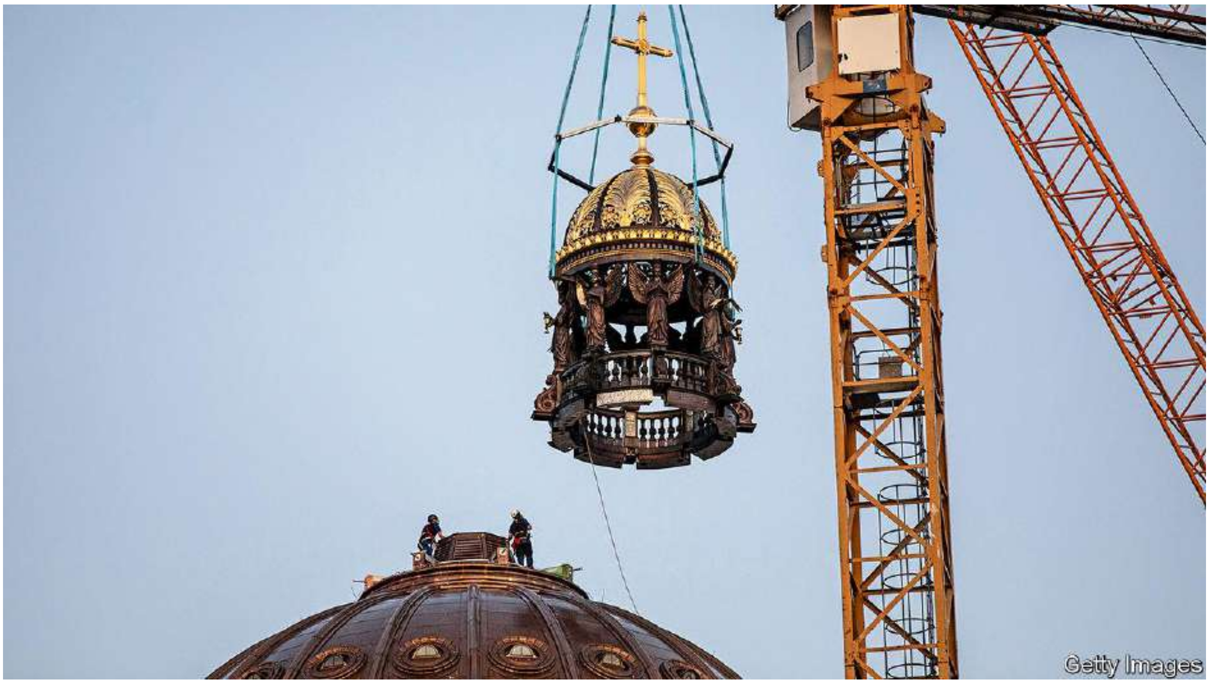
Culture

Culture



Building a new type of museum

Fiammetta Rocco: culture correspondent, The Economist and 1843

The Humboldt Forum in Berlin embodies the museum world's many controversies. Could it offer answers?

2021 in brief

The 25th film in the James Bond franchise, "No Time To Die", starring Daniel Craig as Bond, is due to be released in April after its debut was twice delayed by that dastardly international villain, covid-19

THE HUGE building site that stretches across the midriff of Berlin's Museum Island has been a meadow, a parade ground, a Dominican monastery, a Prussian palace under the Hohenzollerns in the 1700s and, after 1945, the East German parliament known as the Palace of the Republic. In 2021 it will reopen to the public in yet another incarnation: the Humboldt Forum, a giant cultural centre that wraps a painstakingly reconstructed historical façade around a series of climate-controlled ultra-modern exhibition galleries.

Like many big civil construction projects around the world, the Humboldt Forum has suffered from delays and cost-overruns; the latest estimate is that it will cost €644m ($763m). The pandemic has not helped. Other museums that had to postpone their openings to 2021 include the Grand Egyptian Museum in Cairo, M+ in Hong Kong and the Xi Art Museum, an open-air exhibition space in Jiangxi province in south-east China. Some, such as the Zayed National Museum in Abu Dhabi, will now not open until at least 2022.

