The Economist

Vaccine mandates: evidence v ideology

Boxed in by container shipping

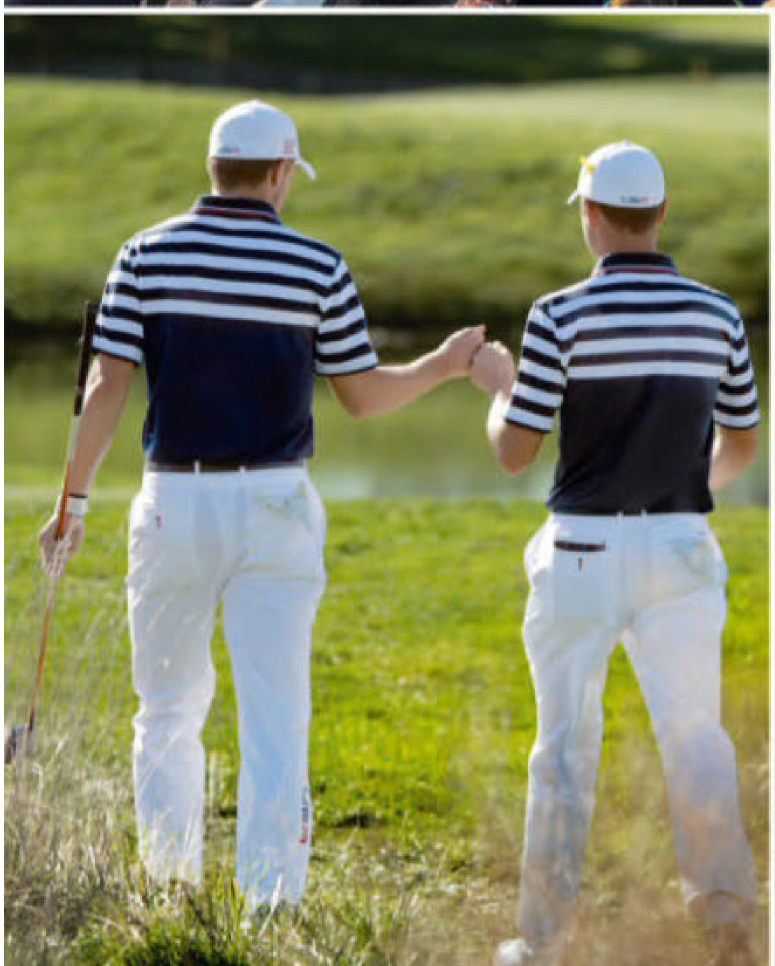
Who's next in China's crackdown?

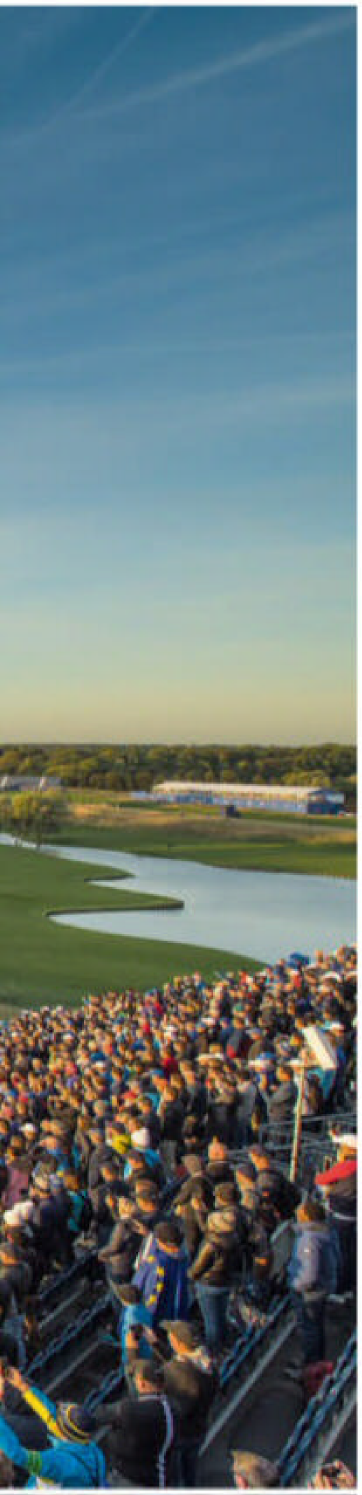
Clear thinking about child labour

SEPTEMBER 18TH–24TH 2021

Down the rabbit hole

The promise and perils of decentralised finance



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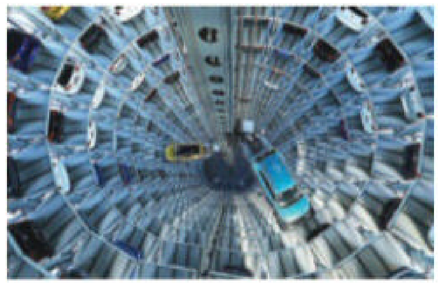

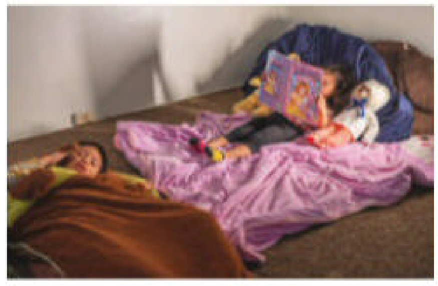

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The Biden administration defended its decision to introduce **vaccine mandates**, after more Republican governors said they would fight them in court. Asa Hutchinson, the governor of Arkansas and an advocate of vaccines, said the government's order "disrupts and divides" America. With only 54% of the population fully vaccinated, Joe Biden thinks mandates are essential. Companies will have to ensure their employees are either jabbed or tested weekly. All federal workers as well as staff in health facilities that receive government money will have to be vaccinated.

In Britain the government reversed course and said that **vaccine passports** for large events would not go ahead. The roll-out of vaccine boosters for over-50s will start, however, to help reduce pressure on the health service. Jabs will also be offered to 12- to 15-year-olds, a controversial move; the official vaccine committee has said the benefit from a health perspective is too small, but the government insists that inoculations will limit disruption to schools.

Gavin Newsom easily defeated a statewide ballot, bankrolled by conservative groups, to boot him out of office as governor of **California**. The Democrat said his victory represented a "yes to science" and to vaccines.

Australia looks likely to become the world's seventh country to operate nuclear-powered submarines as part of AUKUS, a new security partnership between America, Australia and Britain that reflects their worries about China's growing power in Asia.

North Korea broke UN resolutions again by testing short-range ballistic missiles, and for the first time used a train to launch the weapons. **South Korea** also conducted its own missile test, launching its weapons from a submarine for the first time.

The International Criminal Court approved a full investigation into whether crimes against humanity have been committed in the **Philippines'** war on drugs, the signature policy of Rodrigo Duterte, the president.

International donors stumped up $1bn in aid for **Afghanistan** at a UN-organised conference in Geneva. Most funding was cut off after the Taliban takeover. Around 90% of Afghan households have insufficient food, according to the UN.

Nine people in **Hong Kong** received jail sentences of between six and ten months for taking part in a vigil last year commemorating the Tiananmen Square massacre. Authorities had banned the annual event, saying it risked spreading covid-19.

In **Argentina** the ruling Peronist coalition won fewer votes than the opposition in 17 of 24 districts in primary elections. The polls, which may hint at the outcome of the presidential race in 2023, are a blow for Alberto Fernández, the president. Several ministers close to his vice-president, who leads a hard-left faction in Congress, offered to resign.

Haiti's prime minister, Ariel Henry, fired the chief public prosecutor, Bed-Ford Claude. Mr Claude had accused Mr Henry of involvement in the murder of President Jovenel Moïse, and asked that a judge investigate him. It is not clear whether the prosecutor had the authority to make such a request, or whether Mr Henry had the power to sack him. He also fired the justice minister.

The UN warned of an alarming increase in violence in the east of the **Democratic Republic of Congo**. It has recorded 1,200 deaths and 1,100 rapes this year by militias in the provinces of North Kivu and Ituri.

Mali's government is close to reaching a deal to hire 1,000 Russian mercenaries to train its army and protect senior officials. France, which has a large counter-terrorism mission in the country, has suggested it will withdraw its troops if the deal goes ahead.

After 13 months of political paralysis, **Lebanon** got a new government. It is headed by Najib Mikati, a billionaire businessman who has been prime minister twice before. He inherits a severe economic crisis. The president, Michel Aoun, called on the government to resume talks with the IMF over a bail-out.

Experts in America said **Iran's** enrichment of uranium to near weapons-grade left it in a position to produce enough fuel for a single bomb within a month or so. Making a warhead would take much longer.

Three former American intelligence operatives admitted conducting hacking operations on behalf of the **United Arab Emirates**. According to American prosecutors, the men have agreed to pay $1.7m to resolve the charges.

Naftali Bennett became the first **Israeli** prime minister to visit **Egypt** officially in over a decade. Mr Bennett met President Abdel-Fattah al-Sisi in the resort of Sharm el-Sheikh.

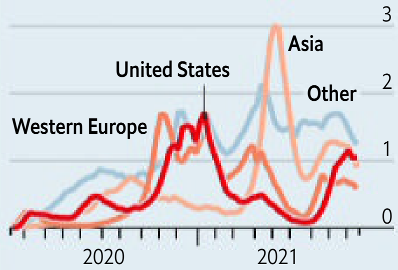
Norway's conservative prime minister, Erna Solberg, lost an election and conceded defeat after eight years in office. It is now expected that the Labour Party will put together a ruling coalition with the help of two other parties.

Germany's election campaign headed into its final stages, with another televised debate won by Olaf Scholz, the Social Democratic Party's candidate for chancellor.

Coronavirus data

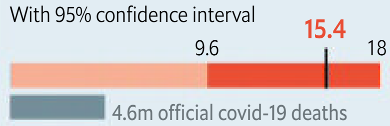
To 6am GMT September 16th 2021

Weekly confirmed cases by area, m



Estimated global excess deaths, m

With 95% confidence interval



Vaccine doses given per 100 people

By country-income group

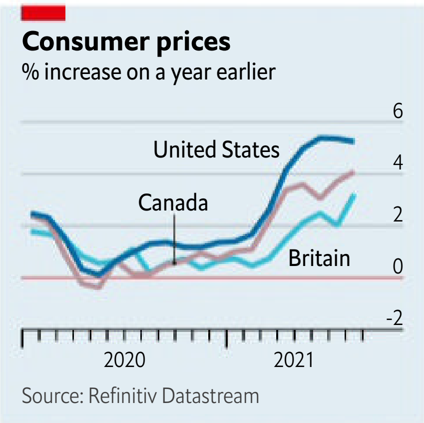
Sources: Johns Hopkins University CSSE; Our World in Data; UN; World Bank; *The Economist's* excess-deaths model

→ *For our latest coverage please visit economist.com/coronavirus*

Russia was also heading to the polls, with three days of voting due to start on September 17th in parliamentary elections. The result, a victory for the Kremlin-backed United Russia party, is not in doubt; the only questions are how much trickery there will be and whether there will be big protests after the vote, as happened in 2011.

Russia began a vast **military exercise**, Zapad-21, which could involve as many as 200,000 troops, making it the largest such event seen in Europe since the end of the second world war. It has raised hackles in NATO and Ukraine, as the exercises are taking place close to the Polish and Ukrainian borders.

Boris Johnson removed **Dominic Raab** as Britain's foreign secretary, following the poor timing of Mr Raab's Greek paddle-boarding holiday, as Afghanistan fell to the Taliban. He now heads the Ministry of Justice. The new foreign secretary is Liz Truss, a rising star in the Tory party.



America's annual **inflation** rate stood at 5.3% in August, down slightly from the 13-year highs of the previous two months. There was some evidence that inflationary pressures may be levelling off, such as an easing of prices for used cars, which have driven some of this year's inflation because of supply-chain problems in new-vehicle production. Britain's inflation rate, meanwhile, surged from 2% to 3.2%, partly because of a jump in the cost of eating out, which was artificially lowered a year ago by a government pandemic scheme that subsidised restaurant meals. In Canada inflation rose to 4.1%, an 18-year high.

Soaring **energy prices** are a factor pushing up inflation. Prices for natural gas have hit new highs in Europe for a variety of reasons, including a supply shortage ahead of the coming winter. In Spain, where consumers' energy costs have soared, the government wants to seize what it describes as "excess profits" from utility companies to reduce household bills.

The controversial **Nord Stream 2** pipeline was completed, allowing Russia to bypass Ukraine and pump more gas to Europe. Russia says it can start delivering gas once the "remaining formalities" are completed.

CMA CGM, one of the world's biggest container-shipping firms, took the industry by surprise when it announced a five-month cap on spot rates for **ocean freight**. The cost of shipping a standard large container is four times higher than it was a year ago for a number of reasons, including congestion at ports. CMA CGM describes this as an "unprecedented situation" and is capping prices to keep its customers happy.

Back on track

The long-running battle to take over **Kansas City Southern** appeared to have reached the end of the line when the rail-freight company, which operates in America and Mexico, agreed to a $31bn bid from Canadian Pacific. It had struck an agreement with Canadian National, CP's rival, but America's Surface Transportation Board didn't like the structure of the deal.

A federal judge in California gave her verdict in the closely watched legal battle between **Epic Games** and **Apple**. It was mostly, but not entirely, good news for Apple. The judge said Epic had failed to prove its central claim that Apple was abusing its market dominance by charging developers commissions of up to 30%. But she ruled that Apple had broken Californian law, and ordered it to allow app developers to offer customers alternative payment options outside Apple's ecosystem. Epic is appealing against the ruling.

Goldman Sachs expanded its consumer-focused business by agreeing to buy **GreenSky**, a platform that focuses on providing loans for home improvements, for $2.2bn.

There was more evidence of the recent slowdown in **China's economy**, caused in part by outbreaks of covid-19. Retail sales rose by 2.5% in August, year on year, well below economists' average forecast of 7%. Industrial production grew by 5.3% on the same basis, which was also short of expectations.

The crisis deepened at **Evergrande**, one of China's biggest property developers, which has warned that it may default on its debt. Its recent sales have fallen by half, which it blamed on speculative media reports about its future; it has employed specialists to assess its liquidity. Protesters took up residence outside Evergrande's headquarters in Shenzhen.

The share prices of big **casino operators** in Macau plunged, after the Chinese territory began a consultation process on revising gaming laws. Macau is the only place in China where gambling is legal. Casino concessions are up for renewal and the industry fears that the consultation will result in government restrictions, similar to the crackdown that has beset tech companies.

A diversity problem

PWC UK, one of the Big Four firms providing professional and accounting services, published data on the **class background** of its employees for the first time, which showed that only 14% come from a lower socioeconomic household. The firm's median pay gap for this group, at 12.1%, is wider than for women, 10.1%, and black people, 1.1%.

SpaceX launched one of its Dragon capsules from Florida into space, sending the first-ever civilian crew into Earth's orbit. The Inspiration4 mission, funded by a fintech entrepreneur, is the most ambitious of this year's adventures in space tourism, flying farther into space and circling the planet for three days.

In an unrelated but also ambitious effort at advancing technology, German researchers have found a way to **toilet-train cows** in the hope of reducing their greenhouse-gas emissions. The bovines were taught to micturate in a designated pen, where their urine could be easily treated.

Down the rabbit hole

The promise and perils of decentralised finance

THE SCEPTICS have plenty of fodder. The earliest adopters of bitcoin, the original cryptocurrency, used it to buy drugs, while cyber-hackers now demand their ransom in it. Hundreds of millions of dollars of ether, another digital money, were stolen this year after hackers found a bug in some code. Many "believers" are in reality trying to get rich quick from the global mania that has seen the value of cryptoassets reach $2.2trn. Others are freakishly devoted. The entrepreneur who announced in June that El Salvador was adopting bitcoin as an official currency sobbed on stage, claiming it would save the nation.

The crooks, fools and proselytisers are off-putting. Nevertheless, the rise of an ecosystem of financial services, known as decentralised finance, or "DeFi", deserves sober consideration (see Briefing). It has the potential to rewire how the financial system works, with all the promise and perils that entails. The proliferation of innovation in DeFi is akin to the frenzy of invention in the early phase of the web. At a time when people live ever more of their lives online, the crypto-revolution could even remake the architecture of the digital economy.

DeFi is one of three tech trends disrupting finance. Tech "platform" firms are muscling in on payments and banks. Governments are launching digital currencies, or govcoins. DeFi offers an alternative path which aims to spread power, not concentrate it. To understand how, start with blockchains, vast networks of computers that keep an open, incorruptible common record and update it without the need for a central authority.

Bitcoin, the first big blockchain, created in 2009, is now a distraction. Instead, Ethereum, a blockchain network created in 2015, upon which most DeFi applications are built, is reaching critical mass. Its developers view finance as a juicy target. Conventional banking requires a huge infrastructure to maintain trust between strangers, from clearing houses and compliance to capital rules and courts. It is expensive and often captured by insiders: think of credit-card fees and bankers' yachts. By contrast, transactions on a blockchain are trustworthy, cheap, transparent and quick—at least in theory.

Although the terminology is intimidating (fees are "gas"; the main currency is ether, and title deeds over digital assets are known as NFTs), the basic activities taking place on DeFi are familiar. These include trading on exchanges and issuing loans and taking deposits through self-executing agreements called smart contracts. One yardstick of activity is the value of digital instruments being used as collateral: from almost nothing in early 2018 it has reached $90bn. Another is the value of transactions that Ethereum is verifying. In the second quarter this reached $2.5trn, around the same sum as Visa processes and equivalent to a sixth of the activity on Nasdaq, a stock exchange.

The dream of a low-friction financial system is just the beginning. DeFi is spreading to more ambitious terrain. MetaMask, a DeFi wallet with more than 10m users acts as a digital identity. To enter a decentralised "metaverse", a looking-glass world with shops run by its users, you link your wallet to a cartoonish avatar who roams around. These digital worlds will become the subject of intensifying competition as more spending shifts online. Big tech firms could impose huge taxes on these mini-economies: imagine Apple's App Store charging fees, or Facebook selling your avatar's intimate secrets. A better alternative might be decentralised networks that host applications and are run mutually by users. DeFi could provide payments and property rights.

Crypto-enthusiasts see a Utopia. But there is a long way to go before DeFi is as reliable as, say, JPMorgan Chase or PayPal. Some problems are prosaic. A common criticism is that blockchain platforms do not scale easily and that the computers they harness consume wasteful amounts of electricity. But Ethereum is a self-improvement machine. When it is in high demand the fees it charges for verification can climb, encouraging developers to work on minimising the intensity with which they use it. There will be new versions of Ethereum; other, better blockchains could one day replace it.

Yet DeFi also raises questions about how a virtual economy with its own norms interacts with the real world. One worry is the lack of an external anchor of value. Cryptocurrencies are no different from the dollar, in that they rely on people having a shared expectation of their utility. However, conventional money is also backed by states with a monopoly on force and central banks that are lenders of last resort. Without these, DeFi will be vulnerable to panics. Contract enforcement outside the virtual world is also a concern. A blockchain contract may say you own a house but only the police can enforce an eviction.

Governance and accountability in DeFi-land are rudimentary. A sequence of large irrevocable transactions that humans cannot override could be dangerous, especially as coding errors are inevitable. Money-laundering has thrived in the ungoverned grey zone of services lying between Ethereum and the banking system. Despite the claims of decentralisation, some programmers and app owners hold disproportionate sway over the DeFi system. And a malign actor could even gain control over a majority of the computers that run a blockchain.

Alice's adventures in DeFi-land

Digital libertarians would prefer that DeFi remain autonomous—imperfect but pure. Yet to succeed it must integrate with the conventional financial and legal systems, as Gary Gensler, a crypto-expert who is America's financial watchdog, has outlined (see Buttonwood). Many DeFi applications are run by decentralised organisations which vote on some issues; these bodies should become subject to laws and regulations. The Bank for International Settlements, a club for central banks, has suggested that govcoins might be used in DeFi apps, providing stability.

Finance is entering a new era in which the three novel but flawed visions of tech platforms, big government and DeFi will compete and intermingle. Each embodies a technical architecture and an ideology about how the economy should be run. As with the internet in the 1990s, no one knows where the revolution will end. But it stands to transform how money works and, as it does so, the entire digital world. ■

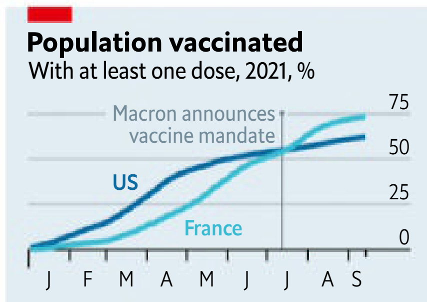
Vaccine mandates

Needling

State pressure has a role in public health. Covid-19 jabs are no exception

On September 11th 2001, when al-Qaeda attacked America, almost 3,000 people died. In response the government overhauled national security and, for better or worse, struck a new balance between liberty and security. On the 20th anniversary of 9/11 roughly 3,100 people in America died because of covid-19. Another 3,100 died on September 12th. And again on the 13th.

By our estimates, based on excess deaths, the pandemic has claimed 860,000 lives in America. Yet measures to curb the virus by mandating vaccination, which the Biden administration announced on September 9th, are being treated by senior Republicans as a terrifying affront to liberty. "This is still America," tweeted Tate Reeves, the governor of Mississippi, "and we still believe in freedom from tyrants." That is fatally wrong-headed. The details of the Biden mandate could be improved on, but in democracies public health sometimes requires some coercion.



Population vaccinated
With at least one dose, 2021, %

Across the world, governments from France to Australia are using pressure of one sort or another to boost vaccination. That should be no surprise. Ever since vaccines were invented, the state has asked some people to be jabbed to keep viruses such as yellow fever at bay. The justification for this intrusion was set out by America's Supreme Court as long ago as 1905: even if in most cases you are free to refuse treatment, you are not thereby free to infect other people.

The question is whether each country's requirement is proportionate. That depends on the threat and the costs and benefits of pressure. The calculus differs from one place to another.

What should not be in doubt is the danger posed by the Delta variant of covid-19. It is too infectious to be stopped simply by tracking cases. Vaccinated people, especially the elderly, gradually lose protection. If infected they can die, albeit at only one-tenth the rate of the unjabbed. Waves of infection overwhelm hospitals. Treating the unvaccinated cost $3.7bn in America, or $20,000 a patient, in August—a waste of resources.

For all these reasons, your choice over vaccination is everyone's business. It matters that only 63% of Americans aged over 12 have had two doses of a vaccine, compared with 76% of French and 85% of Danes. Delta's rapid spread through the population can be slowed by vaccination, sparing hospitals from overload and protecting vulnerable vaccinated people—for instance, the residents of old-people's homes.

Academics worry that mandates merely sort the hesitant from the hardliners. You get a rapid increase in vaccination, but only to a level at or below what it would anyway have reached. One reason for this is that those convinced of a government plot see coercion as proof. That is why it is wise to keep punishments light and to offer free tests as an alternative to jabs—something the Biden plan fails to provide, but should.

However, the evidence from France is more encouraging. In July, to much grumbling, the state required a vaccine passport or negative test for a range of activities, including visiting bars, restaurants, sports stadiums and shopping centres (see Europe section). A month later nearly 10m people had rushed to be vaccinated—and today the total share is 20 percentage points higher. Our World in Data reports that the share of French who say that they definitely will not be vaccinated fell from 35% in mid-June to 23% in mid-August, the most recent figures.

A survey of over 50 countries in August by Johns Hopkins, an American university, found that over half of unvaccinated respondents said they definitely or probably will not get a jab. Governments cannot rely on mandates alone to get them to change their mind. Instead they also need to focus on their country's particular hang-ups: Turks doubt covid-19 vaccines will work, Czechs don't like vaccines in general, Americans worry about side-effects. The one thing elected officials should not do is to reinforce vaccine hesitancy by falsely presenting all mandates as an attack on constitutional liberties. ■

Capitalism in America

A dynamic do-over

Rumours of the demise of American enterprise are exaggerated

Something is rotten with the state of American capitalism. That, at least, is the sentiment in Washington, DC. Democrats and Republicans argue over the rot's causes. Progressives blame corporate fat cats. Conservatives finger feckless regulators. But there seems to be agreement across the ideological spectrum that American enterprise isn't what it used to be: less dynamic and more monopolistic at home, and having its lunch unfairly nibbled by Chinese and other rivals abroad.

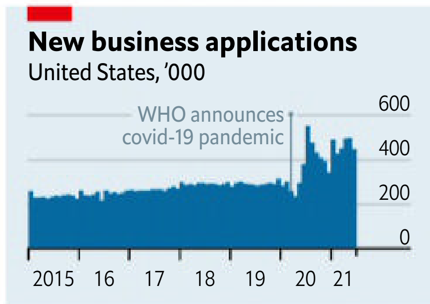
Not so fast. As our analysis this week shows, on many measures America Inc is alive and kicking (see Business section). Not everything is perfect, obviously. But a misapprehension of the corporate reality risks ushering in myth-based policies that end up doing more harm than good.

Declinism about corporate America is hardly new. In some ways American business has indeed been less vivacious of late. The share of employment in new companies fell from 4% in 1980 to around 2% in the 2010s. Three in four American workers are employed by a company that is more than 16 years old, up from two in three 30 years ago. Over the past half century ever fewer people have switched jobs or moved across state lines. In the mid-1990s newly founded firms outnumbered those which folded by around 80,000 a year. By the mid-2010s corporate births ▸▸

were barely keeping up with corporate deaths. Given that new companies play a big role in creating jobs, this meant fewer opportunities for American workers and investors alike.

Cross-border mergers and acquisitions by American firms as a share of domestic M&A activity declined from 16% in 2014 to 9% in 2019. American products were perceived as losing out to foreign rivals, from Toyotas to Tencent's video games. At home, big incumbents' growing market shares risked lulling them into complacency, or worse, enabling oligopolistic abuse. Between 1997 and 2012 two-thirds of the 900-odd sectors tracked by the five-yearly economic census became more concentrated, with the combined market shares of the top four firms rising from a quarter to a third.

Complacent or not, established companies' spending on new factories, technologies, and research and development stagnated. Computing and the internet apparently lacked the transformative power of earlier breakthroughs such as the aeroplane or the telephone. The dictum that "you can see the computer age everywhere but in the productivity statistics" sounded almost as apt in 2017 as it had when Robert Solow, a Nobel-prize-winning economist, uttered it in 1987.



The disruption wrought by covid-19 could have made things worse. Instead workers, companies and investors have re-evaluated their priorities and prospects. Many of the American businesses that emerged have a spring in their step.

Between January and June entrepreneurs started 2.8m new firms, 60% more than in the same period in pre-pandemic 2019. More people are quitting their jobs, almost certainly because they believe they can find something better. A surge of initial public offerings rivals that of the dotcom era. American companies have raised nearly $350bn since the start of 2020, more than in the previous seven years combined. And they are investing as if there were no tomorrow—or rather, as if tomorrow is there for the taking. Investments by big firms in the S&P 500 index are forecast to reach $1.2trn this year, 20% more than in the recent past, and to exceed that level in 2022.

America Inc's global footprint remains deep and wide, with companies earning roughly as big a share of their revenues abroad and outsourcing about as much manufacturing as they had in the past five years, although most firms are slowly adjusting their plans to reflect Sino-American tensions. For all the talk of tech monopolies, Apple is taking on Amazon, Facebook, Google and Microsoft in some of their businesses—and vice versa.

Overall market concentration across all industries appears to have plateaued since 2012. And although managers may debate whether IT-enabled remote work is as productive as the office kind, it is without a doubt more productive than no work at all, which would have been the case amid lockdowns were it not for broadband, Zoom and other digital marvels.

President Joe Biden seems not to have noticed. He wants to lavish subsidies on national champions, and reportedly levy fresh tariffs on their Chinese rivals, in a bid to help American companies that need no such leg-up. Two Democratic senators have proposed a tax on share buybacks aimed at encouraging firms to reinvest more of their earnings, which they are happily doing as it is. Trustbusters are pursuing America's tech giants without a clear idea of which markets their targets are competing in, and with an outdated view of how rival firms are adapting.

Elements of American capitalism remain less competitive than in the past. But before jumping in, politicians and regulators should recognise that it has rediscovered some of its vim. ■

Child labour

How to stop children working

Treat the causes, not the symptom

FEW SIGHTS are more pitiful than a child of three, hammer in hand, breaking big rocks into smaller ones to sell for pennies. Such scenes are considered so abhorrent in rich and poor countries alike that the convention of the International Labour Organisation (ILO) which outlaws "the worst forms of child labour" (including soldiering, slavery and prostitution) last year became the first to be ratified by all 187 of its members.

Between 2000 and 2016 the number of children working in factories, on farms and down mines fell by almost 94m, to 152m. Yet in the four years to 2020 progress has reversed, with an extra 8m children working, and some 6.5m more doing dangerous jobs. Sub-Saharan Africa accounts for all of the increase. The setback occurred before the covid-19 pandemic, but the ILO and Unicef, the UN children's agency, reckon that the economic hit from the virus may push almost 9m more children into work by the end of next year. Many will not return to school after the temporary closures imposed in countries to curb transmission of the virus (see Middle East & Africa section).

This increase in misery has prompted calls for tougher enforcement of child-labour laws. Prosecutors in Brazil are suing Olam, a commodities firm, over allegations it traded cocoa harvested by children (it denies the claim). In Ivory Coast judges have jailed dozens of people in recent months for putting children to work on cocoa plantations. And in Liberia the government said it is investigating the parents of children who are sent to work and planning to prosecute child-labour cases.

Rich countries, for their part, have been using their buying power to prevent child labour. In 2019 America halted imports of tobacco from Malawi because some of the crop was tended by children. In the same year it mulled a ban on cocoa from Ivory Coast, and the chocolate made from it, for the same reason. This impetus is natural: who would not want to take forceful steps to end cruelty to children? Yet stringent countermeasures, in many cases, may do more harm than good.

Take the rigorous enforcement of child-labour laws in poor countries. Although there are many child-traffickers who deserve to be put behind bars, most children in work are not enslaved and carted off by strangers, but instead toil alongside family members on small farms or tiny fishing vessels. In 2017, for example, Ghanaian police, egged on by Western charities, raided remote villages on Lake Volta, claiming they had rescued 144 children from slavery. Yet an investigation found that all but four had been snatched from their families. Well-meaning moves by rich countries to ban the import of tainted cocoa or tobacco may exacerbate the poverty that is the main reason why parents keep children home from school to help on the farm.

Instead of focusing on the symptoms, governments ought to help poor people become rich enough that they do not need to put their children to work in order to feed them. Over the longer run this means embracing policies that will help poor countries' economies grow. But it will take time—time during which roughly 160m children will continue to miss the chance to learn and play.

Fortunately much can be done now. Schemes in which parents are paid modest sums to keep their children in school have proved effective at reducing child labour. An exhaustive review by the World Bank, which looked at 30 studies, found clear evidence that these tend to reduce child labour, with the biggest reductions among the poorest recipients.

Cash-strapped African countries may gripe that they cannot afford such handouts, and that borrowing or taxing to pay for them would curb economic growth and job creation. Yet such schemes are relatively cheap. Brazil's flagship poverty programme, Bolsa Família, costs just 0.4% of GDP, a sum that even the poorest of countries could fund in a number of ways. One could be through cutting fuel subsidies that benefit mainly richer people, and which in half of sub-Saharan African countries cost more than 1% of GDP. Bilateral donors, which currently channel less than 1% of their aid into social safety-nets, could also play a big role. Few matters of public policy are as universally acclaimed as the drive to end child labour. But success will require pragmatism, not dogmatism. ■

World trade

Why skippers aren't scuppered

Global supply chains are adapting, not failing

MUCH OF THE time most people do not think about the complex choreography that makes modern shopping possible. You just click and wait—and not too long, mind—for a package or three to arrive on your doorstep. Over the past few months, however, the world's supply chains have elbowed their way into the foreground, as surging demand for goods and supply disruptions have restricted the flow of trade (see Finance section). At ports around the world, dozens of ships stacked high with containers wait at anchor for their turn to unload, while the cost to ship a box from China to America's west coast has jumped roughly tenfold from the pre-pandemic level.

You may think the snafus represent the beginning of the end of globalisation. Consumers are learning how infections half a world away or a ship stuck in the Suez Canal can disrupt the near-instant access to goods they take for granted. Manufacturers are discovering that lean supply chains can mean inadequate access to essential components as well as low costs. The disruptions are one reason inflation is high in America, Britain and elsewhere. But amid the logistics blues, markets are working as they tend to do, and firms are finding routes around blockages. Under intense pressure, global supply chains are not in fact failing; they are, rather, adapting.

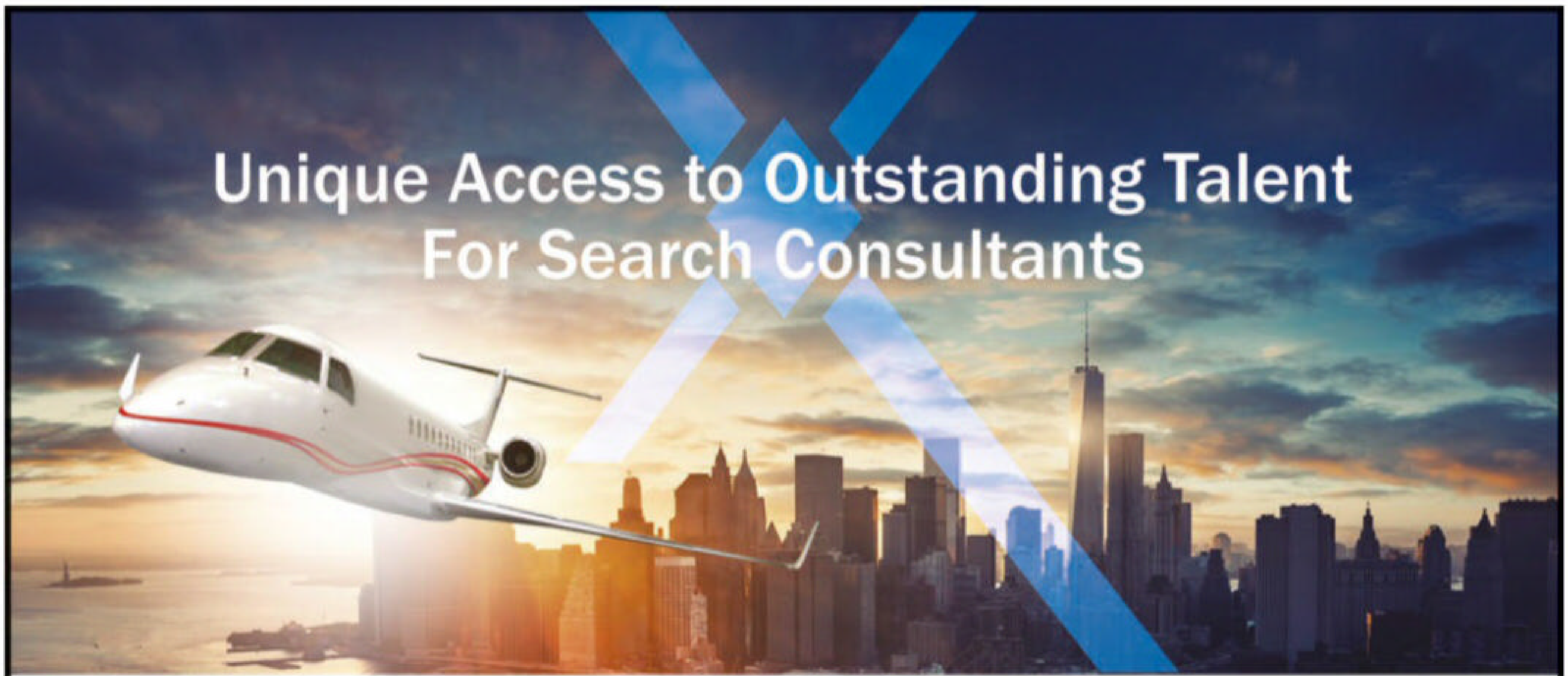
The troubles began in 2020, when firms that had idled production in the expectation of a slump instead faced heavy demand for cars, electronics and home-exercise equipment. Generous stimulus, in America especially, kept order books full while the pandemic skewed spending toward goods rather than services. Producers of computer chips have been unable to keep up with the rush. The shipping industry had no spare capacity and has faced a series of disruptions, from the saga of the stuck ship *Ever Given*, to the closing of ports amid outbreaks of covid-19 and storms like Hurricane Ida. With the system stretched thin, a mishap anywhere affects the movement of goods everywhere. Experts reckon it may take a year or more for conditions to return to something like normal.

In the meantime, firms are neither twiddling their thumbs nor abandoning global supply chains. Instead, they are improvising. Some retailers, like Walmart, have taken to chartering entire ships exclusively for their own cargo. Passenger aircraft are being refitted for freight. Chipmakers are weighing their priorities: TSMC, from Taiwan, is supplying some carmakers and Apple before producers of computer servers, say. Soaring shipping fees themselves help adjust the flow of goods. Higher freight costs scarcely affect the price of expensive electronics which can be crammed into containers, but matter more for bulky, low-value goods like garden furniture. Some consumers may be disappointed, but this means that shipping tangles depress the value of trade by less than might otherwise be the case.

The strains on supply chains will leave their mark. This year capital expenditure will be exceptional—global investment is likely to be 15% above the pre-pandemic level by the end of 2021, reckons Morgan Stanley, a bank. Firms are aware of the risk from shipping disruptions and trade disputes and are tailoring their investment programmes accordingly. In places like America and Japan they have been encouraged by government policies to incentivise the "reshoring" of production. Toshiba, a Japanese electronics firm, is closing a long-standing factory in China (see Business section). A number of carmakers are bringing bits of their supply chains in-house or at least closer to home, especially for chips. New orders for smaller container ships may reflect the view that production will become more regionalised.

Shipshape

Global supply chains will survive this trial. Indeed, the adjustments and investments made in response to recent woes are likely to make them better able to cope with disruptions—by ensuring adequate supplies of critical components, for example. That should allow them, eventually, to fade once more out of sight and out of mind. ■



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We are looking for individuals of high merit, integrity and professionalism. We aim to constitute a committee with representation from diverse regions of the world and with gender parity. Ideal candidates will have significant senior leadership experience in preferably large and complex organisations, demonstrating a good understanding of oversight functions. They will bring high-level knowledge and experience in at least one of the following areas: Finance and audit; Organization governance and accountability structure; Risk management and internal control; Ethics/anti-corruption and investigations; and Senior-level management.

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For more information and a detailed outline of the IEOAC role, please consult the appointment brief on **https://oxfordhr.co.uk/jobs/independent-external-oversight-advisory-committee-ieoac/**

OXFORD HR
SEARCH FOR A BETTER WORLD

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Institute for Human Sciences

Rector

Institute for Human Sciences, Vienna/Austria

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Applications should be addressed to:
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Applications should include a letter of interest, a curriculum vitae and an exposé for the future development of the IWM. **Applications will be considered until 30 September 2021.** The IWM would prefer employment to begin at the earliest possible date in 2022.

The woking class

Your warning on the dangers of wokeism would leave many of the old thinkers on the left turning in their graves ("Out of the academy", September 4th). The stunt pulled by the illiberal left is their assertion that they are the champions of the marginalised. I do not doubt many are sincere, just as the leaders of the Catholic church were sincere in the Inquisition. Religious fundamentalists of all sorts are sincere. But thinking you know best does not qualify for making a better world. Unless you are willing to debate your ideas openly, you are by definition an authoritarian conservative.

The modern-day book-banners, no-platformers, deniers of free speech and opponents of universalism in the name of identity politics are not of the left, the liberal left or even the New Left of the 1960s. As a student in the 1960s, I marched to demand free speech, the end of the war on Vietnam and civil rights. We were condemned as communists and beaten if unlucky to be near a police baton. Voltaire and John Stuart Mill inspired us. This is what Eric Hobsbawm, a British Marxist, had to say on identity politics:

> The political project of the left is universalist, it is for all human beings...It isn't liberty for shareholders or blacks, but for everybody...It is not fraternity only for old Etonians or gays, but for everybody. And identity politics is essentially not for everybody but for members of a specific group.

The Economist has got the ball rolling in the right direction.

TOR HUNDLOE
Emeritus professor
University of Queensland
Brisbane, Australia

The rise of the illiberal left is something I have watched with alarm during 40 years in academia. There are many reasons for this, but the greatest has been the sustained attack on the ideals of the Enlightenment which, ironically, were embraced by Karl Marx. He would almost certainly have treated woke-folk with contempt.

The problem lies in our failure to understand properly the original premises of our Enlightenment heritage. The ideals you refer to ("The threat from the illiberal left", September 4th) are those mostly developed fully by Adam Smith as a moral philosopher (not as an economist). Smith's mentor and teacher was Francis Hutcheson, whose influence is most clearly seen in Smith's first book "The Theory of Moral Sentiments". Here, Smith builds on Hutcheson's arguments against greed and self-interest. The original reasoning in favour of individual freedom and liberty was to enable people to develop their talents both for their own self-worth and for the good of the community.

Hutcheson was equally scathing on rights, which could quickly become a cover for greed and selfishness. Hence Hutcheson posited that rights must always be balanced against the virtue of an act, or its effect on others. This is an important moral corrective that is continually ignored in our pursuit of narrow individual or identity-group rights.

JAMES DINGLEY
Chairman
Francis Hutcheson Institute
Belfast

Free and open debate is great, in theory. In practice we tend to hear rather more of what the billionaire with a megaphone has to say than the young single mother.

ALEX CAMPBELL
Brighton

Your articles exposing illiberal progressives are singular in today's mainstream media, and hopefully will inspire the slackers to join in. In explaining why the woke plague has broken out from dormancy you concentrate on academia. But locus is not cause, and although you are right to point to students and college administrators, we must also ask how they became infected.

The virus springs from a new class, a "meritocracy" based on test scores, a New Elite. Previous elites were based on force or wealth, but today's feels that its wisdom has been "proven", and so abridges all dissent.

DAVID LEBEDOFF
Minneapolis

Loyalty oaths are not a novel, "woke" development at the University of California. Loyalty oaths were imposed on its employees in the 1950s, when a right-wing state legislature got caught up in the Red Scare and tried to flush out closet Marxists. This utterly failed. To put it mildly, there are quite a few Marxist dons in California's university system today. In a twist of irony Ernst Kantorowicz, a scholar of medieval studies and strident anti-communist, lost his job when he refused to take the McCarthyite oath on principle. Woke oaths will fail, too.

ELIJAH GRANET
San Diego

Oh, *Economist*, I thought you'd got past all this. Saving the liberal order is a defensible, if quixotic, goal, but sniping at progressive excesses and dismissing the critique as restlessness doesn't help. Objectivity begins at home.

Consider just economics and the mantra that businesses must not be sheltered from the gales of creative destruction. Fair enough. If you want to win you accept the rules. But liberalism sees only the game and its players. What about collateral damage? The costs of capitalism's creativity are being paid in chronic disease, family stress, community upheaval, social scapegoating, political dysfunction and climate disaster. Impatience is warranted.

DOROTHY NOYES
Professor of English and comparative studies
Ohio State University
Columbus, Ohio

I am not a supporter of blind wokeness, but your arguments were so one sided that I realised that the woke have a point when they champion greater diversity at powerful institutions like *The Economist*.

Moreover, it was not the woke who drove Brexit in Britain, or the insurrection of January 6th in America. It was not the woke who have enabled the resurgence of covid-19, not the woke who plotted to kidnap and execute the governor of Michigan, or convinced millions of Americans that the election of 2020 was stolen, or stifled any honest American confrontation with climate change.

It is true that the woke do too often stifle debate and end careers, but they are not the threat to democracy and reason that the warriors and profiteers on the right are.

MICHAEL COLLINS
College Station, Texas

It is important to stand up for what you believe in and defend your beliefs, but we should also strive for humility. It would be beneficial for all to remember the words attributed to Bertrand Russell:

> The whole problem with the world is that fools and fanatics are always so certain of themselves, and wiser people so full of doubts.

EWAN HICKLING
Stellenbosch, South Africa

One thinks of Michael Macy's sociology experiments illustrating how, when faced with an illogical group consensus, individuals tend to publicly agree and even condemn dissenters, while privately expressing concern.

Unsupported theories, such as those of the illiberal left, that have taken root in societies require brave individuals to break the cycle and express their disagreement, regardless of the condemnation. But someone else can go first.

ANONYMOUS
New York

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Adventures in DeFi-land

NEW YORK

Can "DeFi" lay the foundations for a decentralised economy?

THE AVATARS are mostly cartoon versions of people. They are all milling around a swimming pool built like a funnel, with virtual water sliding out of sight through its navel. To move, users manipulate keyboard controls familiar to anyone who misspent their youth playing computer games: W, A, S, D to walk forwards, left, backwards and right; space bar to jump. A sign next to the pool reads "diving allowed". Your correspondent presses W and her flaxen-haired simulated self climbs up and over the edge of the red diving board, plunging into the pool's centre.

This is what it is like to enter Decentraland, a virtual-reality platform built on the Ethereum blockchain, also known as a "metaverse", where virtual shops sell digital collectables and tokens. The disorientating "down the rabbit hole" feeling of diving in is all too similar to what you feel when you first hear of developers' efforts to "decentralise" everything you do online. A growing number of them are seeking to rebuild both the financial system and the internet economy using blockchains—databases distributed over many computers and kept secure by cryptography. The ultimate goal is to replace intermediaries like global banks and tech platforms with software built on top of networks that direct the value they generate back to the users who own and run them.

Of all digital activities, it is efforts towards decentralising finance that are most advanced. Far from the self-aggrandising ambition of Wall Street, decentralised finance (DeFi) instead seeks Utopian-sounding crowdsourced control. Applications and functions are run not by a single centralised entity or company, but by user-operated "decentralised autonomous organisations" (DAOs). "I will be just a regular community member," says Rune Christensen, the founder of MakerDAO, a DeFi organisation. "In the end, it is mostly about how you contribute, not who you are."

Talk of blockchains, DAOs and metaverses sounds so utterly bewildering and far-fetched that it might be tempting to give up listening to the DeFi crowd. The success of this nascent technology is, indeed, far from guaranteed. But piece by piece a new kind of economy is being built through applications on various blockchains. Each addition makes it more likely that the whole will amount to something meaningful and powerfully disruptive.

DeFi has grown tremendously in scale and scope in recent years. The Ethereum blockchain, which underpins much of DeFi activity, settled $2.5trn-worth of transactions in the second quarter of 2021, including payments and transactions to facilitate trading and lending. (Visa, a payments giant, settled about the same amount in the same period; Nasdaq, a stock exchange, traded six times as much.) Around $90bn of collateral is being used for various DeFi functions, compared with less than $1bn in early 2018. More than half is held in the five most popular DeFi applications, but developers are working on more than a hundred others, dozens of which are rapidly amassing assets. Innovations, such as automated marketmakers, arbitrage systems and self-stabilising currency regimes, are already pushing the boundaries of financial technology.

The promise of DeFi is that it could lead to a better kind of finance: a system that is quicker, cheaper, more transparent and less reliant on powerful centralised institutions. It could also underpin a digital economy that is less dominated by a handful of tech giants. But there are plenty of ▸▸

→ Also in this section

19 Blockchains explained

pitfalls in the way, not least the huge amount of speculation taking place in the world of DeFi and the risk that it becomes colonised by dirty money or sullied by blockchains' vast energy use.

DeFi's opportunity comes about because centralisation brings problems. True, it is cheaper to build a financial-settlement system run by an entity everyone trusts, such as the Federal Reserve, than to get a diffuse group of individuals to verify transactions. But government infrastructure ossifies. Private networks can tend towards monopoly, encouraging anti-competitive behaviour and rent extraction.

The Fed's adoption of an instant-payments system, for instance, has proceeded at a glacial pace. Card-network operators like Mastercard and Visa make gross profit margins of 60-80%. Tech giants can wield their market power anti-competitively, or in ways their users dislike. Apple changed how its platform worked with third parties to stop Facebook tracking users; Facebook itself alters its content-delivery algorithms as it pleases; YouTube "demonetises" content creators on a whim. Each takes the lion's share of the profits associated with their networks.

Decentralisation offers an alternative: interoperable, transparent, often efficient systems that, by distributing control over software, guard against the concentration of power. The first instance of such a decentralised system was Bitcoin, a digital-payments network verified by a blockchain, which was created in 2009 with the aim of replacing centrally issued money (see box). But technology has evolved since then, and Bitcoin is now largely a distraction. People "seize on the money part, and either glorify it as a new kind of monetary system…or crucify it as a danger to economic stability," writes Marc Andreessen of Andreessen Horowitz, a venture-capital firm that has raised some $3bn to invest in crypto-technology. They are missing the point. "Crypto represents an architectural shift in how technology works and therefore how the world works."

That shift is distributed consensus—the ability for many "decentralised" participants in a network to establish trust. Its potential to facilitate more than payments became clearer with the creation in 2015 of the Ethereum blockchain (see chart 1 on next page). This stores and records lines of computer code, including entire programs, which are visible to all. That makes it possible to construct smart contracts—self-executing agreements in which a chain of actions follows when certain conditions are met. These are automatically enforced and cannot be tampered with.

The Ethereum blockchain and others designed to store lines of code, like Cardano, also issue and use their own tokens, called "ether" and "ADA", respectively. To verify a transaction on the Ethereum blockchain you must pay a variable "gas" fee, owed in ether.

The advantage of using a blockchain is that it is like a new sort of computer. A physical computer is a way to store data and process it with a set of instructions, called a program. The Ethereum blockchain, too, is a way to store data and operate on it, like a virtual computer that runs on top of a network of physical computers. The consequence is that it ensures that "the computer will continue to operate as designed", as Chris Dixon, who launched Andreessen's crypto fund, has described it.

Every computer, outside a blockchain, is controlled by a person or organisation that can change their mind. This is sometimes true at the physical, hardware level: Apple, in many ways, retains broad control over the devices it sells through its ability to push software updates (the way in which it neutered Facebook's trackers). More important, this applies across all web pages and applications. Each time someone logs on to Facebook, say, they rely on the servers the company runs to host its website. By controlling the hardware, companies can change the software as they please.

On a blockchain, though, this relationship is inverted: the software governs the hardware, and can make guarantees. Computers that are controlled by blockchain technology are, in Mr Dixon's words, "com-

Blockchains

Building consensus

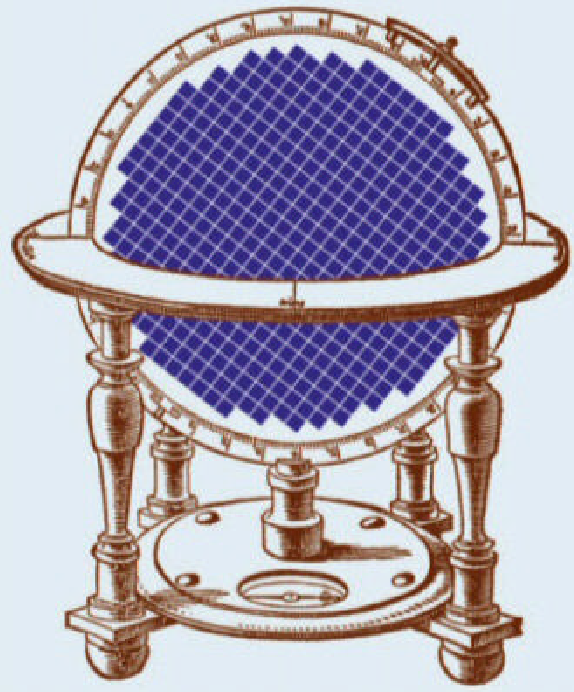
A blockchain is an immutable shared history

IT IS COMMON, in tech circles, to hear a business pitch that is simultaneously simple and baffling. "It is going to be like "x" [insert the name of any successful business], but on a blockchain." The eager entrepreneur is quick to assume that everyone is both familiar with the technology and agrees on its merits. But what is a blockchain? And what are the benefits of using it meant to be?

A **blockchain** is a database that contains the history of whatever information it was designed to store. It is made up of a string of "blocks" of information that build on top of one another in an immutable chain. **Bitcoin**, one of the first blockchains, was built in 2009. It stores data on transactions in bitcoin, providing proof of who owns what at any time. What distinguishes a blockchain from other databases is that its ledger is distributed, publicly available and replicated on thousands of computers—or "nodes"—around the world. Rather than a centralised entity, like a bank or a tech platform, ensuring that the ledger is accurate, it is verified by a **decentralised** network of individuals.

Though Bitcoin's blockchain is public, it is also trustworthy and secure. This is guaranteed by the mixture of mathematical subtlety and computational brute force built into its "consensus mechanism", the process by which the nodes **verify** new transactions and add them to the blockchain. Computers race to solve a cryptographic problem—the first to do so wins newly mined coins—and a new block is added.

Newer blockchains, like **Ethereum**, store more information, such as lines of computer code. A function or application



that can be programmed in code can be guaranteed to operate as written. The Ethereum blockchain offers proof that the code was executed. Developers can write conditional code—software that executes after a certain trigger—making it possible to set up "**smart contracts**" about future events.

Unlike private networks, open, public blockchains are transparent (anyone can view them), permissionless (anyone can use them) and censorship-resistant (no one can stop them). But because they demand consensus, they can be slow and complex to build. Building **applications** that conduct financial activities and distribute digital content on top of a blockchain can therefore be trickier than operating through trusted intermediaries. Building "x" on a blockchain may be sensible, but is easier said than done.

puters that can make commitments".

Once a decentralised foundation to store and execute lines of code has been laid, anything can be built on top—assets, say, or applications (see chart 2 on next page). The only limit is the developer's imagination. All kinds of "tokens", or digital representations of assets, exist. Some resemble financial building-blocks, like shares, bonds and "stablecoins", which are typically pegged to conventional currencies. Others are governance tokens, which work as votes determining how DAOs are run. And "non-fungible" tokens (NFTs) represent unique assets, like an image or a video. The market for these has boomed over the past year. Some $23bn-worth of NFTs now exist.

Tokens can be swapped or lent out through "protocols"—the rules that govern how transactions take place. These in turn are governed by DAOs and can be altered only by consensus. Users can then buy and swap tokens through a web-browser-based interface that connects them to protocols.