When the idea of replacing the nearly derelict East German parliament with a replica of the elegant Hohenzollern palace was first being seriously discussed in the early 2000s, it seemed a beguiling prospect. The new building would offer a home to Berlin's collections of Asian art and ethnology, as well as the city's library, the municipal museum and the Humboldt University. In doing so, it would cement Berlin's identity as an outward-looking cultural hub embodying all the ideas of the German Enlightenment, as represented by the Prussian von Humboldt brothers: Alexander, an explorer and polymath, who lived until 1859, and Wilhelm, a philosopher, who died in 1835.

It would be a universal museum, like the British Museum (BM) or the Hermitage in St Petersburg—and more. "It would remake the heart of Berlin," says Neil MacGregor, former director of the BM who chaired the advisory committee that set up the Forum. "Because you already have Greece, Rome, the Mediterranean, Mesopotamia…bringing Africa, Oceania, the Americas and the Asian art collection together would complete the representation of the world's civilisations."

With political parties from the left and the right all laying claim to the Forum, the project was subject to intense political debate. But over the years it has also become embroiled in a series of controversies that are all its own. Many regarded the plan as a piece of West German political triumphalism. Former East Germans were dismayed at the tearing down of the Palace of the Republic. It may never have constituted a real parliament, but many Ossis remembered its discos and bowling alley fondly. Others saw putting up a replica of an 18th-century building as a way to gloss over the Nazi period, while still paying homage to the militaristic Prussians. And those hoping that it would transcend political, nationalist and religious boundaries were shocked to see a Christian cross—also a symbol of Prussian power—being hoisted onto the roof last May, above a Christian inscription composed by Friedrich Wilhelm IV, a Prussian king.

The biggest controversy concerns its ethnological collections, particularly those from Africa. Germany has made great strides in returning art works seized during the Nazi period, but has paid scant attention to items looted, or acquired by force, during its African colonial period. Debate over restitution to Africa has become increasingly vocal in other countries in recent years, especially France and the Netherlands, drawing attention to Germany's silence about the genocide it perpetrated in what is now Namibia, and the looting that accompanied it. "This is really a big problem in Germany," says Jürgen Zimmerer, founding president of the International Network of Genocide Scholars at Hamburg University.

But these controversies might yet be transformed into opportunities. Germany's experience as a federal state, which manages by consensus, should inspire the Humboldt Forum to become a great centre of cultural debate. Provenance, restitution, curating as a form of cultural power, the future of universal museums—these are all topics that urgently demand dialogue between former colonial powers and the countries they once ruled. The Humboldt Forum could lead the way.

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Explaining China

Fiammetta Rocco: culture correspondent, The Economist and 1843

Cao Fei, a Chinese multimedia artist, is finally getting a career retrospective in her own country

Dreamer ballerina

2021 in brief

The long-running reality-TV show "Keeping Up With the Kardashians" comes to an end after its 20th season. The show, which debuted in 2007, became one of the most popular of its genre, offering viewers a ringside seat to the trials and tribulations of the eponymous family

IN 2006 CAO FEI spent six months working in the Osram light-bulb factory in Foshan, a suburb of her hometown, Guangzhou, as part of the Siemens Art Programme. "Whose Utopia?", the video she shot there, is a classic work by an artist who, perhaps more than any other, has built a career exploring the Chinese dream and those whose lives are most affected by it. "She is the archetype of her generation," says Philip Tinari, director of the UCCA Centre for Contemporary Art in Beijing, where a show of Ms Cao's work will be unveiled in March 2021.

“Whose Utopia?” opens with a hypnotic sequence that recalls Charlie Chaplin’s “Modern Times”, made a century earlier. Light bulbs move along an assembly line, dancing from machine tool to machine tool, through a wall of soldering fire, onto a conveyor belt and into the arms of a line of wistful young factory workers who wear eyeliner and lipstick even on the factory floor. In a second sequence, the factory workers dress up as their dreams. One is a ballerina with angel wings; others are tap dancers, electric guitarists or masters of tai chi. Ms Cao is never overtly critical, but a sense of suspicion about the underside of capitalism and globalisation pervades all her work. On the soundtrack of “Whose Utopia?” a thin voice sings: “Part of your life had waned and waned, but to whom do you beautifully belong?”