Off with their heads

To enter the decentralised world it is necessary to create a wallet, which stores tokens. One type of wallet is managed by a centralised exchange, like Coinbase. Another, like MetaMask, lets users hold their own private keys. Centralised systems feel familiar: they have usernames and passwords that can be reset. They also hold tokens on users' behalf, making them a target for attacks. Dishonest or incompetent exchange operators have lost or had customers' assets stolen from them. Users of MetaMask or a similar wallet, by contrast, have full control over their assets. But if they lose their key, their tokens are lost for ever. MetaMask counts 10m active users, up from about 600,000 a year ago.

Creating a wallet creates a unique online identity, which allows you to interact with any DeFi application, including metaverses like Decentraland. This in turn lets you deposit tokens to earn interest, swap them for other coins, or shop in metaverse malls. Genuine innovation is also taking place in the world of DeFi, which could improve upon real-world finance. Three particularly impressive examples stand out.

One is decentralised exchanges. Given the vulnerability of centralised exchanges to attacks and theft, developers have set about building alternatives on a blockchain. Rather than depositing assets for, say, Coinbase to trade on your behalf, execution is instead carried out through smart contracts. Both sides of the trade are performed in one indivisible transaction. This eliminates the need for intermediaries such as escrow services and central counterparty clearing-houses. UniSwap, one of the largest decentralised exchanges, is especially popular for swapping Ethereum-based tokens. It trades tokens worth around $1bn every day.

The second example relates to the difficulty of issuing a reliable stablecoin. Stable assets are useful: tokens pegged to the dollar or other currencies facilitate transactions between other tokens and provide the basis for financial contracts. Early solutions relied on centralised control, which makes it hard to know for sure that they are fully collateralised. The two biggest stablecoins, Tether and USD Coin, have together issued around $100bn in tokens. The collateral for these, a mix of cash and short-term corporate debt, is held not on a blockchain, but in bank or brokerage accounts. Both firms decide how to back their stablecoins and when to publish their accounts. In March New York's attorney-general found that Tether was not fully collateralised for periods in 2017 and 2018, and fined it $18.5m. (Tether denied wrongdoing.)

One way of knowing for sure that a stablecoin is fully backed is by keeping the collateral on an open blockchain, which is transparent, and storing it in a smart contract. The problem is that the collateral must be held in an asset native to a blockchain, like bitcoin or ether, which fluctuates wildly. There is, however, a clever workaround. The biggest "on-chain" stablecoin is dai, run by Mr Christensen's MakerDAO. Anyone can create new dai tokens, as long as they lock up enough collateral, usually ether, in a smart contract.

Because ether is volatile, the protocol requires users to over-collateralise the tokens they create. If the value of a user's collateral falls below 150% of the value of the outstanding dai, the smart contract automatically auctions off the collateral to cancel the debt in dai. To reclaim collateral the dai must be returned, plus a small variable "stability" fee (paid in dai) which tends to climb with volatility in collateral.

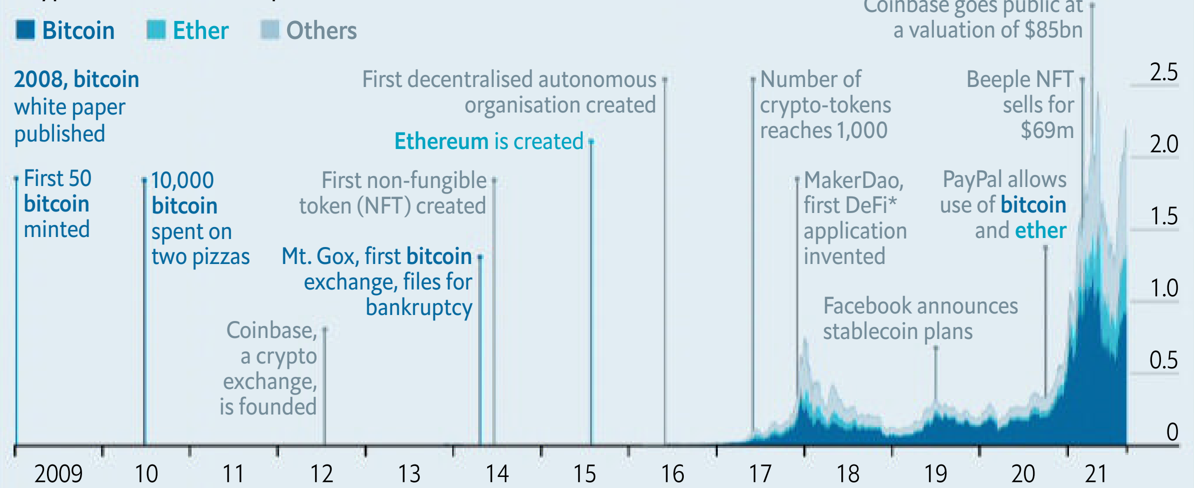
Dai is remarkably stable against the dollar. Only once, when ether dropped sharply in 2020, did the peg break, with dai falling by around 10% in 12 hours. This occurred in part because developers had fixed a maximum stability fee into the protocol. To replenish funds and restore the peg new governance tokens were issued, diluting the current owners. The coding problem was solved over the following months by a consensus of those holding the governance tokens. In 2021, when ether crashed again, dai remained stable. Around $6.5bn in dai currently exists.

A third example of innovation is lending protocols. Because users can remain unknown, in order to borrow from a lender they must first deposit some tokens, like dai, as collateral. Users can then borrow against that collateral in a different token. But developers have come up with a way to avoid such deposits for "flash loans", which are instantly issued and settled.

Transactions on blockchains are finalised only when a new bundle of transactions, called a block, is accepted by the network. Adding blocks takes time, around ten minutes on Bitcoin and 13 seconds on Ethereum. For a flash loan on Ethereum a borrower requests and repays the funds, plus a 0.09% fee, within the same block. If the borrower fails to repay, the entire transaction is cancelled, so that no funds were ever borrowed. The lender takes no risk at all. These loans are mostly used for arbitrage opportunities between token-trading platforms. Since their creation, says Fabian Schär of the University of Basel, the markets for most tokens have become more efficient. Two of the biggest lending protocols on the Ethereum blockchain that offer flash loans are Aave and Compound. They have lent out some $16bn and $11bn in tokens, respectively.

All these services are efficient and creative solutions to financial problems. Automated exchanges, like those built through UniSwap, and flash loans, which make seamless arbitrage possible, enhance the efficiency of financial plumbing. The automatic stabilisers built into dai are a clever fix for a difficult problem. And DAOs are fascinating experiments in the demo-

She went on growing, and growing
Crypto-token market capitalisation, $trn

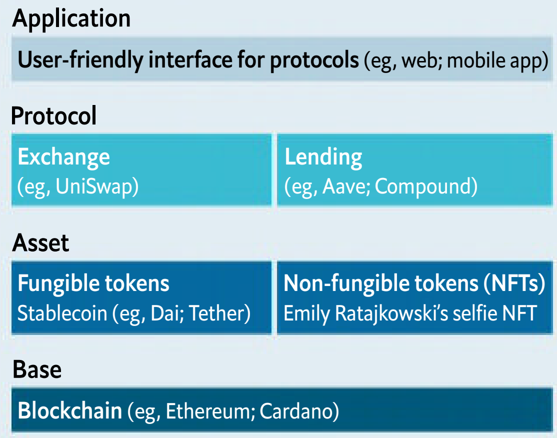


Sources: Coin Dance; CoinMarketCap
*Decentralised finance

2

Eat me

The layers of decentralised finance, 2021



Sources: Fabian Schär, 2021; *The Economist*

cratic governance of entities that oversee billions of dollars in trading and lending. The problem is that, so far, they are all being used to facilitate an incorporeal casino. Most of these applications are used to speculate on unstable tokens, including bitcoin and ether.

If DeFi is to go beyond speculation, one of two scenarios must come to pass. The first is expansion into the realms of conventional finance. Much of the energy in DeFi is spent on enabling finance for a universe that is "on chain". That is understandable: those that bridge the gap with the real world, like centralised exchanges and stablecoin issuers, have been the source of hacks and fraud. But to be useful for everyday finance—mortgage lending, say—DeFi would have to straddle the virtual and real worlds.

NFTS, for instance, could become more widely used. Today they are digital collectable claims, but in theory they could represent ownership claims on homes. Mortgage creation could then be wrapped into a single, efficient bundle: the owner of the "Red Cottage, Whitburn" NFT would swap it with the buyer, who would deposit it with an automated collateralised-lending platform like Aave or Compound. The buyer would receive tokens in return, which would then be automatically transferred to the seller. To hold the NFT again the buyer would, over time, deposit enough stablecoins with the platform to pay off the loan.

Because tokens can be digital representations of nearly anything, they could be efficient solutions to all sorts of financial problems. Deposit accounts with banks can be expensive; the stock-settlement system is slow. By contrast, stablecoin transactions settle almost instantly, and incur no or low fees. For DeFi to be the answer to real-world problems, though, the legal system must enforce on-chain outcomes in the "off-chain" world, and regulation must guard against fraud and misuse.

It is generally tricky to convert conventional money into tokens without identification checks. Most services that exchange dollars into ether or bitcoin, like Coinbase, conduct "know your customer" checks, intended to deter money-laundering. Yet the fact that, once in the on-chain world, anyone can easily move tokens around, has raised legitimate fears about the ways in which DeFi will be harnessed by criminals to launder and move dirty money.

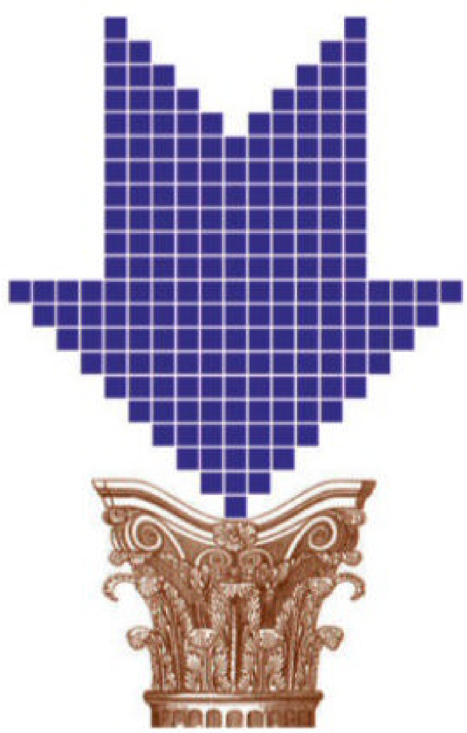
Regulators want financial intermediaries to be on the lookout for suspicious transactions, but DeFi rejects this role. The attempt to include a vague but seemingly modest provision to regulate the industry in an infrastructure bill in America, for instance, was met with howls of outrage from the DeFi crowd. Fierce resistance to regulation only fuels the perception that it is up to no good, and could strengthen regulators' desire to clamp down on flows into the on-chain world.

If DeFi does not merge with off-chain finance, it could instead thrive in a distinct world built on blockchains. Science-fiction writers have long explored the idea that people will one day live their lives—go shopping or visit virtual offices—in online metaverses like Decentraland. The parallel virtual world could also develop if the centralised tech platforms are supplanted by decentralised rivals.

The Tea Party

Imagine, for instance, a rival platform to YouTube that awards users various kinds of tokens: those that act as compensation for uploading videos, and can be scaled to reflect how popular uploads are, to attract content creators; or governance tokens, to determine how the platform is run. If the platform caught on, these tokens might rise in value, rewarding early adopters and luring new users. This sort of model is made possible because blockchains hold organisations to their promises about how their platform would work.

You could go on to imagine new models for all kinds of industries. Once an artist sells a work, she has no stake in its value. If she later gains popularity, the gains all go to the buyer. If she sold an NFT image she could retain a stake in future sales of that work, by coding into the smart contract that she will receive, say, 10% of any transaction value. This would have been far too expensive to enforce without a smart contract on a transparent blockchain.



Emily Ratajkowski, a model who has written about her inability to retain ownership over her image because photographers own all rights to pictures, has issued a selfie NFT in this way. Musicians are starting to monetise their fan base by issuing albums as NFTS or creating tokens that offer fans exclusive merchandise and front-row seats at gigs, all without intermediaries. If this activity booms, the financial system underpinning it will become critical.

This is not to say that decentralisation is always the answer. "The question to ask is: why can't I just use a centralised database? It is much simpler and faster than a decentralised system," says Dan Boneh of Stanford University. But for some problems decentralisation is the way to go. "If there is no single party that everyone trusts, then decentralisation is a good option." But, he admits, "there is greater complexity as a result."

The biggest problem is that verification by consensus can slow down systems. Both Bitcoin and Ethereum use a process called "proof of work" to verify transactions, which can consume vast amounts of energy. One way to improve the system is to use other proof mechanisms. Other workarounds exist, too. "Much of the focus today is scalability, which is achieved by touching the blockchain as little as possible," says Mr Boneh.

The incentive to become more efficient can be self-reinforcing. As DeFi usage grows the demand for verification by the blockchain also climbs, prompting a rise in gas fees. This has led developers to pursue things like "roll-ups", which group transactions together and verify the bundle via the blockchain, reducing demand and therefore the energy needed to verify transactions.

With such workarounds still being developed and attempts to create platforms in their infancy, it is speculative to think that decentralisation will take off. The problems of DeFi—not just the energy intensity of blockchains but the rampant speculation, the potential to be flooded with dirty money and the apparent resistance to regulation—all stand to deter mass adoption. Yet the potential gains from payment and digital content platforms owned and governed by their users, a more open digital economy and a more efficient financial system are vast. The hope is that it is not all just a dream. ■

ADVERTISEMENT

Germany's economy

Spinning the wheels

FRANKFURT

The warring parties' election promises are full of holes

"I HOPE YOU never have to see it like this again," says Markus Quint, communications chief for Frankfurt's Messe (exhibition centre), as he surveys 440,000 square metres of empty halls from a 22nd-floor terrace. When the pandemic struck last spring the Messe, which had welcomed nearly 2.5m visitors in 2019, had to shut for all business bar the digital sort. Worldwide revenues (the Messe has 29 subsidiaries) plunged from €736m ($870m) to €257m. Most of the 1,000-odd Frankfurt staff went on *Kurzarbeitergeld*, Germany's much-imitated furlough scheme.

As Germans prepare to go to the polls on September 26th, recovery is glinting. Mr Quint says he could have "cried with joy" in July when the Messe reopened for its first physical exhibition, a trade fair for bike-part manufacturers. Bigger shows are in the works, including a return of the famous Frankfurt Book Fair next month.

Yet the threat from covid-19 has not evaporated. In the Messe's case, border restrictions and quarantine rules make it near-impossible for what was once a large contingent of Asian and American visitors to attend the shows. Other businesses fear the return of some contact restrictions amid a fourth wave of infections and Germany's worryingly low vaccination rate.

Hiccups in supply chains present a more serious drag on Germany's recovery, says Clemens Fuest of the Ifo Institute in Munich. The global semiconductor shortage is crippling Germany's mighty carmakers. Fully 70% of all German manufacturers say they are running low on everything from aluminium to paper. Highly globalised Germany—its total trade was equivalent to 88% of GDP in 2019—is particularly exposed. Having previously forecast that the economy would reach its pre-crisis level at the end of 2021, Ifo has grown more pessimistic.

No wonder German firms are watching the election campaign with keen interest—and in some cases grave concern. Jürgen Vormann, CEO of Infraserv Höchst, a chemicals-service provider based in Frankfurt, says he fears that the next government will be zealous about climate change and so wrap business in red tape. Germany's electricity prices, Europe's highest, are a huge burden on industry. Some of Germany's influential family businesses fear tax raids. "You need not be a pessimist to anticipate that we're going in the wrong direction," says Mr Vormann.

In consensus-oriented Germany, none of the likely coalition configurations will bring economic rupture. But differences between the party platforms will make for tricky post-election negotiations, especially as polls suggest that only ideologically muddled three-way coalitions will be viable. The pro-business Free Democrats (FDP) and the conservative Christian Democratic bloc (CDU/CSU), for example, vow not to increase the tax burden, whereas the Social Democrats (SPD) and the Greens want a wealth tax and higher income taxes on the rich. All parties agree on the need to speed up climate protection, but differ strongly on the balance between market mechanisms and regulation.

This problem will interact with a more familiar one: the parties' sums do not add up. The German Economic Institute (IW) reckons that by 2025 growing demands on the state-pension system, extra defence spending and a few other fresh expenses could reach a cumulative €263bn. But of ▸▸

the main parties, only the Greens have made pledges that they say will be revenue-neutral. The FDP's tax cuts could add €75bn, roughly 2% of GDP, to the deficit. No party's manifesto will survive coalition talks. But Germany's constitutional brake on public debt, which took effect in 2016, limits annual deficits to 0.35% of GDP. All main parties bar the Greens say they wish to abide by it, yet growth alone will not generate enough cash to do so.

Parties always make dodgy claims on taxation and spending, says Thomas Obst of the IW. He is more alarmed by their failure to confront Germany's demographic challenges. As the baby-boomers retire *en masse* throughout the 2020s, subsidies to the pension system, which already gobbles up 30% of the federal budget, will rocket in the absence of reform. At a televised debate on September 12th only Armin Laschet, the CDU/CSU candidate, acknowledged the urgency of the problem. Olaf Scholz, the SPD frontrunner, brushed it aside, placing his faith in expanding the labour force.

Another test will be to meet the investment demands presented by Germany's climate targets, including extending power grids and insulating buildings. The private sector can take up much of the slack; revamping Germany's planning rules and municipal working practices will help. But some estimates put the demand on the federal budget at close to €50bn a year.

If that also seems incompatible with the constraints of the debt brake, there may be room for a political fix. True, the tweak to the brake sought by the Greens is a non-starter, as it needs a two-thirds majority in each of the two parliamentary chambers. And months before the European Commission is due to begin a review of the EU's fiscal rules, the CDU/CSU fears that assenting to German profligacy now could *encourager les autres* (see Charlemagne).

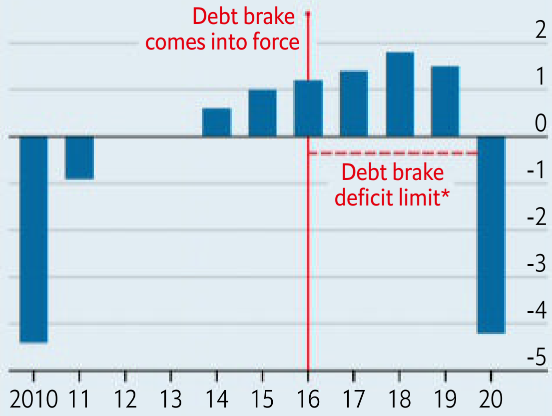
But most parties would probably stomach what Mr Obst calls the "second-best solution" of establishing off-budget investment funds that could circumvent the debt brake. And there are signs of a subtle shift. Some CDU/CSU figures have upset colleagues by questioning the rigidity of the debt brake in an era of cheap money and pressing investment needs. And while the FDP remains committed to it, Christian Lindner, the party's leader, has lately emphasised that he is not ideologically wedded to a balanced budget—a move interpreted as an overture to the SPD, currently leading the polls, and the Greens. The trio could assemble a left-leaning "traffic-light" coalition—the most plausible outcome if current polling is borne out on election day.

That illustrates a broader shift in Germany's economic debate. "Everyone knows that we have to transform Germany…and for digitalisation and decarbonisation, it's all about investment," says Otto Fricke, an FDP budget expert. The divisions between parties on budgetary planning, monetary policy and European spending seem less rigid than in the past. The public debate is more tolerant of what used to be outlandish views. As ever, the theatrics of the campaign before the election will not preclude the compromises that will, eventually, be made after it. ■

Pumping the brakes

Germany, general-government budget balance

% of GDP



Source: Eurostat

*-0.35% of GDP. Suspended in 2020

Germany's left-wingers

The spectre of the ex-Communists

BERLIN

What to make of Die Linke

EVERY TIME Olaf Scholz or Annalena Baerbock is asked about a coalition with Die Linke (The Left), a party that emerged in 2007 from the ashes of East Germany's Communist Party, they furiously beat around the bush. Mr Scholz, the Social Democratic Party's (SPD) candidate for the chancellorship, says that he needs a clear commitment to NATO from any future coalition partner. Ms Baerbock, the Green Party's candidate, says that she will talk to all democratic parties—and Die Linke is a democratic party too.

At the beginning of this month, leaders of Die Linke seemed to be courting the SPD and the Greens with an offer of a "progressive alliance" that could achieve leftist policy goals such as higher taxes on the rich and rent caps. The party even struck its oft-repeated demand to abolish NATO from its *Sofortprogramm*, its immediate policy measures. Yet in recent days the party has dispelled any impression of a more moderate course. At a televised debate on September 13th, Janine Wissler, the co-head of Die Linke, proclaimed again that her party wants to dissolve NATO and turn it into a collective security alliance that includes Russia. When asked how the Left could possibly be part of a coalition government while holding such a policy, she replied that foreign policy consisted of more than just NATO.

The reason Mr Scholz, a moderate who is Germany's finance minister and vice-chancellor, is not categorically excluding a coalition with Die Linke is strategic: it could be a useful chip in talks with the Free Democrats (FDP), a liberal party, about a "traffic-light" coalition with the SPD and the Greens. But if his party gets more votes than any other party, as the polls predict, Mr Scholz will need the approval of the SPD's 400,000 members for any coalition he might put together. And the party faithful are more favourable to Die Linke than he is. In 2019 Mr Scholz was soundly defeated in the race for the SPD chair by Saskia Esken and Norbert Walter-Borjans, who both belong to the party's left wing.

Ms Esken, in particular, is a fan of a potential coalition of her party with Die Linke and the Greens. She is rarely in the limelight: the SPD is doing much better than expected by focusing the campaign solely on Mr Scholz, who is by far the most popular of the candidates for the chancellorship. The Berlin commentariat even speculated that the SPD is hiding Ms Esken after she cancelled an appearance on a popular talk show at the last minute, but was spotted at a chip stand next to the studio.

Even so, after an election victory the left of the SPD will presumably want its pound of flesh. Those who advocate a coalition with Die Linke argue that the SPD has far more domestic policies in common with it than with the FDP, in particular over economic and fiscal matters. And the SPD has already, after all, found itself in coalition with a party that at the time demanded the abolition of NATO, when in 1998 it got into bed with the Greens. Not long after that first federal red-green coalition government was formed, Germany joined NATO's ▸▸

Wissler versus NATO

deployment in Yugoslavia, after a lot of soul-searching by the Greens' leader at the time, Joschka Fischer.

At the previous general election Die Linke got 9% of the vote. This time it is again forecast to cross (but perhaps only just) the 5% hurdle needed for representation in the Bundestag. It is riven by infighting between more moderate "reformers" and more radical factions."I am very sceptical that Die Linke will compromise enough to be part of the next government," says Julia Reuschenbach, a political scientist at Bonn University. No one ever said that coalition-building was easy. ■

French covid-19 passports

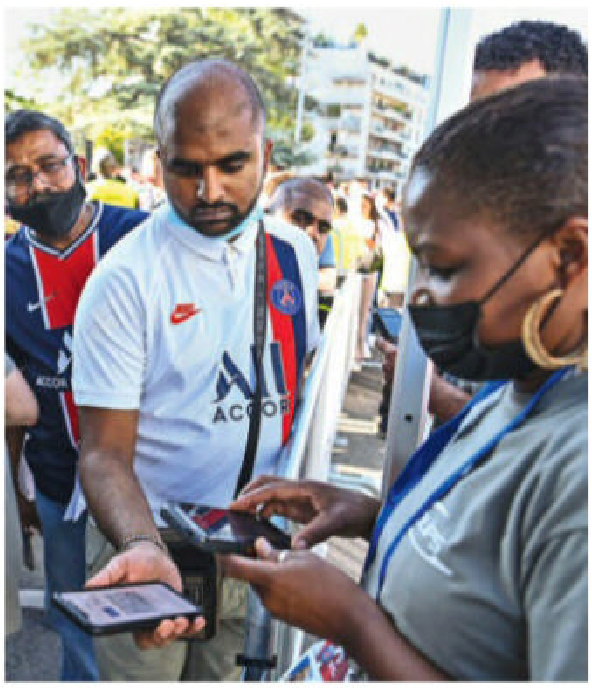
Le nudge

PARIS

The remarkable collapse of French vaccine hesitancy

ACROSS EUROPE this summer, vaccine take-up began to slow after the willing got their covid-19 shots. Persuading the hesitant was always going to be harder. Few places looked more challenging than France. In December 2020 61% of the French said they would not get jabbed—twice the share in America. Yet what happened this summer has become a case study in how to nudge a reluctant population.

On July 12th, to general surprise, President Emmanuel Macron announced the introduction of a covid-19 passport. Only those who were fully vaccinated, or had a negative test result, would be allowed into cinemas, sports stadiums, restaurants, bars, shopping centres and nightclubs, or on long-distance trains and flights. Employees in such places would also need the *pass sanitaire*—a QR code, in either digital or paper form—or face suspension. Vaccination would be compulsory for health-care workers. Mr Macron was taking a big gamble. He risked further dividing the country, and provoking the sort of national rebellion for which the French are famed.



Nothing to shout about

The outcry was indeed instant. Politicians of all stripes denounced the measure as discriminatory. Marine Le Pen, who has remodelled herself as a champion of liberty (though she is not an anti-vaxxer), called it a "serious violation of individual freedom", and voted against in parliament. A Green politician likened the covid-19 pass to apartheid. In the National Assembly, a heated debate on the measure lasted until dawn. On successive Saturdays throughout the summer, up to 240,000 demonstrators took to the streets, accusing Mr Macron of running a dictatorship, and worse.

Yet despite this rumpus the majority of the French masterfully demonstrated that it is usually a mistake to believe what they say in polls. In the hours following Mr Macron's announcement, over 1m people booked vaccination appointments. In the four weeks that followed, when the French are usually lying on the beach, nearly 10m extra people got a first jab. Even the controversy proved short-lived. By the end of August 77% of the French told a poll they approved of the pass for travel, and 64% did for access to restaurants and bars. Only 34% supported the anti-pass demos.

Mr Macron's bet was only partly about the intrinsic value of a covid-19 pass. Indeed anecdotal evidence suggests that checks on implementation have been light, rather than punitive. Nor is it a full vaccine mandate: tests remain an alternative to a jab, although from October 15th these will no longer be free. The hope rather was that the pass would provide *un nudge* to accelerate vaccination take-up, in order to ease pressure on hospitals as the Delta variant spread. In this sense, it has been spectacularly successful. By September 15th 74% of the population (and 88% of the over 12s) had received at least one dose, up from 54% on the day of Mr Macron's announcement. This figure is now higher than in America, Britain and Germany.

France is not the only European country to use a covid-19 pass both as a public-health measure and a boost to vaccine roll-out. Denmark introduced a compulsory *coronapas* in April, for access to such places as restaurants, sports centres and hairdressers. Italy, like Greece, has made vaccination compulsory for health workers. It is now extending the list of jobs which require a "green pass" from teachers to other school workers and nursing-home staff.

So far Germany has been an outlier. Vaccination take-up there has stalled at a lower level than in other countries, whereas daily deaths are on the rise. Yet the authorities are reluctant to impose unpopular vaccine mandates in the heat of a federal election campaign. Two leading candidates for the chancellorship, Armin Laschet and Olaf Scholz, publicly oppose them, even for health-care workers.

If acute cases continue to rise once the election is over, however, Germany may find it has to think again. France shows what covid passports can do for jabs. Denmark also demonstrates that they need not last for ever. With 86% of over-12s now fully vaccinated, and the daily caseload manageable, the Danes decided on September 10th to suspend the requirement to show a *coronapas* altogether. ■

Russia's elections

The voters are getting smarter

MOSCOW

The Kremlin is finding it hard to crush the opposition online

PRESIDENT VLADIMIR PUTIN has every reason to be angry. He has tried to poison Alexei Navalny, Russia's opposition leader. He has locked him up in one of Russia's harshest penal colonies. He has outlawed his anti-corruption foundation. He has chased his comrades out of the country and barred his allies from standing in elections. And yet, after all this, Mr Navalny and his movement are still featuring at the heart of the elections to Russia's Duma (its parliament) on September 19th.

On the surface, the political field is entirely Mr Putin's. The only parties allowed to run, including the Communists and Yabloko, an innocuous liberal outfit, have been sanitised by the Kremlin. With the media muzzled and repression and censorship the main tools of campaigning, the Kremlin-backed United Russia's win is a given. Yet under the surface a drama is unfolding, as the Kremlin frantically fights Mr Navalny's effort to awaken and co-ordinate voters

The Kremlin has been hoping that most Russians, assuming the election is a foregone conclusion, will take no interest in it. If they stay at home, United Russia should win hands down, since a solid bloc of state workers, pensioners and members of the armed forces will be cajoled into voting for it. If the turnout is low, the need for blatant rigging would be avoided, along with the risk of mass protests.

At the same time, the Kremlin is urging people, especially in Moscow where United Russia is particularly weak, to vote online, making it easier for the authorities to snoop on them and to control the process. It even appears to have hacked into the database of an online liberal media organisation, sending its readers a message telling them to boycott the elections.

Yet Mr Navalny's campaign to stir up and consolidate a protest vote, from his prison cell, is hurting Mr Putin. Pollsters give United Russia less than 30% of the vote. The Kremlin is particularly rattled by Mr Navalny's call for people to follow his strategy of "smart voting". Half the Duma seats are allocated by party list, so the opposition leader is calling on his supporters to vote for any parliamentary party other than United Russia, to knock them back.

The other half of the seats are first-past-the-post, so here the smart-voting team, using its own polling data and analysis, has endorsed the likeliest candidate to beat the United Russia one, regardless of their views. Its main aim is to deprive United Russia of a big majority, and so weaken its control over electoral commissions across Russia. That would allow more leeway to the opposition in places where it is relatively strong, such as Khabarovsk, in the far east. Smart voting has worked in various local elections, including in Moscow in 2019, when United Russia did poorly.

Russia's internet censor has duly blocked the smart-voting website and ordered Google and Yandex, Russia's main search engine, to block the combination of two words—smart voting—in its searches. Yandex has obeyed but Google has not, incurring a fine. The Kremlin has accused it of "interfering in Russia's elections".

Anticipating such blockages, the Navalny team has created a smart-voting app. The internet censor has ordered tech giants, including Apple, to remove it from their stores. It has even ordered VPN and website-security providers to prevent downloads, apparently to little avail.

Journalists are being arrested for re-posting mentions of smart voting in their social-media accounts. Human-rights lawyers are being targeted. Popular bloggers are being threatened with house arrest for breaking covid-related rules which almost nobody follows. There is Soviet-style intimidation offline, too. Hundreds of people across Russia have reported visits by plain-clothes police asking questions about Mr Navalny and warning of dire consequences if they support him.

Kirill Rogov, a political analyst, says that smart voting has, in effect, become a political party. "It's not the name or registration that defines a party, but its ability to consolidate voters and influence the outcome of the elections," he says. The Kremlin's power has rested on two pillars: its monopoly of information and the threat of repression. But the spread of fast mobile internet has changed Russian politics. The Liberal Mission Foundation, a think-tank based in Moscow, reckons that the share of people who get their news online has shot up from 18% to 45% in the past five years. Hence 70% of Russians know about Mr Navalny. His YouTube channel has about as big an audience as the news on a large state-run TV channel. Whatever the result of the election, the war over the internet is only going to get nastier. ■

Edible insects

A bug's life

The EU lets farm animals and people eat insects

FIRST IT WAS pets, then fish. Now it's poultry and pigs. The list of animals allowed to feed on insects is growing. A new EU law authorising the use of insect protein in poultry and pig feed came into force earlier this month, a significant milestone for an industry keen to worm its way into the animal-feed business.

Since a ban on processed animal protein was imposed in 2001 in the wake of the "mad cow" crisis, soy and fishmeal have become the bedrock of animal feed in Europe. But their production needs lots of space and can be harmful to the environment, so feed manufacturers are looking for alternatives.

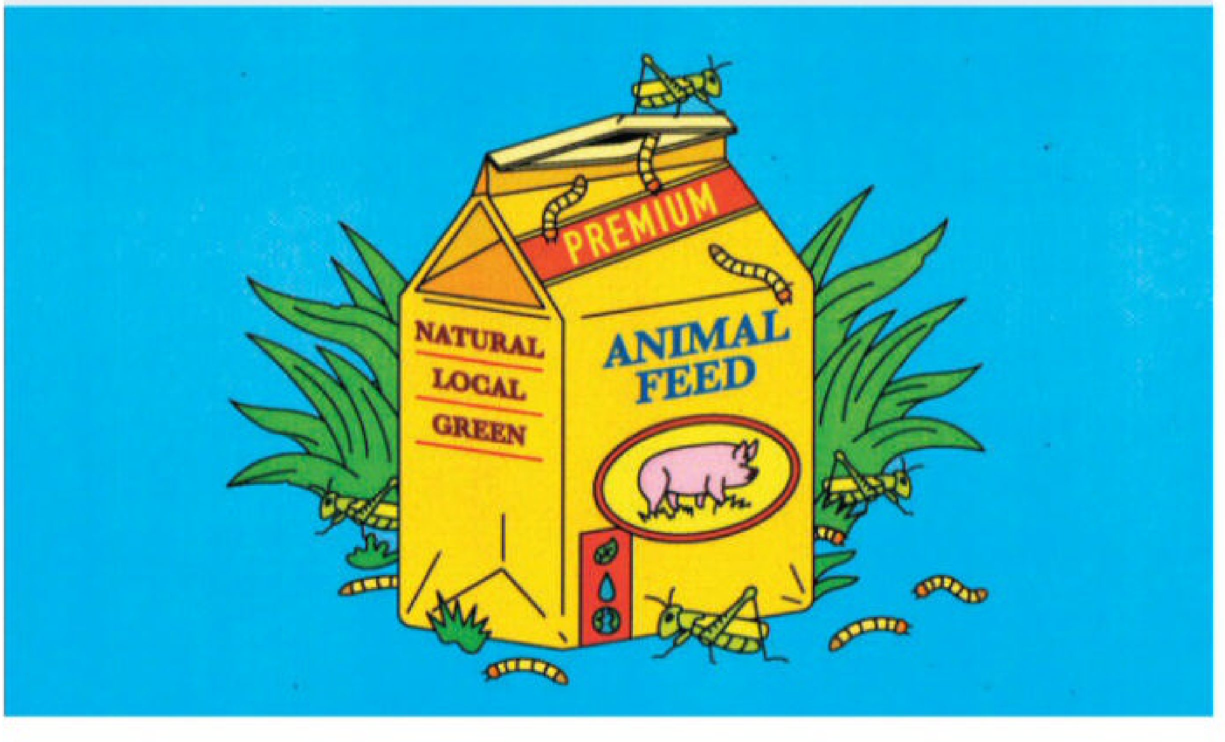
Insects are just the ticket. They are reared in vertical farms that require little land or water, and they can be fed on agricultural by-products or food waste such as rotting fruit and vegetables. They're also a natural fit. Most wild fish, birds and pigs eat insects.

The one thing going against them is price: insect protein is two to three times more expensive than fishmeal, and many times pricier than soy. Scaling up production may help reduce the disparity. Rabobank, a Dutch lender, predicts that global insect production will reach 500,000 tonnes a year by 2030, up from just 10,000 tonnes currently, and that prices will tumble.

Insect companies have worked hard on their pitch. Research suggests insects may be more than mere feed, boosting growth rates and immune systems as well as filling stomachs. They also offer the prospect of a green, local protein.

Poultry and pig feed are by far the largest animal-feed markets, but they're more competitive than food for pets or fish. For that reason, says Antoine Hubert, CEO of Ÿnsect, a mealworm (beetle larvae) firm, insect protein will probably be used only in premium meat at first.

This year the European Food Safety Agency has ruled that three species of insects (yellow mealworm, locusts and house crickets) are safe for humans to eat as well. Oddly, people seem less keen on the idea than chickens and pigs.



Charlemagne | The Dull Man theory of history

A row about fiscal policy has far more than just numbers at stake

EVEN THE hardiest of EU veterans find the gatherings of its finance ministers tough-going. "Soul-crushing" is the verdict of one regular attendee. The EU's bean-counters are not given their roles for their personalities. When EU leaders meet, there is a sense of history being made; when finance ministers gather, there is a sense of life ebbing away.

Yet it is the dull men and women of Europe's finance ministries who hold the continent's fate in their hands. A debate on reforms to the Stability and Growth Pact, which regulates government finances in the bloc, will set the path of the club for decades. It will reveal where power in the EU truly lies, how it will cope with the climate crisis and even whether the EU can retain any global clout. "The history of the world is but the biography of great men," wrote Thomas Carlyle, a 19th-century historian. The future of the EU will be the biography of dull ones. Call it the Dull Man theory.

The crux of the debate is simple. As it stands, EU countries should have government debt no greater than 60% of GDP and a budget deficit no larger than 3% of it. If breached, a government must come up with a plan to return to fiscal sobriety. When the principles were first outlined in the 1990s, this seemed a worthy goal. In 2021 it is a bizarre joke. The average debt to GDP in the euro area is about 100%. In Italy it is 160%. Even Germany busts through the limit with 70%. Europe's fiscal corset has no strings.

There are a few ways of changing it. The first involves altering the EU's treaties and entering targets more appropriate for economies battered by a financial crisis, a euro-zone crisis and a pandemic in just over a decade. The second would keep 60% and 3% as the ultimate destination, but change the speed at which countries must hit their targets. The third option is a wily sleight of hand. The European Commission, the referee when it comes to spending, could be allowed to alter its interpretation of the rules. A final option is not to change it all, but allow rule-busting spending in certain areas, such as environmental policy.

Just as history's Great Men once did battle, the EU's Dull Men are set for a long bureaucratic trench war. Who comes out on top in the coming year will say a great deal about the union. An alliance of countries is opposed to loosening the rules too much. A group of eight of these frugal types, including the Netherlands and Austria, along with a mishmash of Scandinavians, Latvians and Czechs, have signed a letter demanding that strict rules are retained. These countries, spread across the continent's north and east, pride themselves on healthy finances.

Their debts are small but so are they. Combined, the eight have a population only the same as France. Yet the EU has historically boosted the power of Europe's tiddlers. When it comes to changing the EU's treaty, a single country can veto it. Even if the vote is settled by a qualified majority, as the more technical tweaks would be, a charge of the Lilliputians can still hamper progress.

On the other side of the debate, the biggest Brobdingnagians are slowly starting to assert their will. A recovery fund of €750bn ($890bn), including €390bn in grants—in effect, cash transfers from rich EU countries to poorer ones—was seen as a victory for Europe's south. A gang of countries led by France, Italy and Spain pushed hardest for it. (Germany permitted it, rather than supported it.) It was, however, the first time for ages that southern Europe had its way, fiscally at least. If they manage the same trick with the spending rules, it will suggest a more permanent shift.

Dull Man theory has a bias towards compromise. Officials and wonks have a solution: rather than alter the rules, bypass them. A "green fiscal pact" would let governments spend freely on environmental measures, argues Bruegel, a think-tank in Brussels. It would provide wiggle-room for the likes of Olaf Scholz, perhaps Germany's next chancellor, who has ruled out rewriting the rules.

Such deals are how the EU functions, via compromises where everyone can claim victory. The hawks can say the rules have not changed; the doves can go and spend the money anyway. Neither would this mark a wild shift of competence for the commission. It has already taken on a role as a fiscal Greta Thunberg, giving a yay or nay to government spending plans in the €750bn recovery fund based in part on whether they are green enough.

The grey men go green

A carve-out for greenery would enjoy wider support than previous attempts to get around the rules. France often argued, to no avail, that since its military adventures were for the benefit of all Europe, such spending should be exempt. Not all EU countries send soldiers to the Sahel, but all face big bills if they are to slash emissions to 55% of levels in 1990, as promised. A deal on green spending can surely be done without anyone getting too excited.

But a trickier debate will emerge as climate science and economics collide. If the costs of the green transformation are limited, then any fiscal leeway should be small. If they are large, then a more fundamental shift in EU fiscal policy is needed. A paper by Bruegel suggested annual government spending of an extra 0.5% to 1% of GDP would be necessary; others suggest much more will be needed. The planet's future rests in part on a fight over a few percentage points on a spreadsheet.

It it this dull battle that will determine the EU's role in the world. EU leaders may fret about the club's global influence, focusing on sexier topics such as the Indo-Pacific and the bloc's future military capability. But the debate about spending will be more consequential. Whatever power the EU wields is, ultimately, because of its economic weight. Italy, its third-largest economy, has struggled to grow for two decades, partly because of a fiscal straitjacket. Fixing the EU's internal economic problems—whether via green spending or diplomatic struggle—will do more for the EU's global power than its geopolitical schemes. In the EU, dullness is destiny— and it is the Dull Men who shape it. ■

The Labour Party

Après le déluge, moi

Sir Keir Starmer, Labour's leader, wants to be a post-populist prime minister

In 2019, when Labour's vote collapsed, Deborah Mattinson headed north to listen. Throughout the New Labour era she had run focus groups of swing voters. What car would Labour politicians drive? What did they drink and smoke? But she had not tested opinion in "red wall" seats in the Midlands and northern England, home to voters who had been among Labour's most reliable before Brexit drove them into the arms of the Conservatives.

In a book published last September Ms Mattinson offers detailed studies of new Tory voters in three former Labour seats to help rectify that omission. And she offers some advice for Sir Keir Starmer, who became leader after that drubbing. He must introduce himself clearly, prove Labour's economic competence and show that his party is serious about the fate of provincial towns. Above all, he must set out a positive, patriotic vision. In the words of Colin, a bricklayer from Stoke-on-Trent whom she interviewed: "Show us the Britain they want to see and the Britain they believe in."

Ms Mattinson is now Sir Keir's director of strategy. But his supporters worry that Colin has not been answered. Labour's agenda must be clarified now, says a shadow minister, in order to sell it to constituents before a general election expected as early as 2023. Both Labour's and Sir Keir's ratings are poor (see chart on next page). Covid-19 has robbed him of opportunities to campaign and influence the news agenda. A lot rides on his address to the party's conference in Brighton on September 29th.

Supporters of Jeremy Corbyn, who led Labour into the disastrous 2019 election, see Sir Keir, formerly Britain's public prosecutor, as an empty suit devoid of ideological conviction. That is unfair. Starmerism is distinctive as an approach to leadership, a political culture and a diagnosis of Britain's faults. And the man himself is best defined as a post-populist leader.

Sir Keir's leadership follows two populist revolutions: as Labour voters were repelled by Mr Corbyn's hard-left populism and lured by Tory Brexiteers, they delivered the party its lowest tally of MPs since 1935. Post-populism is a bet that voters are nauseous after the tumult, and hankering for stability and professionalism. Focus groups suggest that Mr Johnson's new voters do not dislike him, but doubt his ability for office. Labour's refrain will be: "Serious times need a serious person."

Behind the appeal of any populist movement, says a friend of Sir Keir, is the belief that life couldn't be any worse if everything was thrown up in the air. One task of a post-populist is to pick up the pieces, which requires a "quiet, unflashy decency and competence". Sir Keir is a defender of institutions such as the civil service and judiciary that are routinely bashed by ministers.

Another is to bury the past. Sir Keir, a leading opponent of Brexit, is now reconciled with leaving the trade bloc, and would seek merely to facilitate the movement of people and goods between it and Britain. He has worked to weed out the far-left fringe groups, and the anti-Semitism, that flourished under Mr Corbyn.

No plain sailing

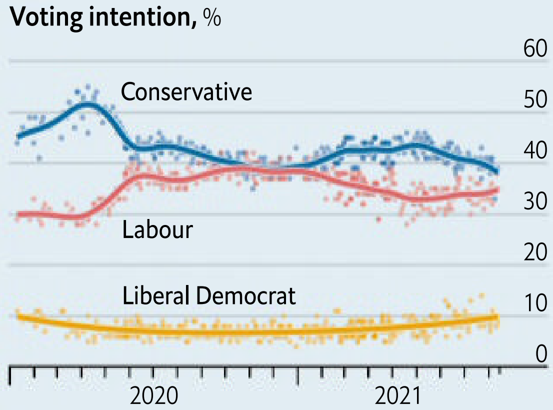
A third task is to tackle the discontent that fed populism in the first place. Sir Keir sees Britain's biggest problems as insecure work and the hollowing-out of public services, both of which were cast into sharp relief by covid-19. Rachel Reeves, the shadow chancellor, likens parts of Britain to the flyover states that voted for Donald Trump or the provincial France that produced the *gilets jaunes*, in part because they had been denuded of skilled jobs by globalisation.

Labour's plans include stricter employment laws and a higher minimum wage. It ▸▸

Under water

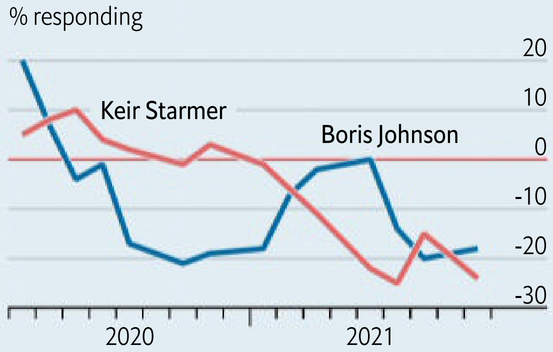
Britain

Voting intention, %



Net favourability of political leaders

% responding



Sources: BMG; Deltapoll; Ipsos MORI; Kantar; NCP; Opinium; Redfield and Wilton; Savanta ComRes; Survation; YouGov

seeks to restore pride and dignity to work, Sir Keir told trade-union leaders on September 14th. He is hawkish on crime, particularly on teenage tearaways and sex offenders. This stance combines criticism of the impact of austerity on policing with an appeal to socially conservative voters. Much of his economic agenda is reminiscent of Mr Corbyn's. (Labour is still committed, in principle, to nationalising utilities.) That it sounds different is down to his director of policy, Claire Ainsley, who argues that left-wing parties need to express their agendas through moral values: family, fairness and hard work.

All these elements of Starmerism can be divined from the speeches and writings of Sir Keir's inner circle. And he will set them out in finer detail in a 14,000-word essay due to be published before the party conference. What alarms his colleagues is that this philosophy lacks a slogan, or even a policy shortlist. One party official calls it "a jigsaw with many pieces and no picture". Labour must learn from the Tories, says the shadow minister, and sell its message by repeating a handful of key propositions to the point of exhaustion.

And beyond the philosophy lie two further questions, upon which Sir Keir's electoral chances depend. The first is whether he has the flair and daring to seize the agenda when opportunity arises, like Tony Blair, Labour's great election-winner. The second, and larger, is whether the populist moment has passed. Are Britons really yearning for a safe pair of hands? ■

Covid-19

Living with it

The government accepts that it cannot defeat the virus

ONCE UPON a time, no speech by Boris Johnson was complete without a promise to "defeat the coronavirus". Yet his address on September 14th setting out his covid-19 plans for the winter ahead was a more modest affair. The best the prime minister could come up with was a vow to "turn jabs, jabs, jabs into jobs, jobs, jobs".

Britain is no longer at war with the coronavirus. Instead, it is working out how best to manage its presence. Its aim is to keep the economy open while saving hospitals from being overwhelmed, which in recent months has meant accepting a high case rate (see chart).

That has been possible only because a quick and well-targeted vaccine roll-out has kept deaths at European rather than American levels, dampening public concern. According to Public Health England, immunisation has prevented nearly 25m infections and more than 110,000 deaths.

Despite the start of the autumn school term, and predictions that children mingling would increase infection, case numbers appear instead to be falling. But the worry is that they will rise once more during winter—just as the health service comes under the most pressure. Thus the government announced tweaks to its vaccination programme: first jabs will be offered to 12- to 15-year-olds, and boosters to the vulnerable and over-50s.

Both calls were made later than in many other rich countries. The government's advisory committee on vaccination held off on recommending jabs for youngsters, arguing that although the health benefits were marginally greater than the known harms, the uncertainty was unacceptably high. On September 13th Britain's chief medical officers advised the government to proceed nevertheless, because of covid-19's impact on children's education and mental health.

The decision to offer booster shots was made in response to evidence of waning protection, particularly among the elderly and vulnerable. In offering top-ups, Britain joined America, Germany and Israel in ignoring the World Health Organisation, which argues that the jabs would be better used in countries where vaccination rates are low. Early evidence from Israel suggests boosters are at least successful in increasing protection.

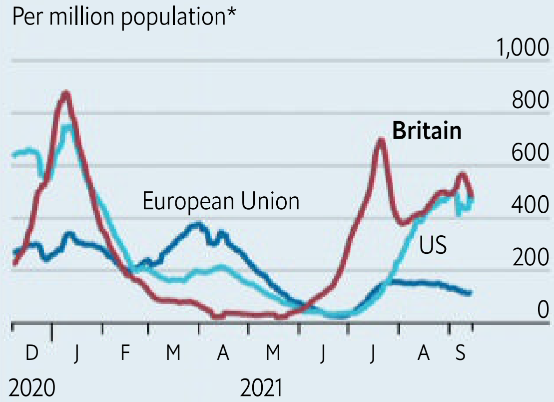
The hope is that these decisions will enable Britain to avoid future restrictions on behaviour. Sajid Javid, the secretary of state for health and social care, announced that the government had rethought plans to introduce vaccine passports. The U-turn was not because of changing evidence regarding their effectiveness, but because of party management. One backbencher argued that passports would set a "dangerous precedent for the advance of the bio-security state". Others are simply tired of covid-19 impositions.

Ministers have, however, kept open the option of requiring passports in nightclubs and crowded stadiums, and of reintroducing compulsory masking and advisory working from home, should cases rise to dangerous levels in winter. These changes could be implemented "at short notice in response to concerning data". But the government's plans include no mention of the lockdowns that have plagued the past 18 months. ■

Down but not out

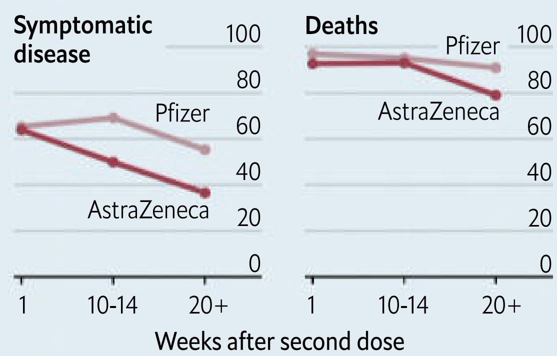
Covid-19, new confirmed cases

Per million population*



Britain, efficacy of covid-19 vaccines

Among population aged 65+, %



Sources: Our World in Data; Public Health England

*Seven-day moving average

Bagehot | Rebooting Johnsonism

Boris Johnson has carried out his first major cabinet reshuffle since the general election

Reshuffles briefly turn parliamentary systems into autocracies. Prime ministers get to play tyrant for a day. Cabinet ministers are reduced to whimpering poodles. Junior ministers and ministerial bag-carriers throw themselves at the feet of the great man in the hope of preferment. The only answer to the prime-ministerial "jump" becomes "how high?"—which is why Boris Johnson chose to carry out his first big reshuffle while he is pushing through two of his most controversial bits of legislation: raising national insurance, a payroll tax, and cutting universal credit, a handout for the jobless and low-paid.

The prime minister has been relatively sparing with reshuffles, despite constant carping (including from this columnist) that he has surrounded himself with political pygmies. He marked taking office in July 2019 with a spectacular purge, getting rid of almost 20 senior ministers who were deemed unsound on Brexit, but has since largely reacted to events, notably Sajid Javid's resignation as chancellor and Matt Hancock's departure from health after breaking lockdown rules to carry on an extramarital affair. On September 15th he took the initiative. He sacked Gavin Williamson, the education secretary; Robert Buckland, the justice secretary; Robert Jenrick, the housing secretary; and Amanda Milling, the party chairman. He demoted the foreign secretary, Dominic Raab, to justice, throwing him a bone in the form of the title of deputy prime minister. He promoted Nadhim Zahawi from vaccines minister to education secretary and Nadine Dorries from a junior job at health to culture secretary. And he moved several people sideways, most notably Michael Gove from the Cabinet Office to housing and Oliver Dowden from culture secretary to party chairman.

The aims were to burnish Mr Johnson's authority and re-galvanise his government. He has succeeded in the first. Over the summer, there was plenty of talk that he was treading water. One former cabinet minister compared him privately to Henry VIII surrounded by courtiers waving petitions, and incapable of deciding between them. Another senior Tory worried that the departure of Dominic Cummings, the adviser who masterminded Brexit and helped Mr Johnson to power, had excised not just the craziness but the dynamism from the heart of government. There was plenty of speculation that the prime minister was bored by his job and craving the lotus-eating life on the other side of high office. By making the risky decision to raise taxes, and directing ministers up, down and sideways, he has shown who is in charge.

Whether he has re-energised his government is less clear. The criticism of Mr Johnson most often heard is that he rates competence lower than loyalty—both to the Brexit project, and to himself. This reshuffle put paid to that idea. The sacked and demoted included several close allies. Mr Williamson helped run his leadership campaign. Mr Raab was a hard-line Brexiteer and stood in for the prime minister last year when he was incapacitated by covid-19. Mr Jenrick was one of a trio of influential MPs, along with Rishi Sunak, the chancellor, and Mr Dowden, who backed him early in his leadership campaign and helped sell him to Conservatives beyond the Brexit fever swamps. Ms Milling is one of his biggest fans. But all had demonstrated incompetence. Mr Williamson messed up everything he touched. Mr Raab stayed on holiday during the chaotic withdrawal from Afghanistan. Mr Jenrick broke rules over a billion-pound housing development. Mr Buckland and Ms Milling were generally lacklustre.

But getting rid of failures is not the same as promoting stars. Some of Mr Johnson's decisions are debatable. Liz Truss, who has been promoted from trade to the position of foreign secretary, certainly brims with boosterism—and Mr Raab will not be a hard act to follow. But does she possess the gravitas or diplomatic nous desirable in a foreign secretary? Ms Dorries, a hardened culture warrior, will delight the Conservative base, but possesses neither the technical knowledge required to deal with the tricky regulatory issues that come before the culture department nor the sophistication to sell one of Britain's most successful industries abroad.