The child of a well-known sculptor who taught at the Guangzhou Academy of Fine Arts in southern China, Ms Cao was born in 1978, the same year Deng Xiaoping launched the economic reforms that would spark the country’s rise. Growing up in Guangdong province, she was exposed from an early age to the influences seeping in through China’s southern border: television and Cantopop from Hong Kong, Japanese anime, American hip-hop. Her work also incorporates themes of Chinese youth culture, utopia and dystopia and the effects of technology, which all helped bring her to the attention of Western curators. From 2003, when she was still only 25, some of the world’s most important contemporary-art galleries began to show her work: MoMA PS1 in New York, the Serpentine and Tate Modern in London, and the Venice Biennale three times.

Ms Cao’s UCCA show, “Staging the Era”, will be the first in China to cover her whole career. Mr Tinari’s ambitions for it are clear: “Our audiences are interested in one question: why is she as prominent as she is?” And his answer is simple: “I think she’s the greatest explainer of China to the outside world.”

A literary outbreak

Andrew Miller: culture editor, The Economist

Covid-19 fiction is coming. Inoculate yourself

A SCIENTIST AT a secret laboratory is closing in on a vaccine. Rivals hack into his computer; a rogue state tries to assassinate him using a gun disguised as a digital thermometer. He escapes, only to be struck down by the disease. Secretly besotted with him, the scientist's assistant finishes the job, saving him and the world.

Gazing across the street from her balcony, a woman spots a man she has never seen before. They synchronise their evening appearances and, in the darkest days of the virus, their socially distanced love blossoms. At last, overcome with passion, they rush down to the street to embrace—and are arrested for violating the lockdown.

The writing and publishing of novels is a slow business, which means that stories cooked up during the pandemic, and inspired by it, will mostly be published in 2021. Some may feature plots not unlike those imagined above. These books will shed light, if sometimes inadvertently, on the craft of storytelling and the nuanced relationship between fiction and the news.

The trouble with setting novels during recent events is not only that other writers will be doing the same; it is that readers have lived through the whole pandemic themselves and might, to put it mildly, be in the mood for different themes. Even if some readers are inclined to revisit the horrors of the coronavirus outbreak, original insights will be hard to come by.

Convulsive as it has been, and for all the life-and-death freneticism of hospitals, for many people the pandemic has been sedentary and isolated, involving a lot of television and plenty of baking. That is not the stuff of which page-turning dramas are made. And for any novelist who manages to surpass these obstacles, yet another authorial risk looms: if a real-life vaccine intervenes, all the masks and hand-sanitising stations woven into narratives might seem out of date before the books hit the shelves.

The best efforts will be subtler. Illness in fiction often serves as a metaphor for something else—moral blindness, say, or the contagion of extreme politics. Similarly, the most thoughtful contemporary authors will capture the impact of the virus in indirect ways and settings: a desert substituting for an empty city, or a prison cell for a lonely living room. They will convey the mood of the plague rather than its ephemeral details, and its lasting impact on relationships and psyches. Distilling all that requires time and distance. So although there are bound to be several in 2021, readers may have to wait a while for the definitive covid-19 novel.

Hollywood quake

Rachel Lloyd: editor, Prospero blog, The Economist

The pandemic is shaking up the movie business

THE SAGA OF "Tenet", Christopher Nolan's latest time-twisting thriller, exemplifies the difficulties that directors and film studios have faced during the coronavirus pandemic. Initially scheduled to hit cinemas on July 17th 2020, the film was pushed back to July 31st and then August 12th. Warner Bros then said it would be released later in August, but only in certain countries. Its premiere in America was scheduled for September—with "select" cities (ie, those that had loosened lockdown restrictions) getting priority. Film executives complain that each of those delays cost them money.