Mr Johnson was on safer ground with education and housing, both essential to "levelling up"—his as-yet amorphous promise to spread prosperity to left-behind places beyond London and the south-east. The education system is badly bruised after two years in which schools have repeatedly closed, tests have been replaced by algorithms and grade inflation has soared. It will benefit from the talent for problem-solving that Mr Zahawi displayed as vaccines minister. The housing department has for too long been in thrall to big developers and NIMBYish lobbies. Mr Gove, who will now lead it, is a reformer with the intellect to think tough problems through, the eloquence to present the case for change even when he is under fire, and the cussedness to shake up Whitehall and take on pressure groups. Crucially, he will add overall responsibility for levelling up to his portfolio.

Moving and shaking

The great question about any reshuffle is whether it is worth the disruption. The mere rumour that one is on the cards paralyses Whitehall. A sudden change of ministers means that neophytes must master complicated briefs in no time: the big spending departments are in the midst of tense negotiations with the Treasury. Disappointed ex-ministers return to the backbenches to brood—a particular danger in the case of Mr Williamson who, as a former chief whip, knows where the bodies are buried.

But on balance, this one was worth it. Mr Johnson has stamped his authority on his party and demonstrated that he will not stand for incompetence in his team. And he has directed some of his best talent at the problems that are likely to define his time in office: fixing education after the pandemic, solving the housing crisis and, more generally, spreading prosperity and revitalising parts of the country that have been too long neglected. ■

Diplomacy in the Middle East

Less battle, more banter

DUBAI AND ISTANBUL

Exhausted from conflict and eager for growth, Middle Eastern rivals try talking

It was a surprising choice for a summer holiday. On August 18th Tahnoon bin Zayed, the national-security adviser of the United Arab Emirates (UAE), turned up in Ankara to meet Recep Tayyip Erdogan, the president of Turkey. The countries have been at odds for years over Mr Erdogan's support for Islamist groups around the Middle East. Turkish officials accused the UAE of abetting a failed coup in 2016. But none of that was mentioned in the official statement after their meeting, which talked instead of economic co-operation.

A week later Sheikh Tahnoon met the emir of Qatar, becoming the most senior Emirati official to visit Qatar since the UAE and three other Arab states imposed an embargo on it in 2017. Again, there was cheery language about co-operation. The sheikh is one of the UAE's most influential figures, a brother of Muhammad bin Zayed, the de facto ruler. His visits were a sign of a shift in Emirati foreign policy. It is not the only country changing course.

There are two main faultlines in today's Middle East. One pits the Gulf states and Israel against Iran and its allies. The other runs between countries such as Turkey and Qatar, which are sympathetic to Islamists, and Egypt and the UAE, which are not. These schisms have fuelled conflict in the Levant, Libya and Yemen, and less bloody disputes elsewhere.

Over the past five months, though, long-standing foes have embarked on a rush of diplomacy. Saudi Arabia and Iran started a dialogue in April. Turkey has sought to repair ties with Egypt, which soured after the Egyptian army overthrew an Islamist-led government in 2013 (Mr Erdogan was a vocal critic of the coup). Qatar and Egypt, which fell out for the same reason, are back on speaking terms. Egypt even allowed Al Jazeera, a Qatari satellite television network with an often pro-Brotherhood stance, to reopen its Cairo bureau, which was closed after the coup.

The capstone was a summit in Baghdad on August 28th that brought together officials from Egypt, Iran, Qatar, Saudi Arabia, Turkey and elsewhere. Though it ended with no concrete agreements, the act of talking was a breakthrough in itself: many participants would have been loth to attend such a gathering not long ago. Optimists hope these meetings may signal a thaw and a possible end to the region's ruinous disputes. The Middle East is a cruel place for optimists—but in this case, their hopes may not be entirely misplaced.

The Saudi-Iranian feud, which reshaped the region after 1979, has settled into a frozen conflict over the past four years. In part that is because of Iran's success, and Saudi Arabia's failure, at exerting influence abroad. The Saudi crown prince, Muhammad bin Salman, made a series of foreign-policy blunders during his early days in power and has since shifted focus to transforming the oil-bound economy.

After pursuing its own aggressive foreign policy, the UAE has also begun to seek detente. Officials in Abu Dhabi, the capital, say this was a side-effect of covid-19. "It made us understand… that we had to turn back home and let go of certain kinds of en-

→ Also in this section

gagements in the broader Middle East," says an Emirati diplomat.

Introspective as it may sound, that is an *ex post facto* justification: the UAE began withdrawing troops from Yemen in 2019, months before the pandemic. The war had become a quagmire, while Emirati support for an anti-Islamist warlord in Libya ended in defeat (largely thanks to Turkish intervention). An activist foreign policy yielded few gains; better to focus on an economy which, although more diversified than those of its neighbours, is still unprepared for a looming energy transition away from oil. Ahead of the country's 50th anniversary in December, officials are busy announcing a raft of economic initiatives.

Turkey has reached similar conclusions. Its economy has been hamstrung by 19% inflation, weak foreign investment and a long currency crisis. Regional feuds, not to mention disputes with America, the EU and Greece, are not helping. "The economy needs de-escalation," says Galip Dalay of Chatham House, a think-tank in London. It also needs cash. Emirati investors might provide some. The lira's devaluation means foreigners can snatch up Turkish assets at bargain prices.

Turkey also hopes to cash in on normalisation with Egypt. Despite their estrangement, trade between the countries reached nearly $5bn last year. Turkish officials say the potential is much higher. But mending fences with Egypt would also pay political dividends. Egypt, together with the EU, America and Israel, has sided with Greece and Cyprus in a dispute with Turkey over drilling rights in the eastern Mediterranean. Mr Erdogan's government thinks a deal with Egypt can help it break out of its isolation, so it is trying to negotiate one.

All of this would be quite a U-turn. Yet by now there are hardly any Islamists left to support. Abdel-Fattah al-Sisi, Egypt's dictator, has ruthlessly dismantled the Brotherhood. Even in countries where Islamists are free to compete in politics, their popularity is waning (see article on next page). For Turkey and Qatar, the costs of continued confrontation with Egypt and the UAE are great, the benefits slim.

Disputes with Iran are harder to solve. The regime in Tehran will not negotiate away its hard-won influence in the Arab world. Instead the Gulf states may seek only to secure their own backyard. They became keenly aware of their vulnerability after Donald Trump's "maximum pressure" campaign led Iran to sabotage oil tankers in the Persian Gulf and supply drones and missiles for a surprise strike on Saudi oil facilities in 2019. A wider conflict would be ruinous. Officials fret, for example, that a well-placed salvo of missiles aimed at desalination plants could render the Gulf unliveable within days.

In their own ways, then, everyone enters these talks from a position of some weakness. The Gulf states are wealthy but brittle, whereas Iran and Turkey are muscular but broke. The Baghdad summit ended with a joint statement pledging "non-interference in the internal affairs of countries"—ironic, since the participants are notorious for interfering. They are unlikely to stop. Regional diplomacy is thus little comfort for citizens of places like Lebanon and Iraq, which barely exist as sovereign states. These are talks between autocrats keen to protect their own grip on power and boost their economies: not peace in our time, only within our borders. ■

Teaching Arabic to Arabs

No book at bedtime

When it comes to teaching its own language, the Arab world fares poorly

GOD, SAYS the Koran, chose Arabic for his revelation because it is easy to understand. But many of the world's 470m Arabic-speakers beg to differ. According to a report by the World Bank, almost 60% of ten-year-olds in Arabic-speaking countries (and Iran) struggle to read and understand a basic text. Despite decades of investment in education, the Middle East and north Africa still suffer from what the report calls "learning poverty". "School systems don't see the importance of engaging kids in reading—or don't know how," says Hanada Taha-Thomure, one of the authors. "It creates a gap between children and their language. Many can't read or write an essay."

The root of the problem is bad teaching.

Get them some manga

Arabic lessons are dull and focus on fiddly grammar. Classrooms often have no printed material. Few schools have libraries. Teachers tend to lack "sufficient mastery of the language itself", says the report. In universities across the region, Arabic departments, along with religious studies ones, attract students with the lowest grades.

In Morocco almost 60% of teachers of ten-year-olds have no higher education. Only Bahrain has a teacher-training college that specialises in teaching Arabic. Teachers tend to be traditionalists, sometimes resorting to beating. Children "don't love the Arabic language because not even 1% of teachers are reading stories to their students for pleasure," said Ms Taha-Thomure, a professor at Zayed University in the United Arab Emirates (UAE).

Some blame the language itself. Pupils are taught Modern Standard Arabic (MSA), the formal tongue of officialdom, yet they grow up speaking a native dialect. The dialect closest to MSA is spoken by Palestinians, yet only about 60% of the local lingo overlaps with MSA. The Moroccan dialect diverges far more.

Adults often stumble over the written word, too, so bedtime reading to children is rare. Only about a quarter of Arabic-speaking parents read to their children often, compared with more than 70% in much of the West. Reading for pleasure is widely regarded as critical for a child's future success. But studies show that Arabic-speaking children do much less of that than children in the West.

Arab education ministries are waking up to the problem. Egypt has developed a trove of online material to bypass the traditionalists. The UAE has begun fitting classrooms with "reading corners". Across the Arab world girls far outperform boys, in part because female teachers tend to be better, so Saudi Arabia has defied crusty clerics and let women teach boys (though separately from girls). Its education ministry is puncturing the mystique of the sacred texts by distributing Japanese-style comics to every Saudi child over ten, with superheroes speaking Arabic slang. "We are facing generations that do not speak the Arabic language," says Essam Bukhary, the CEO of Manga Arabia, which produces the comics. "We want to promote reading as a hobby for younger generations."

Traditionalists quake at such irreverent handling of the sacred language. And Arab regimes are nervous of the free expression a more liberal approach may inspire. Their censors are banning books as keenly as ever and ensure that newspapers all say the same thing. Many officials prefer to keep children disciplined by making them memorise what they're told, says Andrew Hammond, a lecturer in Arabic culture at Oxford University. Otherwise, he says, they might start thinking for themselves. ■

Islamism

Out of power

TUNIS

Setbacks in Morocco and Tunisia mark the end of a tough decade for Islamists

THE STRICT Islamism of the Taliban may be back in Afghanistan, but peaceful Islamists in the Arab world have struggled of late. Ennahda, which styles itself "Muslim democratic", had been the biggest party in Tunisia's parliament—until President Kais Saied suspended the assembly in July. Just over a month later, in Morocco, the Justice and Development Party (PJD), another moderate Islamist outfit that led the ruling coalition, suffered a crushing defeat at the polls, losing 90% of the seats it had held.

A decade ago Islamist parties were on the rise in the Arab world. Often seen as more virtuous than their rivals and adept at providing services, the parties were well placed to take advantage of the democratic revolutions that swept across the region in 2011. In Egypt the Muslim Brotherhood won the country's first free and fair elections. Ennahda became a force after Tunisia adopted democracy. And the PJD was Morocco's largest party for ten years.

"Look back to the Arab spring, these parties swept to power promising to bring hope and change," says Hamza Meddeb of the Carnegie Middle East Centre, a think-tank. "They haven't delivered that." Egyptians quickly soured on Muhammad Morsi, the Brotherly president who declared himself immune from judicial oversight and rushed through a flawed constitution. He was pushed out by the army in 2013, amid enormous protests against his rule.

Ennahda and the PJD may have learned from the Brotherhood not to overreach. For example, when large protests pushed Tunisian democracy to the brink in 2013, Ennahda compromised over a new constitution and relinquished power. But its willingness to work with opponents and its concessions led some Tunisians to accuse it of opportunism. "I think there was a failure to explain why that was necessary," says Ahmed Gaaloul, a party leader.

Even if it wasn't fully to blame, Ennahda became associated with a decade of economic hardship, endemic corruption and poor governance. "By compromising with economic elites and accepting the status quo, they failed economically," says Mr Meddeb, referring to Ennahda and the PJD. "By compromising with other parties and on policy, they failed ideologically."

Like Ennahda, the PJD tried to shed its Islamist image. Nevertheless, it struggled to get its way. It was unable to stop laws authorising the therapeutic use of cannabis,

Coming to grips with defeat

pushing the French language in education (at the expense of Arabic) and reforming the voting system. Last year the PJD prime minister, Saad Eddine El Othmani (pictured), vowed never to deal with Israel. Weeks later Morocco normalised relations with the Jewish state. Critics called the party spineless, weak and incompetent.

Defenders of the PJD say it ran up against Morocco's most powerful institution, the monarchy. Though King Muhammad VI gave more power to parliament after the Arab spring, most big decisions remained his to make. He directs economic and foreign policy. The agreement with Israel was hashed out by the royal court. Media in thrall to the king give him credit for successes, such as the rollout of covid-19 vaccine, and blame failures on the government. The PJD also accuses rival parties of buying votes.

The party is not alone in feeling that the system is rigged against it. In Egypt the Brotherhood faced opposition from the police and civil servants, who refused to do their jobs, and judges, who dissolved parliament. The intelligence services, aided by foreign governments, worked to bring the group down. Ennahda had a freer go of it, but it eventually butted heads with Mr Saied. His power grab, though clearly undemocratic, has been enormously popular.

The risk is that Islamists in the Arab world learn a dangerous lesson. Why take part in political systems that aren't free or fair? Why put faith in parties that get nothing done? Better to follow the example of the Taliban, which took up arms and defeated a superpower. Mr Gaaloul, though, is sanguine. He thinks Tunisian activists and civil-society groups will safeguard democracy. "If they show they are really able to make a difference, you'll no longer even have a need for Islamism," he says. "You'll just have a democracy run by Muslims." ■

Aid and graft

Card declined

The IMF gets stricter on corruption

MANY AFRICANS still harbour a grudge against the IMF that dates back to the 1990s, when it became known for the bitter medicine it administered. Before any bail-outs, the fund would insist that countries agree to painful structural-adjustment programmes that included cutting government spending and liberalising economies. Since then the IMF has worked hard to present itself as a cuddlier lender than the cold-hearted fund of old. These days it attaches far fewer conditions to loans and sometimes overlooks even those.

Yet recent events in west and central Africa suggest it is being forced to find some of its old mettle, at least in private, as it tries to balance the sometimes competing goals of getting emergency pandemic money out quickly while also fighting corruption. Take oil-rich Equatorial Guinea, a family-run kleptocracy that struck a three-year $283m bail-out agreement with the IMF in 2019. Although the fund handed over some cash immediately, it has since rather quietly stopped signing cheques. An IMF spokesman blamed covid-19 and an explosion at an army base for the country's slow pace of reform. The programme, which is due to expire next year, looks set to follow the fate of one in nearby Congo-Brazzaville.

The IMF agreed in 2019 to lend $449m to Congo-Brazzaville, whose president, Denis Sassou Nguesso, a sprightly 77-year-old, has been in power almost uninterrupted since 1979. The IMF released some cash immediately. But after that its purse stayed closed until the programme expired in April. This was officially because of "debt sustainability challenges". But the fund made clear its frustration at the slow pace of anti-corruption reforms.

Bigger tests lie ahead. In July the IMF approved loans to Gabon and Cameroon, which are also run by ageing autocrats. Many of those who once accused the fund of being too bossy in the 1990s would quite like to see it being still bossier now. Human Rights Watch, an American watchdog, has asked the IMF to make its $690m programme with Cameroon conditional on the country meeting human-rights commitments and auditing covid-19 spending amid allegations that money has been stolen. It's not a bad idea.

Child labour

All work and no play

FREETOWN

The number of working children is on the rise

EDWARD BAKA, the headmaster of a school in Kono district next to Sierra Leone's biggest gold mine, recalls how once he had to sell the school's books to pay for a roof. Of the 700 children aged 4-13 under his care, 80% are in work, too, he reckons. Most toil in mines or on farms. The working kids are easy to spot. They have less energy. They can't concentrate. They have health problems. Recently a child from a neighbouring school was killed in a mud slide at a mine. "Everyone knows that mining is not for children," says Mr Baka.

Most people would agree. But the experience of Mr Baka's pupils is less unusual than they might hope. A recent report by Unicef, the UN's agency for children, and the International Labour Organisation (ILO) found that between 2016 and 2020 the number of working children around the world had risen for the first time since 2000, to 160m, with all of the net increase in sub-Saharan Africa. On the continent more than a fifth of children, or some 87m, work. Worryingly the figures do not show the impact of covid-19, which has almost certainly pushed more children into work owing to school closures and growing poverty. In the Central African Republic, a survey of 102 diamond mines found that between 2019 and 2020 the number of workers under 15 increased by 50%.

At a stone quarry on the outskirts of Freetown, Sierra Leone's capital, Osman's frame is muscled beyond a typical 12-year-old's. He wants to be a doctor, but now spends four hours a day breaking rocks into gravel. The work has given him scars and welts. The ILO reckons that some 39m African children are involved in similarly dangerous work, such as fishing or mining.

Sometimes the work is even more exploitative. Children from the countryside are often sent by their parents to cities to get education, only to be put to work by relatives, acquaintances or criminal gangs. From there it can be a "slippery slope" to child-trafficking and other forms of abuse, says James Riak, who works in Freetown for GOAL, an Irish NGO. From Zambia to Nigeria, millions of children as young as five toil as domestic servants. In Nairobi, where "house helps" are common, child labour is one of the most common problems cited by people calling Kenya's national child helpline.

Yet sometimes work benefits children, argue some academics. Consider a child who works for an hour before school on his parents' farm, says Jim Sumberg of the Institute of Development Studies at the University of Sussex. This is typical, given that 70% of child labourers work on farms. It might tire him and he might use a hoe, which the ILO considers dangerous and thus lumps under its definition of the "worst form of child labour", a category that includes child soldiering and prostitution. Yet were he not working, the whole family might go hungry.

Other experts worry that well-meaning interventions can make things worse for children. They point to the fervent international campaign to eradicate child labour in the cocoa industry, even though 94% of children in the industry work for their parents or relatives. Criminalising child labour has led to raids on communities and incidents of NGOs removing children from cocoa farms or remote fishing villages, as has often happened in Ghana. "Snatching the child from their family or indeed stopping the child from working isn't a solution at all," argues Samuel Okyere of Bristol University. "You can't put all working children in orphanages."

The African Movement of Working Children and Youth, a sort of child-labourers' union which is active in 27 countries, says its members have no choice but to work. Instead of outlawing labour, it calls for better protection for child workers.

Such views have been strongly criticised by governments and international organisations. The idea that there should be two standards of rights—one for richer children and one for poorer children—is "a bit bizarre" says Benjamin Smith, a child-labour expert at the ILO. Others balk at the prospect of undermining the huge strides made in the provision of free education to children across the continent. Even if the quality is poor, it still gives children a chance to improve their lot, says Sabelo Mbokazi of the African Union.

There is little disagreement on what is driving the increase in child labour. "It's not a big mystery, poverty is the main root cause," says Mr Smith. Studies cited by the ILO suggest that a percentage-point rise in poverty in a country leads to at least a 0.7 percentage-point increase in child labour.

In Ecuador cash transfers have been effective at keeping children in school and out of the fields. Investing in schools, teachers and resources will make schools worth attending in the eyes of students and parents. Opportunities for mothers will make a difference, too. "I didn't choose this for my children," says Mabinty Dukuray, who works at a quarry with her six children. She and other women say that money to start their own business, such as a market stall or a hairdressing salon, would allow their children to stop working. Some women might be better off farming vegetables, says Mohamed Jalloh, who is developing such a scheme in Kono.

For now, though, few poor children or their parents have access to such schemes. Hawa and her ten-year-old daughter are among dozens of people sifting through pools of red clay in Kono in the hope of striking gold. Hawa has four older children, but her daughter is the only one who agrees to help at the mine. Their family name is Baka. Even the headmaster's daughter is working at the mine. ■

Small people, massive misery

Reducing poverty

When policy works

WASHINGTON, DC

America is substantially reducing poverty among children

IT SEEMED LIKE a blustery overpromise when President Joe Biden pledged in July to oversee "the largest ever one-year decrease in child poverty in the history of the United States". By the end of the year, however, he will probably turn out to have been correct. Recent modelling by scholars at Columbia University estimates that in July child poverty was 41% lower than normal.

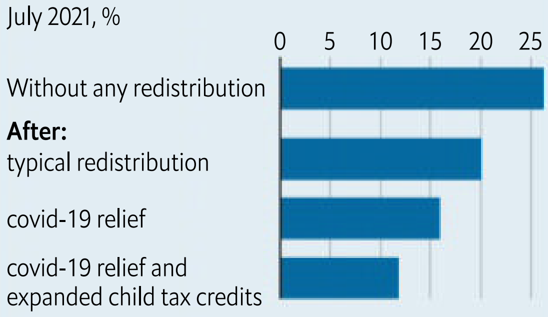
America has long tolerated an anomalously high rate of poverty among children relative to other advanced countries—depending on how it is measured, somewhere between one in six or one in five children counted as poor. The reason why is not mysterious. The safety-net has always been thinnest for the country's youngest: America spends a modest 0.6% of GDP on child and family benefits compared with the OECD average of 2.1%. What would happen if this were to change? The rush of cash Congress made available to cushion the economic fallout of covid-19 provided an experiment.

Under the status quo, the researchers—Zachary Parolin, Sophie Collyer, Megan Curran and Christopher Wimer—calculate that the child-poverty rate would have been 20% in July. Because of some new relief policies like the business bail-outs, the stimulus cheques issued to most families and more generous unemployment benefits, this rate declined to around 16%. But the most significant dent was placed by a more generous child tax credit, which has been retooled to look a lot more like the child-allowance schemes used in other countries. For one, the credits are being paid out monthly rather than when families file their annual taxes (as is the case for the earned-income tax credit that subsidises wages for working-class Americans, or the mortgage-interest deduction which subsidises the suburban lifestyle of the upper-middle class). The credits lessen in value as family income increases, but those earning up to $240,000 qualify for some amount.

Whittling down 1

United States, estimated child-poverty rates

July 2021, %



Source: Z. Parolin, S.Collyer, M. Curran and C. Wimer, Columbia University, 2021

The cheques are also more generous than before: parents of young children receive $300 per month while those with children above the age of six receive $250. Those payments, passed as part of Mr Biden's $1.9trn stimulus, began only in July. But in just one month they had a big effect. The child-poverty rate dropped from 15.8% in June to 11.9%, representing a decline of 3m American children living in poverty.

That is an encouraging start to the roll-out of perhaps the most important anti-poverty policy in a generation. And there are early indications that the money is being spent on necessities, not simply saved. Surveys from the Census Bureau show that most families say they are spending the new funds on clothing, food, housing and utilities rather than paying down debts or bolstering savings. There also seem to be some measurable effects on hardship. The number of households with children that reported not having enough food in the past week dropped substantially after the first payment began—going from 13.7% to 9.5% (see chart 2 on next page).

That does not mean that the roll-out has been flawless. To reduce administrative ▸▸

18+

WHAT IS AVAXHOME?

barriers, the credits are supposed to flow automatically from the Internal Revenue Service (IRS) to family bank accounts. However, a significant minority of American families have not filed tax returns in the past two years—meaning that eligible children are missing out. "The outreach has been fairly limited from our perspective," says Tyler Hall of GiveDirectly, a charity. He notes that one attempt—a video message from Mr Biden posted on Twitter—is unlikely to reach many of the missing families. Approximately half of Americans who make too little to file federal tax returns do not own a computer; and a fifth lack the bank accounts needed to receive payments in the first place.

The Treasury Department set up an online portal to allow such families to register for the benefits. To begin with this was a clunky website that could not be read in Spanish or easily navigated on mobile phones. No dedicated funds were set aside for "navigators" to find these hard-to-reach families and sign them up.

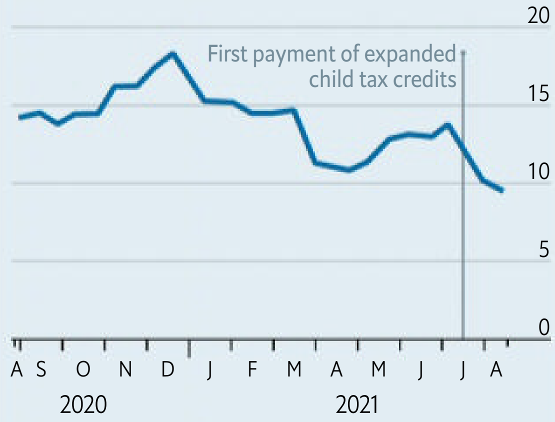
One senior White House official acknowledges these criticisms but points out that the IRS only had a few months after Congress enacted the policy to set up payments, and that the coverage rate for most anti-poverty programmes is below 100%. About 67.6m children are thought to be eligible. In the month of August, though, the Treasury Department estimated that it made payments for 61m children. This was still an increase of some 1.6m from the July payments—a suggestion that the outreach thus far has been modestly successful. A jazzier website made by Code for America, a good-government group, has since been launched. The future strategy will be threefold, the official says: encourage families to file taxes, if possible; try to cross-enroll them when registering for other federal programmes, if not; and request Congress to appropriate more funds for navigators to assist in signing people up.

Private organisations and philanthropists that have tried to spread the word note some intractable difficulties. Mixed-status families—undocumented parents with citizen children who qualify—are especially reluctant. Elizabeth Gonzalez, who has knocked on doors in south-west Detroit to spread word about the credit, notes that many such families fear that taking the funds will jeopardise their chances of obtaining residency papers.

The coverage gap attenuates the anti-poverty potential of the programme. If the plan managed to achieve something close to full coverage, the Columbia researchers estimate that the share of children living in poverty could drop even further, to below 10% (and less than half the status-quo rate). Those reductions would accumulate disproportionately among black and Hispanic children—who are more likely to be

The hunger wanes 2

US, adults with children reporting their household sometimes or often did not have enough to eat in previous seven days, %



Sources: Centre on Budget and Policy Priorities; Census Bureau

eligible for the payments but not receiving them. At full coverage, poverty for black children would drop from its present estimate of 18.4% to 13.6%; for Hispanic children from 16.8% to 14.1%. An ostensibly race-neutral programme would have big effects on racial disparities if implemented more robustly.

All this progress is currently slated to be time-limited, though. Democrats in Congress agreed to implement the enhanced payments only for one year. All of Mr Biden's legislative priorities are in the process of being rolled up by Congress into a mega-package costing trillions. The future of the expanded credit will rest on these delicate negotiations. The White House proposal is to continue the payments until 2025, but not make them permanent. The cost of doing so would be $100bn a year, or 0.45% of GDP, which is less than the amount spent by allowing capital gains to be taxed at preferential rates, or the amount spent to subsidise private health-insurance plans.

That the president might split hairs on perhaps his biggest success is the result of a self-imposed bind. Mr Biden is keen to present his plan as completely paid for, without raising taxes on families making less than $400,000 a year.

Michael Bennet, a Democratic senator from Colorado who has been championing the policy for years, is arguing for immediate permanence. "Having a safety-net for kids in the country and lifting a bunch of kids out of poverty is an important step forward. And it's a recognition that the United States of America does not have to accept one of the highest childhood-poverty rates in the industrialised world as a permanent feature of our democracy and our economy," he says. The chances that things revert to the old normal will soon become unthinkable, Mr Bennet reckons. "I would be very surprised if the child tax credit is not ultimately made permanent…I think it's going to be extremely popular with the American people." ■

Vaccinations

Biden's bidding

WASHINGTON, DC

The vaccination mandate is both ordinary and controversial

AFTER MONTHS of begging Americans to get themselves vaccinated, President Joe Biden has stopped asking nicely. On September 9th the Biden administration announced a requirement to be vaccinated or tested regularly that will affect everyone who works for a private company with more than 100 employees plus the federal workforce, broadly defined. That is about 100m Americans in all, 25m of whom are not vaccinated. Will it work?

There are clear reasons for taking this unusual step. Only 54% of Americans are fully vaccinated, meaning the nation is lagging behind its peers. In Canada and Britain, 69% and 65% of people are fully vaccinated respectively, according to Oxford University. Japan initially experienced a disastrous rollout. One month before the start of the Olympics in July, only 18% of Japan's population received the jab. But Japan has now surpassed America in first doses administered (65% compared with 63%). With 663,325 deaths from covid-19, America will shortly exceed the number of fatalities resulting from the 1918 influenza pandemic (675,000).

According to Goldman Sachs, an investment bank, the new federal requirements could result in 12m more Americans becoming vaccinated by mid-2022, increasing the proportion of adults who have had at least one dose to 90%. Critics of the requirements warn of a potential backlash, however. As many as 7m workers report that they will not get vaccinated. More than 150 hospital workers were fired or resigned

Testing, testing

over a covid-19 vaccination mandate at a hospital in Houston, Texas. A hospital in Lowville, a town of about 3,000 people in northern New York, is pausing maternity services because several workers resigned over covid-19 vaccination mandates.

Other covid-19 vaccine requirements had some success, though. The mandate for health-care workers in New York to get vaccinated seems to have pushed up the vaccination rate for that group from 75% to 80%. The Department of Veterans Affairs, where a mandate for health-care workers went into effect in July, saw vaccination rates increase by five percentage points, to 82%. Testing requirements have also been successful. New York City's vaccination rate has improved since the mayor announced a vaccination or testing requirement for access for restaurant diners. And for all the focus on disgruntled workers forced to get vaccinated, there is also a group who are not going back to work because they are fearful. Goldman Sachs estimates that the requirements could encourage 3m to return to work.

The mandate will only work if it remains in effect, though. The armed forces have required vaccinations for over 200 years. Public school children are required to be vaccinated against childhood diseases, and about 95% have the required jabs. Many hospitals require workers to be vaccinated for several diseases. Yet such are the politics of masks and vaccines that this one is more vulnerable. Ken Paxton, Texas's attorney-general, wrote that "the Federal Government is trying to dictate everything...Not on my watch in Texas." Henry McMaster, South Carolina's governor, declared he would "fight them to the gates of hell to protect the liberty and livelihood of every South Carolinian."

The testing and vaccination requirement for companies will be enforced through the Occupational Safety and Health Administration (OSHA), a federal agency. It typically covers workplace hazards, for example requiring protective eye goggles. Vaccination and testing requirements could count, so long as they protect employees from "grave danger."

But OSHA has faced legal challenges before, explains Walter Olson of the Cato Institute, a libertarian think-tank. OSHA has used its emergency authority nine times before the pandemic. Six of the instances went to court and only one was fully upheld. Over the longer-term, an agency that few Americans have heard of risks becoming caught-up in a Republican messaging war. Already some House Republicans have threatened to introduce legislation gutting the OHSA as a response to the White House's move. That matters little while they are in the minority. Yet that will not always be the case. Messaging bills have a habit of eventually becoming laws. ■

Salt Lake City

Not your father's Utah

SALT LAKE CITY

The Beehive State is booming. Three things will challenge its future growth

"IT LIES PROTECTED behind its rampart mountains, insulated from the stormy physical and intellectual weather of both coasts," Wallace Stegner wrote of Salt Lake City. The novelist associated his adopted hometown, where he spent much of the 1920s and 30s, with an "isolationism" and "provincialism" afforded by its Mormon heritage and its snug seat between the Wasatch Range and the Great Salt Lake. These features remain; but gaze upon the city's bustling downtown today from a perch in the nearby foothills and Salt Lake looks far from provincial. There are few places in America that can crow louder about their successes in the past decade than the City of the Saints.

Utah's population grew faster than that of any other state between 2010 and 2020. Salt Lake City has the lowest jobless rate

Religious objections

Bodies and temples

NEW YORK

Expect a surge of religious objections to vaccine mandates

PATRONS OF natural-juice bars and yoga studios are all too familiar with the phrase "my body is a temple". They may not know its biblical provenance: "Your body is a temple of the Holy Spirit within you," says the New Testament. Elsewhere it warns: "If anyone destroys God's temple, God will destroy him."

People who resist the covid-19 vaccine on religious grounds often cite those lines from scripture. They see jabs as pollutants. Others think God alone will protect them from the virus. When New York state denied health-care workers an opt-out from the vaccine for religious reasons, they sued. On September 14th a judge temporarily barred the state from withholding such exemptions.

Needles and crosses

The constitution gives protections to people to exercise their faith freely, and Title VII of the Civil Rights Act ensures those exist in most workplaces. If employees' beliefs are "sincerely held," then companies must "reasonably accommodate" them. Firms can accommodate vaccine-objectors by, for example, asking them to work remotely, or to test regularly (as the federal mandate allows for employees at private firms). That is easier at an ad agency or in a shop than at a hospital or care home, where jab-nots can endanger patients.

The rub is determining what beliefs count as "sincere". They need not accord with an organised religion (and in fact, the big denominations support the covid-19 vaccine). They can be idiosyncratic. Under the law firms cannot challenge the substance of objectors' religious beliefs, but they can question someone's sincerity and ask their reasons. When disputes between firms and workers have reached the courts, the question at issue is normally whether the accommodations offered were reasonable—not about the underlying beliefs: courts do not want to police those.

Advice on asking for exemptions is easy to find online. One manual circulated by Rita Palma, an anti-vax activist, advises people to include key words such as sacred, holy and blessed. Emphasising a personal understanding of God's message and providing a cleric's letter of support also helps. Some people whose objections have little to do with religion can probably fudge a religious excuse.

among all big cities, at 2.8%, compared with a national rate of 5.2%. That the state has rebounded so well from the downturn caused by the covid-19 pandemic is thanks to the Wasatch Front, an urban corridor that includes Salt Lake and Provo, home to Brigham Young University. The four counties that make up the Wasatch Front account for at least 80% of Utah's economic activity, reckons Juliette Tennert, an economist at the University of Utah.

In many ways Salt Lake's success mirrors what is happening in other cities in the Mountain West, such as Boise, Idaho, and Denver, Colorado. What makes Utah so exceptional? For starters it has the most diverse economy of any state, according to the Hachman Index, which measures each state's mix of industries against that of the nation. In fact, Utah has ranked in the top two for the majority of the past two decades, says Ms Tennert. The Wasatch Front boasts a blossoming tech sector—christened "Silicon Slopes"—several research universities and an international airport.

Utah's ability to attract new businesses is helped by its Republican zeal for low corporate taxes and little regulation. But putting Salt Lake City on the map also required some myth-busting. Mr Herbert points to 2002, when Salt Lake hosted the Winter Olympics, as a pivotal moment. "That was kind of our coming-out party," he says. People realised that, "we are not the Wild West here in Utah."

Researchers also note Utah's relative homogeneity as a reason for its success. It may be easier for people to get along when they share a religious and cultural background. But the state is changing fast. Although about 61% of Utah's population is Mormon, that number is shrinking all the time. About 48% of Salt Lake County residents identify as Mormon; the city itself—which is more diverse—probably has fewer still. Utah is the youngest state in the country, but its fertility rate is decreasing faster than the national average, says Emily Harris, a demographer. Attracting and retaining new Utahns will become ever-more important as births decline.

Three things threaten Salt Lake City's ability to entice and keep new residents. The first is environmental problems. Americans may move to Salt Lake for its proximity to hiking trails and posh ski resorts, but the Wasatch Front is plagued by pollution. Wildfire smoke, heavy traffic and dust from the drying lake bed dirty the air. Utah is also reckoning with shrinking reservoirs due to the megadrought that has dehydrated most of the West.

Second, Salt Lake City is becoming unaffordable for many long-time residents. House prices have surged by nearly 25% since August of 2020, according to Zillow, an online-listings platform. (Across the country home values increased by nearly 18% on average.) Erin Mendenhall, the Democratic mayor of Salt Lake, offers high housing costs as proof that rapid growth doesn't benefit everyone.

Wasatch frontiersmen

Third, Utah consistently ranks among the worst states in the country for gender equality. An annual index from WalletHub, a consumer website, found that Utah's gender-pay gap was larger than most other states'. Women in Utah are also less likely to graduate from college or be elected to political office. That Utah is such a laggard is probably down to the lasting influence of the Mormon church and believers' tendency to marry young and have large families. Yet the future looks brighter: as the state diversifies, and begins to look more like America, women should benefit.

Utahns are not at all surprised that their state is booming. "Salt Lakers generally love to fly under the radar," says Ms Mendenhall. "Part of the personality of our city is knowing that we're the best kept secret." That may historically be true, but the ever-expanding Wasatch Front suggests that the secret is out. ■

Schools

Robot masters

WASHINGTON, DC

Edtech that helps teachers is more promising than edtech that replaces teachers

COVID-19 FORCED ten years of digital transformation in schools to take place in a month, says John Martin, the former leader of Sanoma Learning, an education technology (edtech) company. Teachers suddenly became more willing to use technology because the alternative was not to teach. Much of this technology will remain as pupils head back to the classroom this term. But the experience has refined what edtech is really for.

School closures also forced entrepreneurs to grapple with a stark truth: few are interested in completely disrupting the classroom. For decades innovators imagined a future without traditional learning. MOOCs (massive open online courses), like Udacity and Coursera, were supposed to replace in-person learning. Teachers and school administrators feared that technologists were aiming to replace them. Before the pandemic, most American schools were hesitant to adopt technology, says Jean Hammond, co-founder of LearnLaunch Accelerator, a startup programme. "Lots of cool, amazing little things would come along. But because...schools hadn't been trained in how to adopt new technology, change was very slow."

Tech entrepreneurs "put the tech before the ed" before the pandemic, explains Mr Martin. Innovators have since grasped that their technology must support teachers in the classroom rather than attempt to remove them, he explains. Much of the $2.2bn in venture and private-equity capital raised in 2020 is being invested with this in mind.

Teacher training is one example of what this means in practice. Traditional teacher training is limited. "When teachers learn, they listen to people talk about teaching, and they talk with each other about teaching. They very rarely teach things," explains Justin Reich of the Teaching Systems Lab at the Massachusetts Institute of Technology. "If you look at how nurses are trained, how therapists are trained, how clergy members are trained, they practise what they're doing all the time."

This is starting to change. Researchers at the University of Virginia (UVA) are training their education students using virtual reality simulators created by Mursion, a tech company. The teacher trainees experience several virtual practice scenarios such as a parent-teacher conference, small-group instruction, and large-group instruction. A digital puppet master plays the role of the parent and pupils behind the scenes, but the developers plan for the programme to eventually become automated. The technology is currently being used in over 50 American colleges.

Sarah Kiscaden, a teacher trainee at UVA, is pleased with the experience. "If we didn't have this simulator, we would be learning everything in classes every day, and then be expected to just keep it all in our brain and apply it all at the same time, the next day in our schools. And I think that is a lot less realistic of an expectation than if you're taught a skill, and you get to practice it and internalise it." The simulators also relieve the pressure of teaching in front of children for the first time.

Artificial intelligence could also play a role in teacher training. Researchers at UVA and Worcester Polytechnic Institute are using machine learning, a process by which a computer learns to perform a task by analysing examples, to evaluate videos of teachers in action. Currently teachers get feedback from fellow humans, often administrators, who come to the classroom, observe a lesson and score the teacher. The researchers hope eventually to use machine learning to automatically score teachers, making the current feedback process more frequent, more accurate and less time intensive.

Barriers remain for edtech, despite the path cleared by the pandemic. Ms Hammond explains that outdated regulations can limit classroom innovation. Some state standards are rigid, even specifying the number of hours that must be spent in a classroom. Edtech is also unusual in that the end users are not often the buyers.

The buyer might be the school district, the user might be the teacher, and the real user is the learner. "It's very hard to get the learner voice into the mix of things," explains Ms Hammond. And the purchasing usually occurs only once per academic year. Tyler Borek, co-founder of Literably, an edtech startup, says that this provides fewer opportunities to iterate. Still, much of the technology used during the pandemic—classroom devices, apps for parents to follow their child's progress and so on—is here to stay. ■

The army

XX-rated

WASHINGTON, DC

Women look set to be eligible for America's draft

MASS CONSCRIPTION in wartime is a remote prospect in America. But were a draft called, the country's conscripts might soon look very different. An amendment to the annual defence policy bill winding its way through Congress would make women eligible for the military draft for the first time. On September 2nd it passed the House Armed Services Committee. "It's past time," declared Congresswoman Chrissy Houlahan, a former Air Force officer and lead sponsor of the amendment. Coupled with the success of a similar provision in the Senate, the change is now almost certain to become law when the final bill comes to a vote.

Though the compulsory military draft ended in 1973, controversy over who could be called to serve did not. Conscription was so unpopular in the wake of the Vietnam war that after 1975 men were not even required to register for the Selective Service, the directory of those eligible to be drafted. The Soviet invasion of Afghanistan in 1979 prompted President Jimmy Carter to reinstate the requirement for men, but Congress balked at the potential inclusion of women. The 1981 Supreme Court decision in *Rostker v Goldberg* found that, because women were not allowed to serve in combat roles, they could be excluded from the Selective Service. This argument began to look thin even before Leigh Ann Hester became the first woman to receive the silver star for direct combat action in 2005, after her convoy was ambushed in Iraq.

New wave

When President Barack Obama opened combat roles to women in 2015, the legal logic barring women from the draft came undone. Putting women in combat was initially met with resistance. Republicans argued it would undermine the cohesiveness of America's armed forces and former generals voiced concerns. But President Donald Trump left the reform untouched, and the controversy faded. Katherine Kuzminski of the Centre for American Security, a think-tank, suggests women's battlefield experience during the "war on terror" did much to convince America's military brass that women were essential. With the decision in *Rostker* a dead letter, lawsuits advanced to overturn women's exclusion. In April, President Joe Biden asked the Supreme Court to allow Congress to resolve the issue.

Lawmakers on Capitol Hill are now deploying several progressive arguments in favour of drafting women. Standing in for fellow Democrats, Ms Houlahan introduced the amendment by saying that, "as the selective service system is currently written, it is unconstitutional and discriminates based on sex." Republican proponents like Congressman Mike Waltz, also a sponsor of the amendment, make a practical case. They echo America's generals in arguing that women are needed should a draft ever be called—a necessity when less than a third of the adult population is considered fit for service. Opposition comes from a handful of social conservatives, who believe that including women in the draft would undermine traditional gender roles.

Yet this bipartisan consensus is notable for how little support it has in public opinion, particularly among women. While a little more than half of men endorse drafting women, just 36% of women do so. Kara Vuic, a historian at Texas Christian University, notes that the first push for women in the draft in the early 1970s was paired with feminist promotion of the Equal Rights Amendment, a proposed constitutional amendment guaranteeing women's rights. Conscription was viewed as an obligation of full citizenship. Today, she observes, the change is not being led by women alone. "The nature of war in the 21st century is very different, and the military needs women." For Ms Vuic, the Pentagon's increasingly vocal support is decisive.

Expanding the draft would mean that almost no legal restrictions remain for women in the armed forces. But a broader debate over the future of the military draft continues. Senators Ron Wyden and Rand Paul have proposed abolishing the Selective Service entirely. Others bemoan the increasing cultural gap between soldiers and civilians, calling for a revival of compulsory national service. Such differences are less easily bridged. ■

Lexington | Beware false doctrines

Managing America's complicated relations with China is an aspiration in search of a strategy

Andrei Gromyko, the Soviet Union's pre-eminent America-watcher, remarked that the object of his study had so "many doctrines and concepts proclaimed at different times" that it was unable to pursue "a solid, coherent and consistent policy". And that was during the cold war, a period of relatively cool-headed American policy analysis. How much more applicable does Gromyko's observation seem to the first eight months of Joe Biden's presidency. Half a dozen different versions of the Biden Doctrine had been outlined by foreign-policy commentators before the president had even given a major foreign-policy speech.

Parsing the president's campaign statements, some suggested the alleged doctrine was a return to the pre-Trump status quo, with a warm embrace of allies and the international order. Other prognosticators, focusing on Mr Biden's scepticism of military intervention and his party's protectionism, foresaw a more diplomatic version of Donald Trump's scattergun nativism. Some pinpointed the president's interest in shoring up democracy; or his rhetoric about prioritising policies beneficial to American workers. How to make sense of all this? "Biden's everything doctrine" was the verdict of an essay in *Foreign Affairs*.

An alternative response might be to question the utility, as Gromyko did, of the competitive scramble to codify foreign policy in this way. Airing that sceptical view around Washington, DC, this week has been awkward at times; several of the foreign-policy experts Lexington consulted turned out to have written at least one Biden Doctrine column, if not three. Yet much of what they have described will not only inevitably turn out to be wrong; it is not really doctrine at all.

Experts in strategy, a rare species in the Washington menagerie, set a high bar for the word. To them it describes a statement of national interests so fundamental that it is liable to survive multiple administrations and events. Only three foreign policy doctrines are considered to have risen to that level. The first was the Monroe Doctrine of 1823, a declaration of American primacy in the western hemisphere that arguably still pertains. The second was the Truman Doctrine, whereby America shouldered responsibility for containing the Soviet Union. The third, less boldly articulated, was the post-cold-war belief in American hegemony that underpinned the foreign policies of the 1990s and 2000s.

This has not deterred rampant doctrine inflation over many decades. Most presidents since Truman have been credited with a unique doctrine, including all the recent ones. Though what the doctrines of Barack Obama and Donald Trump amounted to is still in dispute. (A proponent of the alleged Trump Doctrine, Michael Anton, suggests it is encapsulated by a line from the Wizard of Oz: "There's no place like home"). Most of these presidential doctrines cannot be usefully compared to the three foundational ones, or even to each other.

They mostly represent relatively minor amendments to the foreign-policy status quo; or else new methods to sustain it. The Eisenhower Doctrine extended containment to the Middle East; the Carter Doctrine decreed that America would use military power there if necessary. Many so-called doctrines also mistake presidential aspirations for outcomes. Mr Obama was mostly concerned with avoiding the mistakes of his predecessor. Mr Trump's nativism was less of a guide to his foreign policy than his zeal to undo whatever Mr Obama had done. It is hard to detect the strategic undergirding that purists insist upon in recent additions to the canon, such as the Bush Doctrine of preventive war or the Clinton Doctrine, a commitment to expanding the realm of democracy and human rights.

Whether Gromyko was right to consider Washington's obsessive doctrine-spotting an impediment to good policy is debatable. But it has clearly propagated a misleading notion of presidential power. Far from being the untrammelled "decider-in-chief" that George W. Bush briefly was after 9/11, presidents tend to be almost as bound by public opinion in foreign affairs as they are at home. Thus, Franklin Roosevelt moved from isolationism towards engagement as his majorities increased. But "of course voters prefer not to take responsibility for their influence on foreign policy," harrumphs the foreign-policy scholar Robert Kagan. "Hence the focus on the president."

Another weakness of the Washington foreign-policy babble is that, by elevating the mundane, it makes the momentous moments in American and world affairs harder to identify. And (at the risk of contributing to the bloviating) now may be such a time.

American hegemony is over; China's bid for supremacy in the Asia-Pacific region is unignorable. The failed "war on terror", whose aftershocks distracted both Mr Bush's immediate successors, is no longer a priority. It therefore falls to Mr Biden, a longtime foreign-policy bungler yet arguably the first grown-up president of the post-unipolar age, to construct an appropriately weighty response. Containment cannot be his guide. Climate change and economic integration call for much more co-operation between the rival powers than occurred during the cold war. Meanwhile the impulse to strengthen alliances leads to arming Australia with nuclear submarines, partly as a counterweight to China. And Mr Biden's ability to shape public opinion is limited.

The Truman show

Strategy experts are awed by the intellectual and political challenge this represents. "It's Truman-level stuff," says Andrew Krepinevich, a veteran strategist of the Pentagon and elsewhere. There is little doubt that grappling with it is the administration's priority; senior Biden officials discuss the two-track China challenge all the time. But again, noble aspirations do not predict successful outcomes. A Biden Doctrine worthy of the name may yet emerge. It hasn't yet. ■

Argentina

Front to back

BUENOS AIRES

Voters deal a blow to the ruling Peronist coalition

"IN PERONISM, YOU always get laid." When Victoria Tolosa Paz, the Peronist who is the government's leading candidate for the lower house of Congress in the province of Buenos Aires, said this in an interview she found herself with a viral campaign line. But while Ms Tolosa Paz, an accountant, was happy to talk about sex, she appeared to ignore more serious issues. In a country where annual inflation is over 50% and unemployment is in double digits, voters have other concerns. In a nationwide vote on September 12th, they signalled their disapproval of the ruling coalition, which won fewer votes than the opposition in 17 of 24 districts. Three days later, five ministers offered to resign.

The vote was technically a primary for congressional elections due in November, halfway through the president's term, when a third of senators and half of the chamber of deputies will be chosen. In Argentina's unusual electoral system, however, primaries function more like the first round of a two-round election. Voting is compulsory, and voters are presented with lists of candidates from all registered parties. They select one list for each office to go forward to the general election. The lists that win less than 1.5% of the vote in their district are excluded. So in addition to winnowing the field, the primary gives an indication of what the outcome of the general election itself is likely to be.

In this week's vote even some Peronist strongholds flipped, creating "a sense of a national wave", says Julio Burdman, director of the Electoral Observatory, a consultancy. If the results are repeated in November, the ruling coalition could lose its majority in the Senate as well as a significant number of seats in the chamber of deputies. A bleary-eyed President Alberto Fernández conceded defeat: "Evidently, we have not done something right."

A psephological crystal ball

The results also suggest that the opposition has a good chance of seizing the presidency in 2023. Although Horacio Rodríguez Larreta, the mayor of Buenos Aires, was not on the ballot, candidates that played up their connection to him did well. That hints at his strength within his party, Republican Proposal (PRO), and so gives him the upper hand over rivals for its leadership such as Mauricio Macri, a former president, and Patricia Bullrich, a former minister. "Larreta put all his cards on the table," says Juan Cruz Díaz, the head of Cefeidas Group, a consultancy in Buenos Aires. "And he took the night."

Other challengers could emerge. Within the opposition coalition another party, the Radical Civic Union, saw an uptick in votes for its candidates. And Javier Milei, a libertarian economist, took 14% of votes in the city of Buenos Aires. That could force the PRO, a centre-right party, to become more right-wing.

Investors hope that a victory for the opposition in 2023 could put an end to the current government's flailing attempts to boost growth through regulation, including foreign-exchange controls, price freezes and export bans. It has also been printing money to spur the economy, but has succeeded only in spurring inflation, which is voters' main concern (see chart on next page).

At the beginning of the pandemic, Mr Fernández declared: "I'd rather have 10% more poor people than 100,000 dead." In the end, Argentina got both. Despite imposing one of the longest and strictest lockdowns in the world, the government was unable to prevent the spread of covid-19. Last year GDP contracted by almost 10%, more than any big economy in South America, aside from Peru and Venezuela. With more than 110,000 dead from the virus, Argentina has one of the highest mortality rates in the world.

Mr Fernández has also been battered by several scandals. In February the health ▸▸

minister resigned after it emerged that government cronies had enjoyed priority access to vaccines (he stated that "confusion" in his office was to blame). In August pictures were leaked that showed Mr Fernández hosting an illegal birthday party for Fabiola Yañez, his girlfriend, during lockdown. A third of voters said that the birthday-party scandal would "change or influence" their vote in the mid-terms. The president's approval ratings are hovering at around 30%.

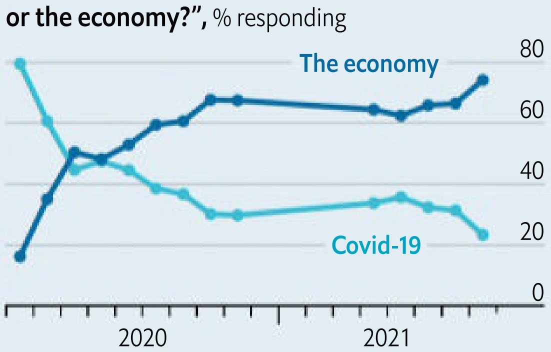
After such dismal results Mr Fernández is likely to find it harder to govern. That may boost the influence of the radical wing of the coalition led by Cristina Fernández de Kirchner, the vice-president and former president (no relation to Mr Fernández). In March, after a series of diatribes against the judiciary, which is investigating Ms Fernández on various counts of corruption (all of which she denies), the moderate justice minister was replaced by a *kirchnerista*. Ms Fernández has spoken of "public servants who don't serve" and told the president to "put [things in] order" after the party scandal. The ministers who offered to resign on September 15th are all loyal to her; their departure could make life harder for the president. Some fear more changes to the cabinet, including the departure of Martin Guzmán, the economy minister.

Such antics could complicate talks with the IMF, to which Argentina owes around $45bn. This year, several factors meant the government could delay reaching a deal with the fund. It relied on a one-off wealth tax and rising commodity prices, among other windfalls, to boost state coffers and repay some of what it owes. The results of the primaries may also tempt Mr Fernández to use populist tricks to gain votes in November. This year the government expanded gas subsidies and extended limits on beef exports to keep prices down.

"The main risk is that additional interventionist policies could make an agreement with the IMF more challenging," says Martin Castellano of the Institute of International Finance, a trade association in Washington, DC. That would not be in the interest of the government, which needs a deal. High commodity prices have not made life much better for ordinary folk. Meanwhile, even on the government's rosy projections, the economy is not expected to regain its pre-covid size until next year. And Ms Tolosa Paz seems to have inadvertently but conclusively proved that voters want substance from the government, not gimmicks and slogans. ■

It's inflation, stupid
Argentina

"Are you more concerned with covid-19 or the economy?", % responding



Issues causing most concern, % responding*
August 2021

Inflation	85
Insecurity and crime	64
Economic uncertainty	59
Lack of proposals for growth	51
Impunity for corruption†	50
Inappropriate subsidies‡	45
Covid-19: economic impact	41
Covid-19: fear of illness	39
Drug trafficking	37
Street protests	35

*Multiple responses †During the Kirchner government
‡Given to those who don't deserve it
Sources: Synopsis; D'Alessio IROL/Berensztein

Agriculture in Mexico

Reaping the rewards of trade

TEPANCO DE LÓPEZ

For now, some Mexican farmers are thriving by exporting their produce north

ROMÁN JUÁREZ has expanded his tomato farm several times since starting it 15 years ago. It now spans two separate sites in a rural area of the state of Puebla, south-east of Mexico City. In a good season, each one of the 38,000 plants he grows in his large, greenhouse-like tents can produce up to 160 tomatoes. Although farming can be risky, Mr Juárez is prospering, mostly because since 2016 he has exported his produce to the United States. "We do business where there is business," he says.

This year Mexico is expected to export 1.8m tonnes of tomatoes to its northern neighbour, a record. Last year exports of tomatoes alone were worth around $2.3bn. Tomatoes are the most striking—and the largest—example of a bigger trend. Mexico exported agricultural goods worth $39.5bn last year, around 10% of the country's total exports. Agriculture, which accounts for 4% of Mexico's GDP, grew by 2% last year, even as the economy as a whole contracted by 8.5%.