Covid-19 has wreaked havoc on the movie business. Film sets were shuttered for months. Promotional tours were called off. Festivals such as Cannes, where the biggest titles of the year have their premieres, were cancelled or reconfigured as online events. Many distributors opted to reschedule their biggest blockbusters to 2021, when they stand a better chance of making a profit at the box office. That will mean a glut of big-budget films; even cinephiles are unlikely to see them all.

With audiences cooped up at home, the pandemic has also made ascendant streaming services more powerful. Netflix added 10.1m new subscribers globally in the second quarter of 2020 (against a forecast of 8.3m). According to Ofcom, a media regulator, Britons spent an average of six hours and 25 minutes a day in April watching television and online video content—an hour and a half more than in 2019. Whereas studios once put their poor or middling stuff online, they are now peddling their premium content there, too. In September Disney released its live-action remake of "Mulan", which cost $200m, on Disney+, its streaming service, for an extra fee.

Some cinemas have had to compromise on their exclusivity rights as a result. Universal's decision to release "Trolls World Tour" online and in limited venues simultaneously resulted in a new agreement with AMC over theatrical premieres and digital releases. AMC cinemas used to be able to screen a Universal film for 90 days before it went online; now that period has been changed permanently to 17 days.

All this has knock-on effects for awards shows. For the Academy Awards, due to take place in April 2021, a "temporary exception" has been made to the rules so that films that premiered on streaming services are eligible. Such companies had long circumvented the previous rules by releasing their best films in their own cinemas—Netflix earned the most nominations of any distributor at the Oscars in 2020—but this change puts them in an even stronger position.

In 2021 film studios and on-demand platforms will also have to reckon with the longer-term effects of lockdowns. With production suspended for several months—the average Hollywood film takes 106 days to shoot—a dearth of new content looms. Streaming services, which rely on a jam-packed schedule to appeal to consumers, may struggle to retain subscribers. And for cinemas, it may mean yet more empty seats.

Afrobeats go global

John McDermott: chief Africa correspondent, The Economist JOHANNESBURG

More African entertainment will cross over into the cultural mainstream

Burna Boy is on fire

African-made content should help update Western views of the continent

Over the past decade Nigerian artists have blazed a trail for the continent's musicians. Afrobeats, or Afropop, is an umbrella term for an amalgamation of sounds that is becoming increasingly popular in Europe and North America. It reached a new peak in August 2020, when the fifth album by Burna Boy, a Nigerian singer-songwriter, reached number one in the streaming charts in dozens of countries.

To date it has been male Nigerian artists such as Burna Boy, Davido and Wizkid who have led the way in taking contemporary African music into the global mainstream. They have signed record deals with leading American labels, racked up hit singles and headlined huge concerts. Their success is inspiring—but it has led some to worry that overseas audiences will come to think of African popular music as exclusively Nigerian.

Such worries should subside in 2021, however, as a wider variety of African musicians and sounds gain more global attention. South African rappers Nasty C and Nadia Nakai, among others, recently signed to Def Jam Africa, a branch of Universal Music Group established in May 2020. South Africa's take on house music, which includes the genres of gqom and amapiano, is growing in popularity. Although these sounds are often adapted by Nigerian producers before they receive global attention, many listeners want to check out the original genre.

Other artists who are famous across much of the continent and on the verge of wider success include Innoss'B (from Congo), Sheebah Karungi (Uganda), Brian Nadra (Kenya) and Manu WorldStar (who is South African-Congolese). Tiwa Savage, a Nigerian superstar known as the "Queen of Afrobeats", is likely to rival the popularity of her male peers. Styles developed in diaspora communities—most notably Afro Trap—will gain prominence, too. All these sounds, and more, are finding outlets in dedicated playlists on platforms such as Spotify and Apple Music.

Western audiences will have more African-made content to watch, as well as listen to, in 2021. Netflix will release several "African Original" shows, including "Far From Home", a Nigerian series about a poor teenager catapulted into the world of the country's elite, and "Jiva!", a South African drama. "Blood & Water", a popular teen series set in Cape Town, is returning for a second season. Chimamanda Ngozi Adichie, a Nigerian novelist, is having her bestselling novel "Americanah" made into an HBO series by Danai Gurira, an American actress and playwright of Zimbabwean parentage.

Such programming should help update Western views of the continent. A study of American television found that, in 700,000 hours of shows broadcast in a single month (March 2018), there were just 25 significant storylines about Africa. Of those, about half concerned crime. In 2021 these stereotypes will be increasingly—and belatedly—challenged.

The show must go on

The skills and talents of the performing arts are too important to lose for good, says Tamara Rojo, artistic director, English National Ballet

ALTHOUGH THE phrase is familiar, “the show must go on” usually relates to small disasters: the sore throat of the lead singer, a ballerina spraining her ankle just as the curtain is about to go up, a sudden technical failure halfway through a production. But covid-19 is the biggest catastrophe the performing arts have faced in decades, posing a real threat to their future. So the question now is: should and can the show go on? My firm answer is: yes, yes, absolutely yes!

We in the cultural and arts sector have for some time been making the financial case for our existence: how every pound of public money invested in the arts turns into £5 returned to the economy; how we support and sustain other industries, such as hospitality and tourism. In Britain, the sector provides more than 350,000 jobs. But there are more profound spiritual, cultural and emotional reasons that are often forgotten, because they are less measurable.

We have seen throughout this period of isolation and loneliness that the one thing keeping many people hopeful is indeed the arts. Films, radio, music and plays have all contributed to people’s emotional and psychological well-being. But as the director Sam Mendes has said, “It would be deeply ironic if the streaming services should be making lockdown millions from our finest acting, producing, writing and directing talent, while the very arts culture that nurtured that talent pool is allowed to die.” Whatever the medium, gathering together to share stories and to feel empathy for each other is a necessity deeply embedded in our DNA and intrinsic to all cultures.

I started to share free ballet classes online, from the first day of lockdown. Little did I know that over the ten weeks that I continued to offer classes from my kitchen, sharing them with the world, 4m people would come to join me. From professional dancers to absolute beginners, people found solace, consistency and a reason to get up in the morning in this daily ceremony of doing ballet class together.

We had a similarly enthusiastic response when we at the English National Ballet (ENB) started to share our filmed archived performances through our Wednesday Watch Parties, which ended up reaching 1m viewers all around the world. In normal times, no amount of performances we could do in one season would ever reach such a big and diverse audience. People of all backgrounds and traditions connected digitally through the arts and found a moment of escapism and joy in an evening at the ballet in their own homes.

So, what next? At ENB, after furloughing 85% of our workforce, we began to return slowly to the studios, and we started to create. It did not make any financial sense to do so, but it made emotional and artistic sense. And so we created an online platform, we commissioned five pieces of new work, we hired film directors and freelance crews, our musicians started playing again, and we managed to create a full programme of works that people will be able to have access to, once again, digitally.

As performances with restricted audiences began to be allowed, we announced a series of them, which sold out in only a few hours. These, too, will never make financial sense.

But, despite the joy of finding solace in a digital community, live performance is a momentous occasion, a coming together to share the magic of storytelling, and very much at the core of our raison d’être.

In Britain the government’s rescue package has saved many organisations, including our own, until 2021. Yet the financial impact of this period will last far beyond 2021. We need to be able to take risks and invest once again in new shows, in re-hiring our employees and freelancers, and start taking productions on tour. For that we need government-backed insurance, in case further covid-19 waves force us to cancel performances. We also need a sector-specific job-retention scheme to ensure that skill and talent is not lost for ever.

In continental Europe, where arts organisations receive bigger subsidies, the impact will not be as deep and long-lasting. In America, with little or no public funding, wonderful and (in normal times) stable arts organisations and ballet companies are looking at the real possibility of extinction.