Better than the factory floor

Mexico has exported food for centuries. But the more recent boom has its roots in the North American Free Trade Agreement (NAFTA, now superseded by the United States–Mexico–Canada Agreement, the USMCA), which came into force in 1995. Back then Mexican exports of tomatoes were valued at just $406m. Agriculture used to be "the ugly duckling" of the Mexican economy, says Juan Cortina of the National Agricultural Council, which represents producers.

Two things changed this. For a start, culinary tastes evolved. "Today Americans want [produce] year-round, not just seasonally," says Philip Martin of the University of California, Davis. Mexico's warmer climate means it can grow certain produce when the United States cannot, and in bigger quantities than California or Florida. Mexican farmers have also invested in ways to protect their crops, often in partnership with big American companies. Most use tunnels or plastic hoops rather than open fields, which can reduce pests and increase yields.

But it is not all plain sowing. Mexican producers' exporting prowess has irked American farmers, and generated accusations of unfair government support. As part of USMCA negotiations, American officials under Donald Trump's administration tried to make it easier to apply defensive tariffs on seasonal fruits and vegetables. They failed, but then asked the United ▸▸

States International Trade Commission to investigate imports of strawberries, bell peppers and squash.

The tomato trade is also embattled. In 1996, before American tariffs on tomatoes were fully phased out under NAFTA, America's Department of Commerce launched an investigation into whether Mexican tomato-growers were selling their wares too cheaply. That led to a series of "suspension agreements" in which Mexican exporters agreed to minimum prices, the most recent of which was hashed out in 2019.

Beyond maintaining calm trade relations, more could be done to boost agriculture. Farmers would benefit from better technology, such as improved irrigation systems. Aurelio Bastida of the Autonomous University of Chapingo reckons that the government needs to have policies that integrate both agriculture and the environment. Mexican agriculture is vulnerable to climate change. It already suffers from severe water shortages. And whereas farmers whose crops are exported are doing well, many of those who cater to the domestic market are struggling.

If the industry is to expand, Mexico will have to export its food to other countries in addition to the United States. That should be easy: by some counts Mexico is a signatory to more free-trade agreements than any other country.

But the policies of President Andrés Manuel López Obrador, who seems keen to turn the clock back to the 1970s, may stifle that potential. Last year some of the funding for the agency that certifies food as safe—a prerequisite for most exports—was cut. Such counter-productive parsimony could mean that agricultural exports wither, rather than bloom. ■

Bello The monster hiding in the suburbs

Abimael Guzmán's death leaves unanswered questions for Peru

For a dozen years from 1980 a malign, invisible presence haunted Peru, acquiring ever greater menace. Abimael Guzmán, a Marxist philosopher who created a shadowy terrorist army called Sendero Luminoso (Shining Path), ordered massacres, murders, car bombs and the destruction of police stations. Yet he never appeared in public. His capture in 1992, through old-fashioned detective work, meant he spent the rest of his life in a maximum-security prison. By the time he died, on September 11th, aged 86, many Peruvians had little memory of him. His death leaves several unanswered questions.

Sendero was unlike any other guerrilla movement in Latin America. Mr Guzmán was inspired by Maoist China, which he visited twice during the Cultural Revolution, rather than Cuba. He founded Sendero as a splinter of a splinter of the Peruvian Communist Party in Ayacucho, the capital of an impoverished region in the Andes where he taught at the university. He recruited his students, most of them women; many became teachers who, once qualified, fanned out to schools in towns and villages. Just as Peru was returning to democracy, he launched his Maoist "protracted people's war to surround the cities from the countryside". To avoid dependence on outsiders, Sendero's weapons were machetes, stones and dynamite, until they stole guns from the security forces.

Mr Guzmán, too, was unique. His moral dissonance made him one of the 20th century's last monsters. He lived in an absolutist ideological bubble, immune from reality, including the cruelty and suffering he ordered. Sendero killed some 38,000 people, according to an investigation by a Truth and Reconciliation Commission. Yet Mr Guzmán was indirectly responsible, too, for more than 30,000 killings by the armed forces and self-defence militias. The majority of the victims were Quechua-speaking villagers in the Andes—those in whose name his war was supposedly being fought.

He erected a preposterous personality cult around himself: he styled himself President Gonzalo, the "fourth sword of Marxism". Sendero's ideology became "Marxism-Leninism-Maoism-Gonzalo Thought". When operations went wrong, those responsible were subject to long, humiliating sessions of self-criticism at party meetings. He told his followers that their deaths were glorious, playing on Andean millenarianism.

His techniques foreshadowed those of jihadist terrorism. But Mr Guzmán ran no physical risks himself. He was no Che Guevara. Throughout the war he lived in safe houses in the posher neighbourhoods of Lima. When the police burst in, he offered no resistance. He immediately called on his followers to give up, turning Sendero into a non-violent political movement (called Movadef) whose purpose was to campaign for his release.

This psychotic narcissism went hand in hand with extraordinary powers of persuasion. Psychiatrists might point to a complicated childhood to explain what turned a theoretician into an indirect mass murderer. Mr Guzmán was the illegitimate son of an estate administrator and a poor mother who later abandoned him. Thanks to his stepmother he acquired a university education—and an uncertain place in the social order.

In explaining Sendero's bloody appeal sociologists noted Peru's frailties. Many in the Andes hated abusive officials and police, and initially welcomed the Maoists until their totalitarian demands to restrict crops and recruit children prompted a rebellion. A fragile state, undermined by the debt crisis of the 1980s and hyperinflation, flailed in its response. Brutalised armed forces took far too long to realise that peasant farmers were allies not enemies. Some upper-class Peruvians, racked by guilt about their country's inequalities, sympathised with Sendero.

"There is a powerful capacity in Peruvian society for hatred and destruction," Alberto Flores Galindo, a historian, told Bello in Lima in 1989. Three decades later this capacity has revealed itself in a bitterly polarised election and the victory, by a narrow margin, of Pedro Castillo, a far-leftist—a result that Sendero long made unthinkable. The new president is a rural teacher, like many of Mr Guzmán's recruits, and has several allies with ties either to Sendero or to Movadef. Mr Guzmán took to extremes the belief of many communists that the end justifies the means. That such zealotry still echoes in Peru ought to bring self-criticism from those in power who are equivocating over the history of terror.

Gender and politics

Name dropping

South Asia's non-binary communities worry about losing their identity as they gain mainstream acceptance

In March, when Tashnuva Anan Shishir appeared on Bangladeshi television screens, she created history as the country's first transgender news anchor. A few weeks later a *madrassa* exclusively for *khwaja saras* opened in Pakistan. In India "Phirki", a television show that ran for 225 episodes last year, portrayed in unprecedented detail the lives of *hijras*.

South Asia has a plethora of terms for people who identify neither as male nor female. Apart from *hijra* (which is the best known) and *khwaja sara* (which is mostly used in Pakistan), they include *aravani*, *kinnar*, *kothi* and *shiv-shakthi*. Many advocacy groups and NGOs favour "transgender", while governments prefer "third gender". Estimates of the number of non-binary people in Bangladesh, India and Pakistan run from 500,000 to several million.

Since 2014 all three countries have recognised third gender as a legal category. In 2016 a small group of Muslim clerics in Pakistan set a precedent by ruling that *hijras* can marry and be buried with other Muslims. By 2019 India and Pakistan had both passed transgender protection acts. Bangladesh introduced a scheme to hire *hijras* for government jobs in 2015, and earlier this year started offering generous tax breaks to companies that employ them.

The creative and legislative energy has, however, also highlighted the problems inherent in naming and defining gender identities. Many of the people who ought to benefit from the new laws are riled by what they see as lawmakers' perpetuation of long-held misconceptions, such as the idea that *hijras* are intersex (of indeterminate gender). Most *hijras* are deemed male at birth but feel female, and are usually attracted to men. Other critics find modern gender discourse troublesome. They object to the idea that "*hijra*" and "transgender" are synonymous, and worry that the foreign import risks lowering *hijras*' status.

South Asia has a long history of gender diversity. *Hijras* feature in the mythology surrounding Ram, an important Hindu deity, who is said to have rewarded their devotion with spiritual gifts. Records from the 18th century describe effeminate men, dressed as women, who offered blessings at births and marriages in elite society. In some parts of the subcontinent, *hijra* communities led by gurus were granted rent-free land and the right to collect donations, says Jessica Hinchy of Singapore's Nanyang Technological University, the author of a book on *hijras* in colonial India. Belief in their power to impart blessings (and curses) remains part of the culture in India, as well as in Muslim-majority Bangladesh and Pakistan.

In the 19th century, however, British colonial rule reversed their fortunes. *Hijras* were relabelled eunuchs, a term normally reserved for castrated men. By the 1850s *hijras* had lost their state patronage. They fell foul of new legislation, including Section 377 of the Indian penal code of 1861, which outlawed homosexuality, and various iterations of the Criminal Tribes Act, which forced "eunuchs", along with other groups deemed hereditarily criminal, to register themselves. It also made it illegal for them to dance in public, dress in women's clothes or reside with children.

The declining status of *hijras* continued well into the 20th century. Growing up in the late 1970s and early 1980s, Faraz Khan was used to seeing *khwaja saras* invited to offer blessings for marriages and births. Now they would not be welcome at a private party, says Mr Khan, whose investment firm, Seed Ventures, has a special focus on trans-owned businesses. It "wouldn't be seen as classy enough".

The region's governments are keen to defend the rights of *hijras*, who remain a highly visible minority. It is also a politically palatable way for them to show off ▸▸

their progressive credentials, especially in Bangladesh and Pakistan, where homosexuality remains illegal. Many South Asian Muslims believe that if God made the body a certain way, his followers must accept it. Being born intersex—unlike being gay—therefore breaks no religious codes. Unsurprisingly, some *hijras* are reluctant to debunk the intersex myth or to associate too closely with gay and lesbian groups. “We talk about LGBTQ,” says Zerine (not her real name), a Bangladeshi lesbian and activist, but the term “doesn’t mean much in reality: the situations of each community are completely separate.”

Steps like tax breaks are welcomed by *hijras*. Other efforts, however, are hobbled by the drafters’ limited understanding of the people they wish to help. To enjoy the protection offered by the new act, India’s third gender is required to register as trans, a process that, for some, requires medical proof of gender reassignment, which most *hijras* do not undergo. Bangladesh’s government-jobs scheme failed because *hijras* had to prove they were intersex.

Attempts to relabel *hijras* have also proved divisive. “Transgender” arrived in South Asia after the term gained currency globally, especially in recent years. Some local activists and organisations adopted it pragmatically: it was more appealing to international funders. Others have embraced it as a route to progress. Using a global term and being connected to a global movement is “empowering”, says Hochemin Islam, a transgender nurse and activist from Dhaka, Bangladesh’s capital. Governments and the media, keen to be seen as on trend, increasingly use the term, too.

Yet transgender is also used to denote respectability. The “I am not a *hijra*” campaign, organised by an advocacy group in India in 2016, showed trans Indians holding placards with statements like “I earn a six-figure salary, I am not a *hijra*”. Whatever the intentions, it ended up stigmatising *hijras*, says Aniruddha Dutta of the University of Iowa. Adnan Hossain of Utrecht University notes that *hijra*, unlike “transgender” in the West, is also a class identity.

Many *hijras* also describe themselves as transgender, such as Saro Imran, who runs a skills-training centre for trans people in Multan, in the Pakistani state of Punjab. Some undergo sex-change operations, or aspire to. But many others, like Srabonti Srabon, a Bangladeshi *hijra*, shun both. *Hijra* is an identity unto itself: they come from poor families where they are not understood or accepted, she says. Leaving, or being kicked out, is a vital part of this identity. So is being initiated into a tightly knit clan of *hijras* and learning its traditions and rituals under the tutelage of a guru. “This culture is 2,000 years old. Trans is a fairly recent phenomenon,” says Ms Srabon. “They cannot be clubbed together.” ■

Afghanistan

Highway 1 revisited

KANDAHAR

What the road from Kabul to Kandahar reveals about the country

THE HIGHWAY nearly 500km long that links Afghanistan’s capital, Kabul, to its second city, Kandahar, was once hailed as a sign of great progress in America’s campaign to pacify Afghanistan. When Hamid Karzai, then president, inaugurated the first stretch in 2003, he said it was one of the best days of his life. Yet the road quickly became a troubling example of what was going wrong. A month after the Taliban took power, the journey from Kabul to Kandahar illustrates both how the country changed overnight and the failures that helped precipitate that shift.

Only weeks ago, driving down this stretch of Highway 1, a sort of national ring road, was unthinkable for many Afghans. Impromptu Taliban checkpoints stopped traffic and scoured buses and taxis for members of the armed forces to kidnap or kill. Military convoys were blown apart by bombs hidden under the road. Some districts, such as Saydabad in Wardak province, not far from Kabul (see map), became notorious as danger spots.

The biggest dangers have subsided now that the very fighters who once attacked the road are the ones guarding it. The Taliban’s checkpoints are still there, but now they are formal, waving traffic through. By contrast, the American-built security posts which lined the road in an unsuccessful effort to protect the route are already decaying. Some fly the white banner of the Taliban. Others are deserted. In the oldest, scrap merchants have removed the wire holding up the giant sandbags that ring the outposts. All that remains are sinking cubes of earth being reclaimed by the desert.

With the danger of attack gone, it is the quality of the road that is the biggest ordeal. When the resurfaced road was first opened, it could convey drivers from city to city in six hours. The same journey now takes nearly twice as long. Bombs have destroyed some stretches; overladen lorries have carved deep ruts into others.

Road-building was once the second-biggest beneficiary of international aid. NATO generals saw it as a way to win hearts and minds. But the deluge of cash, more than $4bn, attracted the sort of corruption that undermined most development schemes. Road-builders subcontracted their work and skimmed off as much as they could. The resulting highways were of poor quality and quickly fell apart, owing not just to explosions but also to more mundane and predictable problems such as flooding and heavy traffic. Other failed development projects line the road, including several electricity substations, complete with pylons but no power cables.

For the residents of rural Wardak, Ghazni and Zabul provinces, the foreigners’ efforts were of questionable value, says a journalist in the city of Qalat, in Zabul. “The whole focus was on the centres and I could not see any development in rural areas,” he says. “That’s why people started rising against the government.” The war over the road also brought night raids, air strikes and disappearances to the districts. Both sides were ruthless.

The Taliban, too, see the road as important. Just like the previous Afghan government and its foreign backers, they boast of road-building. On September 10th the public-works ministry announced that it had started “comprehensive reconstruction work” and engaged two construction companies to build three bridges and 40 culverts. With foreign aid frozen, the Taliban have little money for such works, but they have the benefit of security.

Those who once fought over the road are returning to their normal lives. At a wholesale dried-fruit market in the backstreets of Qalat, labourers weigh sacks of raisins. One has just returned to work after eight years in the fields with the Taliban. Eyeing this correspondent warily, he asks a friend: “Is he left over from the last lot of foreigners, or have new ones arrived?”

Education in India

Remotely learning

DELHI

India's pupils have been hard hit by extended school closures

As covid-19 measures relax across the world, nothing brings quite so much relief as the reopening of schools. For India's 320m schoolchildren, its 8.5m teachers and for parents, too, the relief is particularly acute. Not only have Indian schools suffered some of the world's longest closures—an average of 69 weeks. For reasons peculiar to India, its shutdowns have also been especially disruptive. And they have exacerbated the awful learning outcomes from the vast lower tier of schools.

For some, the switch from in-class to online learning started well enough. A teacher in one private school in Delhi, the capital, recalls how she stopped worrying about tele-teaching on the very first day, after finding that every student on her screen had respectfully donned the school uniform for the occasion. But for others the switch never happened. A survey in Kolkata last year found that two-fifths of pupils enrolled in state primary schools had no way to follow online materials. Another in Chennai, India's sixth-biggest city, found that one in five children were in schools that offered no online instruction, and a fifth of the rest did not attend remote classes anyway.

Matters have been bad for the poor, and worse still in rural India. A more recent study, conducted in August among low-income households across 15 states, found that only 24% of the children interviewed in urban slums said they "regularly" followed online lessons. The proportion in villages was a dismal 8%. Some 37% of rural children said they had done no studying at all during the school closures. Many cited lack of a computer or smartphone as the reason. Erratic power and internet access, or a lack of online material in their language, also played a part.

K. Mahalakshmi, who teaches among tribal peoples in the Jawadhu Hills region of Tamil Nadu, a southern state, says the two pandemic years have derailed ten years of work to raise enrolment, especially of girls, in her school. She recalls meeting by chance, during India's devastating second wave this spring, a student she had noted as particularly bright, but this time in a maternity ward. "Girls like her would have at least finished high school before marriage," says Ms Mahalakshmi, adding that boys have been sent out to work to help tide families over.

Those who have stayed in school have fared less well than they should, too. "The knowledge does not reach their heads at all," is how Amol Ahire, a 38-year-old father of two in Thane, a suburb of Mumbai, puts it. He says that before the pandemic his eight-year-old son used to write numbers and the alphabet, but now he stumbles.

Out of school and out of luck

The boy is not alone. In the study of poor communities, fewer than one in 20 parents said that their children's skills improved during school closures. Preliminary findings from a respected periodical survey of learning in rural schools, the Annual Status of Education Report (ASER), corroborate the decline. Released this month, it found that among 18,000 children in the state of Karnataka, the proportion of third-graders who could read a grade-two-level test had halved, from nearly 20% to just under 10%.

Years of ASER data have underlined a more general failing of Indian education. Because students are promoted regardless of achievement, and because teachers then favour only those students they see as likely to pass high-school exams, many leave education without ever acquiring basic skills. To correct this, the government last year launched an ambitious drive to bolster early learning. But now, having lost more than 14 months of schooling, Indian students are instead entering higher grades with even more of a handicap.

Many will also be less well-fed. Over the past 25 years a programme that serves a simple, hot midday meal to some 100m students in state schools has markedly reduced rates of stunting and malnutrition. A recent study suggests these benefits extend to the next generation, too. During the closures many Indian states tried to compensate for lost school meals with direct food aid, with varying degrees of success. With online learning, unlike in-person schooling, there is rarely such a thing as a free lunch. ■

The Korean peninsula

Testing times

SEOUL

The arms race is intensifying

Observers of military developments on the Korean peninsula were given whiplash on September 15th. Around lunchtime in Seoul, news broke that North Korea had fired two ballistic missiles off its east coast. Shortly afterwards the South Korean government announced that Moon Jae-in, the president, had observed the successful test of a submarine-launched ballistic missile, the development of which the armed forces had previously declined to confirm. The parallel tests came hot on the heels of North Korean state-media reports that the country had successfully tested a new class of cruise missile over the weekend. For good measure, South Korea confirmed this week that it had recently developed a new cruise missile, too.

The Korean peninsula is entering a dangerous new phase in its arms race. North Korea, which resumed testing missiles in 2019 after a brief pause the previous year, has since continued to expand both its nuclear and its conventional arsenal, despite UN sanctions that ban it from doing just that. It has focused on new missiles that may be better at evading the South's detection systems, rather than the intercontinental ballistic sort that could threaten America. Meanwhile the South has been ramping up defence spending and beefing up its own arsenal.

Three generations of North Korean dictators have sought to build ever more fearsome weapons, seeing this as essential for their survival. The South's build-up has accelerated more recently, spurred by growing concerns about the durability of the alliance with America and the increasing tension between China and America. Donald Trump, America's previous president, fuelled those concerns with his isolationist rhetoric and his dim view of alliances. So did the perceived lack of support from America when South Korea suffered a painful Chinese boycott after agreeing to host an American anti-missile system in 2017. Since taking office that year, Mr Moon has worked to make South Korea less dependent on America for its defence.

Diplomatic efforts to defuse tensions on the peninsula have been deadlocked since 2019. North Korea has spent the best part of two years entirely closed off from the world in a bid to ward off covid-19. The restoration of a communications link between the two Koreas in June (following the demolition of a joint liaison office by ▸▸

the North a year earlier) did not lead to wider detente. Then the North stopped returning the South's calls ahead of joint military exercises between the South and America in mid-August.

The exercises, which the North views as practice for an invasion by the South, may be one reason it has resumed testing, reckons Ramon Pacheco Pardo of King's College in London. "They need to test those new missiles to see if they work, and doing it now allows them to send a message of disapproval at the same time," he says. There is growing pessimism about the prospect of further talks. The ballistic-missile tests came a day after America's special representative for North Korea met senior South Korean and Japanese officials in Tokyo to discuss ways to cajole the North back to the table. South Korea's armed forces, which tend to be cagey about identifying the North's weapons to avoid raising tensions, this time quickly pointed out that they were sanctions-busting ones.

The timing of the South's test, too, is hardly diplomatic. The submarine launch coincided with a visit to Seoul by China's foreign minister, who had met his South Korean counterpart as well as Mr Moon earlier in the day. He was there to discuss not just relations between China and South Korea, but also joint efforts to persuade the North to resume negotiations about its nuclear arsenal. Mr Moon's speech about the need for missiles on subs to defend against "omnidirectional threats" will not have helped with that. Meanwhile, South Korea's National Security Council expressed "deep concern" about the North's "provocation". As a South Korean saying has it, "What I do is romance; what others do, adultery." ■

Banyan The sum of its parts

Australia's states have discovered a taste for asserting themselves

ACROSS MUCH of Asia, the pandemic has given national leaders an excuse to unleash authoritarian instincts—think Thailand, the Philippines or India. Australia, though, provides a stark contrast. There, authority has conspicuously ebbed away from the federal government and to the vast country's six states.

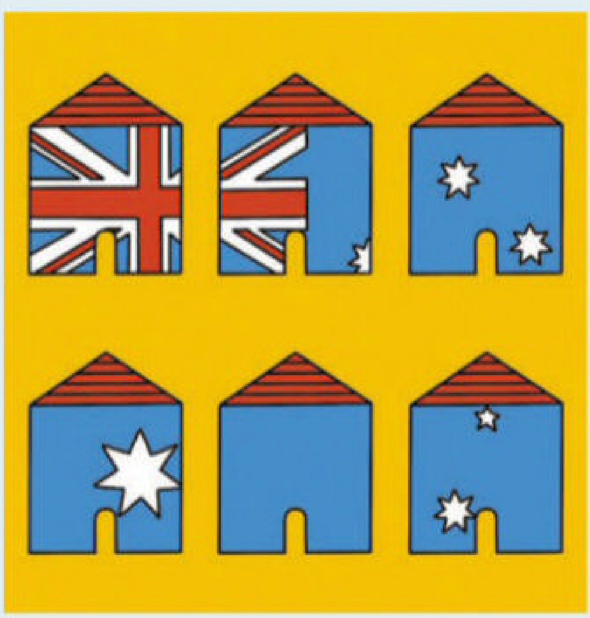
The shift is clearest in the way states have imposed their own quarantine rules. Australia closed to the outside world at the outset of the pandemic. But individual state governments also saw out-of-state Australians as a peril. Backed by state police and pursuing a zero-covid policy, they slammed their borders shut. They have since opened and closed them on states' individual whims, depending on the perceived threat of infections from other states.

No more striking exercise of state power has occurred since the Spanish flu pandemic in 1919, when states last closed themselves off from each other. But then the Commonwealth of Australia was not even 20 years old. Regional identities were stronger than national ones. Canberra was not yet then the federal capital. And the role of the prime minister of the federation had not yet been properly construed: the premiers of New South Wales and Victoria, the most populous states, wielded more power.

This time the federal government is stronger. But it has also bungled. The prime minister, Scott Morrison, looked witless early on by insisting he would attend a rugby match. His government joined a suit brought by a mining tycoon challenging Western Australia's popular decision to close its borders. More recently Canberra insisted on overseeing Australia's vaccine rollout but failed to lay on sufficient supplies. It struggled to get what jabs it had into arms after blocking state health authorities from taking the lead. These have since stepped in, with mass-vaccination clinics, but the political harm has been done. Mr Morrison's ratings languish. In contrast, the premiers of the two most isolationist states, Western Australia and Queensland, have won landslide re-elections.

The pandemic has given people "a lesson in how real the states' sovereignty is", says Frank Bongiorno, a historian at the Australian National University. A sense of state identity has re-emerged among citizens. Australians tune in to state leaders' daily press briefings on the pandemic. A new "national cabinet" that includes state premiers has been formed to co-ordinate the response. Greg Melleuish of the University of Wollongong says these days they enjoy "the limelight they don't normally get". Perhaps for the first time, Australians are familiar with premiers of other states.

Much of the ground for states' re-emergence, argues Geoff Gallop, a former premier of Western Australia, had already been laid. Once home to corrupt political machines, reformed state capitals have in recent decades earned a better reputation. More sleaze attaches to governments in Canberra. States have taken the lead in areas that the federal government has wilfully neglected, Aboriginal affairs and climate change above all.



Yet does this all amount to a permanent shift in relative power? Perhaps not. Who holds the purse strings still counts. The government in Canberra began accruing power after the second world war with the introduction of a federal income tax. Closing borders and imposing lockdowns is an easier call with the federal government's promise of massive support for state economies.

Nor is a permanent shift away from federal authority always desirable. Take climate: Australia's international commitments to cut carbon emissions can only be made in Canberra, not state capitals. As for the new national cabinet, it does not behave as a cabinet should, by assuming collective responsibility. Rather, individual premiers like to grab the microphone. Besides, its importance will fade with the pandemic.

Right now, the federal government must push more forcefully for reopening, not just between states but to the outside world, too. Michael Fullilove of the Lowy Institute, a think-tank in Sydney, warns that inter-state rivalry risks curdling national unity. As it is, isolation has caused Australia to turn inward. It is shut off from its huge diaspora and it has halted the immigration on which the country was built. A "fortress Australia", anxious about the world and inclined to throw up barriers against it, is, as Mr Fullilove warns, a smaller Australia. If ever the federal government had a case to make against the states' perspective, it is that one.

Using the law

Courting influence

NEW YORK

China is becoming more assertive in international legal disputes

IN EARLY JANUARY the Communist Party published a five-year plan for the development of "socialist rule of law with Chinese characteristics". Most of the document is domestically focused, but one section is devoted to foreign matters. It calls on China to help shape international law, to turn itself into the first choice of jurisdiction when resolving cross-border disputes and to encourage the use of Chinese law abroad.

The party's goal, the plan says, is to promote "fair and reasonable" international rules. But in the past year it has become increasingly clear that the party means to take a legal fight to the world. President Xi Jinping wants China's legal apparatus to grow bolder when dealing with international matters, and to reshape international legal and regulatory norms. In areas such as patents, maritime rights, cyber-security, sanctions and extradition battles, the Communist Party is using its legal system to safeguard and advance China's interests in ways it has not previously done.

The most visible part of this push has been the party's aggressive response to Western sanctions imposed for the repression of ethnic Uyghurs, a Muslim minority. China imposed retaliatory sanctions on Western officials and academics. It then authorised the seizure of assets and blocking of transactions made by firms complying with foreign sanctions. (In August the legislature delayed a vote on extending the same provision from mainland China to Hong Kong.)

China is also advancing its conception of the rule of law—one that exists under the unquestioned leadership of the party—beyond its borders in other areas, such as intellectual property. At a Politburo meeting last November Mr Xi called for greater assertiveness in cross-border disputes, saying China should "promote the extra-territorial application" of its intellectual-property laws. Mr Xi was in effect "weaponising the judiciary" to defend China's interests abroad, says Mark Cohen, a scholar of Chinese intellectual-property law at the University of California, Berkeley.