Necessity can spur innovation, and I am the first to admit that ballet is in need of self-analysis and renovation on many fronts. But this will happen only if companies are able to survive beyond this period with enough spirit and strength to face and create the new future.

Obituary

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Covid-19's first casualty

Ann Wroe: obituaries editor, The Economist

Farewell to the carefree existence of the pre-pandemic world

SOME WEEKS into the new year, K decided that he must see a doctor. The surgery was only at the end of the road. Once or twice he had thought of popping in as he went past, but immediately stifled the idea. You didn't just pop into places, when you never knew who might have been sitting on that chair, or turning the pages of that copy of Homes and Gardens. He must think it out. It was clear, though, that he needed to do something. For, though his life was perfectly comfortable and successful, he was starting to feel troubled.

Once he had breezed through the world, carefree as a lark. He would spring from bed most mornings, throw up the blind, fling open the window, deep-breathe the morning air. Now he got up more circumspectly, so as not to trip on the duvet and sprain something. He pulled the blind gently, for he couldn't be sure of finding anyone to fix it if it jammed. And if he heard the man in the downstairs flat coughing again in his kitchen, he gave the morning air a miss.

Before, he would often grab breakfast on the run: seize something he fancied from someone's ungloved hands and then dart, untangling his earphones as he went, across the main road, waving for the bus to wait. Or he would graze, if he felt like it, from the fruit stall by the Tube. To crunch directly into an apple picked up from an open box—or, for that matter, a hot onion bhaji, or cockles by the sea—without a second thought! But now, in J. Alfred Prufrock's words, did he dare to eat a peach? Or anything else unwrapped?

As he chewed his home-soaked muesli, K soberly debated with himself, as he did almost daily, whether he needed to go into the office or not. He could not go just because he suddenly felt like it. He had to commit himself. The word "suddenly" itself was always suspect; there should be a proper reason. The city was once a place into which he would plunge every day like a swimmer, taking on everything it might throw at him. Now it was the place from which, on returning, he immediately and laboriously washed his hands.

How unconsidered that old existence seemed! How unexamined, how thoughtless! Back then he was forever nipping out of the office as the mood took him. He would try on jackets just for fun, or spend an hour in a bookshop sampling Zola one minute, Plath the next—why not? Now, if he needed to indulge in this primitive form of shopping at all, he decided what he wanted first and went straight to it, considered, undistracted: a serious citizen with his thoughts in order.

They were always in order now. Once he and his colleagues in the pub of an evening would bounce any number of crazy ideas off each other, from suddenly stripping naked and jumping in the river to launching a new Ponzi scheme. Silly of course. Who knew what submerged rocks and shopping trolleys lurked in the river? And who knew where all the mad schemes had gone? They seemed as vacuous as the hearty high-fives and shoulder-slaps that used to go with them. As for those productive huddles round a screen, cooking up new schemes—why take the risk? Why even bother to notice the will-o'-the-wisp of the light-bulb thought?

In his so-recent street-wandering days he could also catch the eyes of young women who might return his smile, fall into chance conversation and, with luck, end up in bed with him. #MeToo had already put a crimp on that. Now the whole business seemed deeply inadvisable. He no longer wanted to risk going to their flat, nor they to his. A kiss, a tumble, a mere knee-rub in the back row of the Arthouse cinema, were unthinkable. Even the office had become forlorn. The notching-up of chance liaisons while raiding the biscuit cupboard now seemed as irresponsible as accumulating air miles with a quick weekend in Venice, which he had managed once.

Diagnosis of death

He still dreamed, unfortunately—his libido being as carefree as ever—of sweeping up Doreen from Data in his arms, burying his face in her wild red tresses, and flying halfway round the world with her. But now he knew, in his waking hours, that he must not entertain the possibility without a detailed risk assessment. And it suddenly struck him, with a great tremor, that he might actually be ill.

His online appointment with Dr M was brief. In the event, it took the kindly medic no time at all to make the diagnosis. K's spontaneity had died; and that death, Dr M assured him, was universal.

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