In the past year Chinese courts have issued sweeping orders on behalf of Chinese smartphone-makers that seek to prevent lawsuits against them in other countries over the use of foreign companies' intellectual property. The Chinese courts have ordered these "anti-suit injunctions" so that they (rather than foreign courts) can decide how much Chinese firms should pay in royalties to the holders of patents that their products use. Jorge Contreras at the University of Utah says this marks an unusual escalation in the use of judicial power globally.

The assertion by China's courts of a right to set global rates in patent disputes is not unprecedented; a British court did something similar in 2017. But China's courts have become much more activist than others in claiming this authority. The stakes are high. Chinese courts typically grant a fraction of what might be ordered by a Western court. And China typically has leverage over the foreign parties in these cases. Those that manufacture goods in China or sell to the Chinese market must heed such rulings or face big penalties.

In the past year Huawei, Oppo and Xiaomi have all won anti-suit injunctions against foreign patent-holders. Out-of-court agreements on royalty rates are typical in such cases. Experts say the Chinese injunctions helped Huawei and Xiaomi win better settlements, and may do the same for Oppo.

Another focus for the courts has been the Belt and Road Initiative (BRI), Mr Xi's sprawling effort to finance and build physical and digital infrastructure all around the world. It has spawned numerous disputes between foreign entities and Chinese contractors and banks. China has set up a special international commercial ▸▸

court to resolve some disputes. In 2019 the Supreme People's Court called for the strengthening of Chinese courts' capacity to hear international commercial cases and for the improvement of arbitration, the better to settle such matters in China.

Foreign experts say such cases would normally be handled in the country where the work was done. "It would be unbelievable for any foreign company that's doing business in their country, not in China, to accept dispute resolution in China unless they're politically coerced or economically coerced into doing it," says Jerome Cohen of New York University.

The party would argue that it has merely begun to take a more active role in shaping international law. China entered international treaties and bodies, such as the UN and the World Trade Organisation (WTO), under rules it had no hand in writing, after years during which the Communist Party was either hostile to such institutions or followed the advice of Deng Xiaoping, a former leader, to keep a low profile in international affairs. Mr Xi has shed that caution.

Foreign companies have begun to note the willingness of the Chinese courts to claim more authority in matters beyond their borders. At least one, Samsung Electronics of South Korea, has tried to benefit from it. In December a court in Wuhan granted an injunction to Samsung, forbidding Ericsson, a Swedish telecoms firm, from going to any other court in the world to resolve a global dispute over the use of Ericsson's patents in Samsung's hardware. A judge in Texas, at Ericsson's request, tried to rebuff the Chinese ruling with an "anti-interference order", which some have called an "anti-anti-suit injunction". The Texas judge ruled that Ericsson deserved a hearing in America on a royalty rate for use of its patents in the American market. But the Wuhan court had pre-emptively included an "anti-anti-anti-suit injunction" in its original ruling. Samsung and Ericsson agreed on a global settlement in May, the Wuhan court having strengthened Samsung's negotiating position.

Judges, officials and business people have bristled at the new aggressiveness of China's courts. In July the European Union filed a request with the WTO that China be more transparent about such cases. Its rulings are often not made public, yet Chinese judicial authorities have tended to view these cases as important guideposts for future rulings. The office of the US Trade Representative has also registered concern about China's use of anti-suit injunctions.

Mr Xi might argue that the playing field has for too long been skewed against China. Mr Contreras says Chinese officials now see judicial assertiveness as an important new tool that can help tilt things in their direction. ■

Evergrande

Rising damp

HONG KONG

Protesters besiege the offices of an indebted property developer

PROTESTS BY ANGRY investors are common in China. Average folk who have been deceived by online lenders or other scam artists have few outlets for redress. They occupy office lobbies until a senior executive appears to calm their nerves. It is rare, however, for demonstrators to target well-known companies, and rarer still for connected protests to crop up all across the country. Events such as these have made Evergrande, a massive property developer on the brink of default, something of a spectacle in recent days.

The company has debts of around $300bn, the most of any property group in the world. On September 13th its headquarters in the southern city of Shenzhen (pictured) were besieged by investors who were demanding that their money be returned. Similar scenes were witnessed at Evergrande offices in several other cities. In one video circulating online a woman yells into a loudspeaker, demanding answers from Evergrande staff. In another, an executive attempts to field questions in a cramped hallway, only to be shouted down by protesters.

Since 2020 the Chinese government has sought to limit property developers' borrowing. Rule changes that are part of a wider campaign against indebtedness have nudged several real-estate groups into default, or to the cusp of it. That is where Evergrande, once thought too big to fail, now finds itself. The company has hired advisers to help it resolve its financial difficulties and warned on September 14th that it could default. Many analysts who follow the group say that such an outcome, followed by a restructuring, is beginning to look unavoidable.

Nothing to see here

Many of the people who have been protesting have put cash into financial products managed by Evergrande. Others are suppliers and contractors owed payment for their work on projects that have stalled all across China. In recent weeks the company has tried to sell off some of its unfinished housing developments in order to pay down its debts. Some videos also purport to show frustrated employees berating their bosses (Evergrande has well over 100,000 staff).

The single largest group of people fearing harm are homebuyers who have already paid for their flats. China's property market has long relied on people coughing up before their homes are completed, in order to generate working capital for developers. Of Evergrande's roughly $300bn in liabilities, about 1.3trn yuan ($200bn) is cash that customers have put down for homes that have yet to be finished, estimates Capital Economics, a research firm. That is equivalent to the value of 1.4m individual properties.

Chinese authorities are adept at managing small protests, which they often refer to as "mass incidents". When China's 1trn-yuan peer-to-peer lending boom came to an end in 2018, tens of thousands of ordinary people turned up on the doorsteps of companies that had swallowed their savings instead of providing the promised returns. These incidents were diffuse. It was rare for more than 100 people to protest at any given site. But the problem became so acute in Hangzhou, a hub for online-lending firms, that the local government was eventually forced to convert two stadiums into venues that could receive complaints from aggrieved investors.

Xi Jinping, China's president, has vowed to narrow the yawning chasm that divides China's haves from its have-nots. High house prices are a particular focus. It is not yet clear whether this campaign will send prices lower. But it could very well bring to an end two decades of unbridled increases. House-price growth in China's four largest cities eased slightly in August, compared with the month before.

Footage of indignant investors, suppliers and employees, which has been shared widely on local social media, underscores the risks that Mr Xi runs as he orders state regulators to curb speculation in housing and clamp down on market excesses in the name of greater income equality or, as he calls it, "common prosperity". Then again, Mr Xi and his team may draw another moral from those angry smartphone videos: that too little state control is the greatest risk of all. ■

Chaguan | The party's model emperor

A Qing dynasty ruler is praised for pacifying China's borderlands

WHAT WITH his dozens of concubines, his obsession with collecting precious jade and his penchant for inscribing his own (not very good) poems onto ancient paintings, the Qianlong emperor makes an unlikely hero for the Communist Party of China, especially one led by Xi Jinping, a stern ascetic. Qianlong was a man of formidable intellect and will, whose long reign from 1736-95 marked a high point of the Qing dynasty. But he was also a conservative aristocrat, from his passion for genealogy to his love of bowhunting on horseback, an archaic pastime even then.

Chaguan was surprised, then, to hear an official historian praise Qianlong in terms that would make a Politburo member blush. The scholar, Wang Xudong, heads the Palace Museum in Beijing, as the Forbidden City is formally known. During a government-organised press tour, Mr Wang described past emperors as hard-working statesmen who "wanted their empire to be stable and prosperous". Unbidden, Mr Wang denied that the geomantic design of the Forbidden City, with a hill behind it and a river in front, is a form of superstition. *Feng shui* is a commonsense tradition, he argued: everyone wants shelter from the wind and sustaining water nearby. As for palace temples devoted to ancestor worship, "China is a country devoted to families," he soothed, as if duty-bound to play down any contradiction between imperial wonders and modern-day rule by an atheist party. Your columnist asked about two wildly popular drama series set in Qianlong's court, which were booted from state television channels in 2019 after official media grumbled about the "negative impact" of imperial sagas filled with poisonings, betrayals and extravagant living. Such so-called Qing dramas are "cultural pollution", sniffed Mr Wang. Why can't they show examples of good governance by the emperor, or that princes and princesses were diligent and studious, he asked? "Those are lessons that our children can learn."

Tributes to favoured emperors are not new. As the party replaced Maoist fervour with Chinese nationalism in the 1980s and 1990s, Qianlong was rehabilitated as a nation-builder. Through a mix of diplomacy, wars and campaigns to crush far-flung rebellions, Qianlong added vast territories to his empire, notably in Tibet and Xinjiang. His reign was declared a heyday of the Qing dynasty before—as textbooks put it—the empire declined into decadence, subjected China to a century of humiliations at the hands of foreign powers, and collapsed in 1912. Recalling past shames remains useful for official historians, who praise the party for making China strong at last. But accounts of late-Qing weakness are increasingly offset by tributes to earlier glories. Today's party sees value in presenting itself as heir to a uniquely wise—and distinctively Chinese—civilisation that can be traced back 5,000 years. For Mr Wang, an official of vice-ministerial rank, the Forbidden City is proof, in timber and stone, of that cultural exceptionalism. "If you did not have 5,000 years of civilisation, you would not have socialism with Chinese characteristics," he declared, calling the party "a loyal inheritor and protector" of that glorious past.

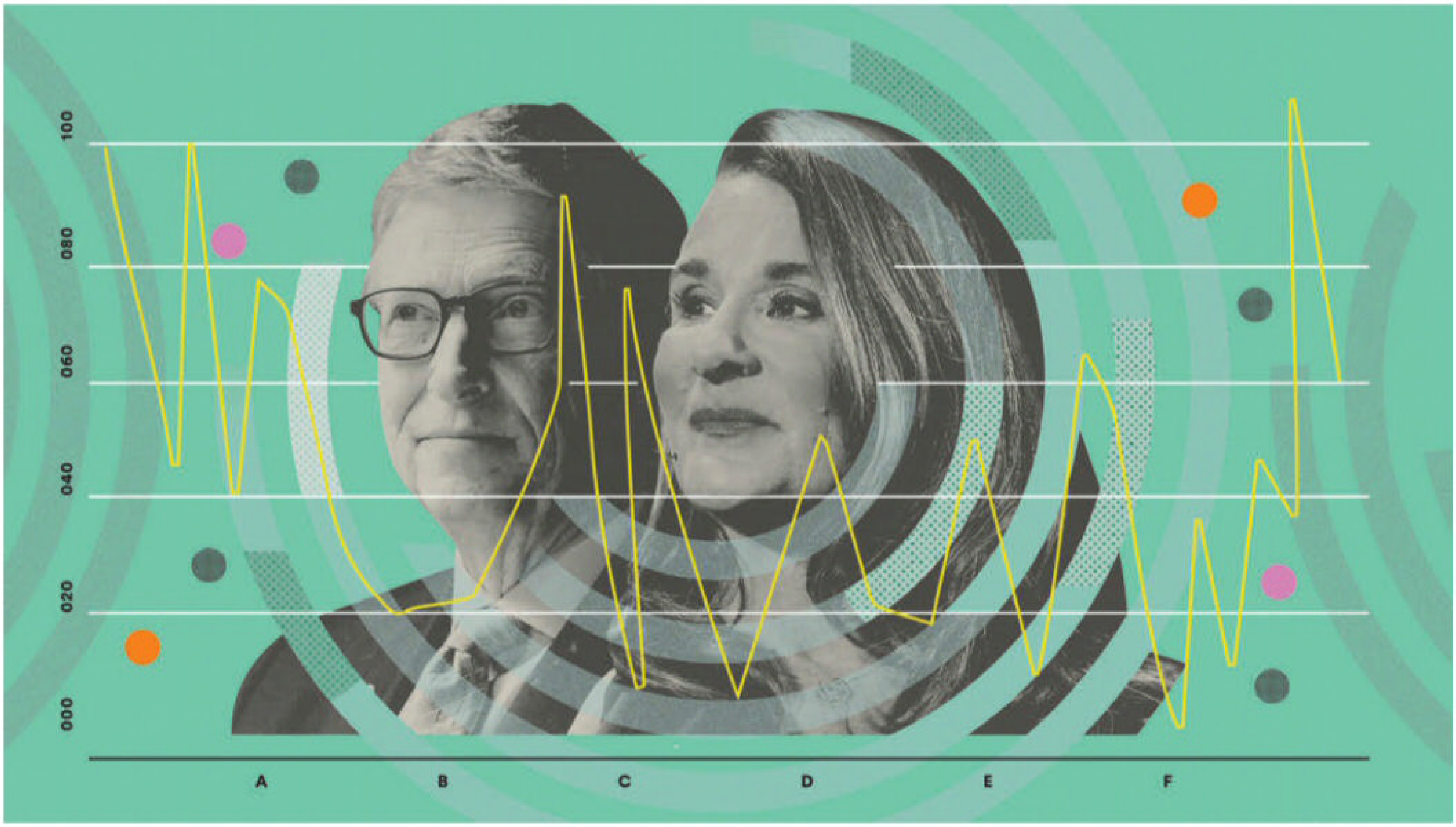
On August 24th Mr Xi, the party's supreme leader, visited a site dear to Qianlong, an imperial summer retreat at Chengde, in cool, wooded hills north of Beijing. Mr Xi toured Puning Temple, a Buddhist complex built in a mix of Tibetan and Han Chinese styles. That architecture celebrates Qianlong's crushing of a revolt by Mongol nomads who practised Tibetan Buddhism. Inspecting Puning's red-pillared halls, Mr Xi stressed one of his priorities, the need to "sinicise" religions, meaning to make them Chinese in orientation so that, in his words, they better conform to and serve the needs of a socialist society. Then Mr Xi explored a new exhibition at the Chengde Museum that praises Qianlong in language that could come straight from the *People's Daily*. Museum signs explain that Qianlong "improved the Qing central government's management of Tibet, quelled multiple bouts of conflict by separatists in Xinjiang, and further unified this multi-ethnic country".

Chaguan visited the museum a few days later. It presents Qianlong as the epitome of a virtuous, Chinese ruler, whether that meant honouring ancestral rites by holding autumn hunts, or introducing policies to "unify all ethnicities". There are reproductions of his Mandarin-language calligraphy and images of him in Chinese imperial robes. In fact Qianlong was a member of the Manchu nationality, like all Qing emperors. The Qing won the throne by toppling a Chinese dynasty, the Ming. Qianlong intended his hunt to preserve the traditions of his martial, nomadic ancestors, calling it "the best way to train Manchus". It was open to Manchu nobles and soldiers, and some Mongol allies. Like many sacred Qing institutions, the hunt was essentially closed to the Han, the majority Chinese nationality. Han Chinese lived as subjects in a Manchu-led empire, barred by law from marrying Manchus and often living in separate city districts.

Rebranding the multi-ethnic Manchu empire as "China"

Such ethnic divisions and hierarchies complicate boasts about 5,000 years of continuous Chinese civilisation. Official historians respond by claiming that the Qing so admired Han culture that they instantly assimilated into it, becoming the latest in an unbroken line of Chinese rulers. Manchu-language imperial archives make clear that is too neat: the Qing retained a hybrid identity.

The exhibit in Chengde is a puzzle. Important enough to draw Mr Xi, it rests on easily debunked history. The solution lies in another wall sign, which praises Chengde as a monument to the Qing dynasty's "historic feats" of "pacification and consolidation of the border regions". Two intensely political ideas lurk in that scholarly statement. First, the term "consolidation" reflects the party's claim that Tibet and Xinjiang have always been Chinese and so were reclaimed, not conquered, by the Qing. Second, to the security-obsessed hard men who run China, pacifying restive regions is a supremely patriotic act. That makes Qianlong a model worker. ■



Philanthropy

Shifting foundations

DAKAR

The Gates Foundation's data-driven approach to philanthropy has both advantages and limits

THE JANICKI OMNI PROCESSOR, a $2m machine paid for by the Bill & Melinda Gates Foundation, turns human waste into water and electricity. In poor cities such as Dakar in Senegal, where it has been piloted, the hope is that people will send sewage to sanitation plants to be processed, rather than chucking it into the streets.

The Omni Processor exemplifies the Gates Foundation's approach to philanthropy. Mr Gates likes to apply business principles to doing good, which means focusing on innovative, often technological, solutions with quantifiable results. The processor's inputs and outputs can be counted. The first version, which arrived in Senegal in 2015, was not designed to deal with sewage filled with sand and rocks as it is in Dakar. It was made of materials that corroded quickly in the city's sea air. These glitches have been fixed in the "OP 2.0", which arrived in Dakar this year.

Mr Gates has championed the foundation's data-driven style of philanthropy. But his ex-wife, now known as Melinda French Gates, is thought to have tempered his relentless focus on efficiency, arguing that number-crunching methods cannot resolve the complex causes of poverty on their own. That difference in emphasis, in turn, raises questions about whether the couple's divorce, announced this year, will set the world's most powerful charitable foundation on a novel course.

The foundation's influence is immense. Its $50bn endowment comes from contributions from Mr Gates, the co-founder of Microsoft, Ms French Gates and Warren Buffett, a billionaire investor and friend. In 2019 it gave out $4.1bn, according to the OECD, a club of rich countries, more than 11 times as much as the next-largest private American development foundation. If it were a government, it would be the 12th-biggest disburser of foreign aid, between Italy and Switzerland.

The Gates foundation is the second-biggest donor to the World Health Organisation, behind only the American government. It is a founding member of Gavi, a public-private partnership that provides vaccination programmes in poor countries. It has committed more than $1.8bn to fighting covid-19.

It is not the first to embrace a business-like approach to charitable giving. In 1889 Andrew Carnegie, a steel magnate, wrote in "The Gospel of Wealth": "One of the serious obstacles to the improvement of our race is indiscriminate charity." He cautioned against giving people money without scrutinising how they spent it. He and other industrialists such as Henry Ford and John D. Rockefeller set up large foundations with big boards to give away their money, mostly late in life.

In recent decades the centre of gravity for American philanthropy has shifted from the east coast to the west. Rich tech founders are giving away their wealth while young and taking a keen interest in how it is spent. Many take their cues from the Gates Foundation in terms of which causes to support and how to do so, says Nick Tedesco, a former Gates employee who is now head of the National Centre for Family Philanthropy in Washington, DC. "The influence of the Gates Foundation", he says, "is outsized."

Established in 2000, the foundation employs 1,750 people, mostly in Seattle. Mr Gates, who stepped down from his day-to-day role at Microsoft in 2008, takes a hands-on approach to its work. He and Ms French Gates pick causes on which they believe they can have the most impact, from improving education in America to eradicating diseases such as polio and malaria. They hire academics, former management consultants and mandarins to dish out grants, often referred to as "investments". ▸▸

The return on grants is measured precisely. A malaria project might be judged on bednets distributed; one on education might track attendance rates or test scores. Unsuccessful ventures are dropped.

Not all rich benefactors operate in this way. Some simply give vast sums of money to charities they like, leaving them to spend it as they wish. MacKenzie Scott, the ex-wife of Jeff Bezos, founder of Amazon, has announced over $8bn in donations since July 2020 in an approach she calls "seeding by ceding". She has hired Bridgespan Group, a consultancy, to help her pick grantees. Her gifts come without prescriptions or demands for reports on progress.

The Gates Foundation promotes data-driven, tech-based fixes for discrete problems. Mr Gates's first charitable effort was to buy computers for libraries in poor parts of America and connect them to the internet. His work in health initially focused on technological solutions, like vaccines, for particular infectious diseases.

Philanthropic Outlook

In other areas, however, that hyper-efficient, outcomes-oriented approach gets you only so far. Counting vaccines is easy; putting a number on a woman's freedom is not. Mr Gates and Ms French Gates expected global health to be the trickiest part of their portfolio, says Patrick Methvin, who works on education in America for the Gates Foundation. But they found that education projects were more complicated, in part because evaluating what children have learnt—and what they should learn—is far from straightforward. "Education is fundamentally a social-values-based enterprise," Mr Methvin says.

As Adam Moe Fejerskov, author of "The Gates Foundation's Rise to Power", puts it: "Quantification is really about reducing the messiness of the world to formulae and numbers." The trickiest problems cannot be solved by technology and numbers alone. When the first Omni Processor arrived in Dakar, almost a third of the city's 3m inhabitants did not live in homes connected to sewers. Public understanding of sanitation is limited. Shortly after the machine appeared, rumours that water extracted from sewage was being added to the city's drinking water caused uproar. Speak Up Africa, a Gates-funded policy-and-advocacy group, was called on to launch a public-information campaign.

The point of evaluating projects is to steer money away from those that do not work. The foundation says that it does so slowly, winding programmes down gradually. But this trial-and-error method can cause problems.

Early on, the foundation backed the small schools movement in America which suggested that students learn better in small groups getting more individual attention. But running extra-curricular activities and programmes for pupils who needed help with English or special needs was difficult with a smaller student body. With fewer teachers, small schools had to limit their curriculums. The foundation honoured existing grants but channelled new funds into other education reforms. Schools were left struggling for cash and children faced unnecessary upheaval. "We fell short," Mr Gates wrote in 2009.

For grantees, the level of monitoring and evaluation marks a big difference between the Gates Foundation and other donors. Programme officers oversee their work. That can be helpful. At Speak Up Africa, which has been awarded some $33m in multiple grants since 2015, the team says its monthly virtual meetings with Gates staff in Seattle offer a chance to discuss new ideas and meet international experts.

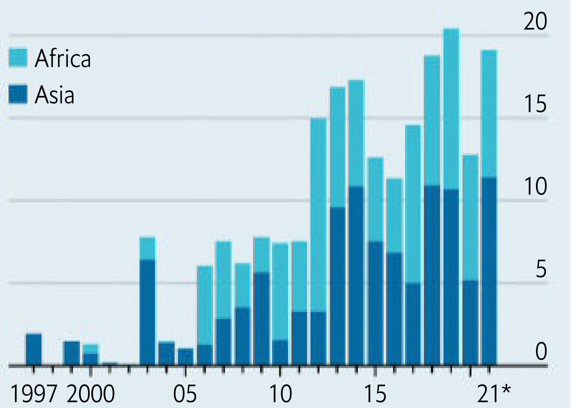
But the administrative burden can be overwhelming for small groups unused to working with a demanding, global foundation. Askaan Santé, a non-profit organisation in Dakar focused on public health with a staff of 13, received $900,000 in funding after its founder, Fatou Fall Ndoye, met a Gates staffer at a conference. The foundation helped her craft her proposal. But the application took eight months. "It's a long process," Ms Ndoye says.

This explains in part why the foundation tends to fund organisations based in the rich world rather than those in developing countries where the money is needed most. An analysis of the foundation's grants database by *The Economist* and David McCoy, a professor of global public health at Queen Mary University of London, suggests that grantees with headquarters in Africa and Asia have received just 5.3% and 5.6% of its grants respectively since 1999, though their share has risen (see chart).

There are many reasons for this asymmetry. Grantees based in America or Europe often have branches in poorer countries and pass funding on to sub-grantees elsewhere. Fewer people are doing cutting-edge research in sub-Saharan Africa. But it is also difficult for a small organisation in the poor world to get the attention of a Gates staffer. And the paperwork can be intimidating. Those that manage to win Gates funding often know someone at the foundation or have worked at an organisation backed by the foundation and so understand the process. Ms Ndoye had both.

Gateskeepers

Share of Gates Foundation grants to organisations with headquarters in Africa and Asia, %



Source: Gates Foundation *To June 28th

Initially the thought was that the foundation would use its resources for innovation to come up with "breakthroughs", and leave it to others to ensure they reached the right people, says Mark Suzman, its chief executive. "The wake-up call which hits a lot of people who come into philanthropy is that that doesn't necessarily work."

Instead the foundation is now focusing on making sure that its innovations work in the real world. This involves messy social changes that are difficult to track. It has invested $4bn in the Global Polio Eradication Initiative, including vaccines. But in Nigeria, the only African country where the disease remained endemic, it has also mapped villages in the conflict-ridden north which were missed in immunisation campaigns. The continent was declared free of wild polio last year.

In family planning the foundation is not simply distributing cheap contraceptives. Women in a low-income country, like India, might not feel comfortable going to a clinic to get condoms or a pill. The Gates-backed Centre for Social and Behaviour Change at Ashoka University near New Delhi tries to understand these social dynamics. It is supporting groups that help women build their confidence in such matters. Confidence is hard to quantify.

The unmeasurable side to philanthropy has drawn on the temperament and insights of Ms French Gates. Richard Horton, editor of the *Lancet*, a British medical journal, says she takes a "more holistic approach" to development, encompassing women's rights and the capacity of health systems. "She humanised the foundation in a remarkable way," he continues. Chris Eide, who founded Teachers United, an American advocacy group that received a Gates grant in 2011, describes two separate meetings with the pair. Ms French Gates, he says, asked him to bring a group of teachers and asked "open and earnest questions" about their work. Mr Gates met him one-on-one and grilled him on education policy. "The way he took notes from our conversation, it was almost like he was building a machine," says Mr Eide.

The question now is whether Ms French Gates's influence will outlast the pair's divorce. If in two years they no longer want to work together, she will resign as a trustee and receive a payout from him to continue her philanthropic work elsewhere. That would require the foundation to find a new way to get the most out of Mr Gates's data-driven method. ■

American business

Bring out the vim-o-meter

Less dynamic, less global and more monopolistic? We test three prevailing hypotheses about corporate America

Concerns about the health of American business are many and varied. Chief executives are chastised for their apparent short-termism. Their companies are berated for fetishising shareholders over everyone and everything else. Elon Musk, boss of Tesla, a maker of electric cars, grumbles about a surfeit of business-school graduates stifling innovation. President Joe Biden frets as much about American companies losing out to China as Donald Trump did (albeit with less bile). He also worries about the concentration of power among America's biggest firms.

All this paints a picture of America Inc that looks stodgier, more parochial and monopolistic. If true, that would be bad news for the spiritual home of free-market capitalism. But is it? *The Economist* set out to test all three hypotheses about American business: that it is less dynamic, less global and more concentrated. The results appear nowhere near as bleak as the doomsayers would have you believe.

Start with dynamism. Scholars have long argued that it isn't what it used to be. Ten years ago Tyler Cowen, an economist at George Mason University, warned that the American economy was in the midst of a "great stagnation". The reasons cited by Mr Cowen and others range from more red tape to fewer transformative technologies such as aeroplanes and telephones, because the low-hanging fruit had been plucked. Symptoms of the malaise included fewer employers being created, fewer companies going public and fewer investments made by existing ones. The share of workers employed at firms less than a year old fell from 4% of total employment in the 1980s to around 2% in the 2010s. Around three-quarters of the workforce is employed by a company that is more than 16 years old, up from two-thirds in 1992.

Economists are still debating just how great the stagnation really was. One thing is certain, though: since the arrival of covid-19 America Inc has been anything but stagnant. Applications to start new businesses have soared. In the first six months of 2021 around 2.8m new firms were born, 60% more than in the same period in pre-pandemic 2019 (see chart 1 on next page). Many are small enterprises created by people stuck at home during lockdowns. A third of the new applications were in retail, in particular the online variety. Business starts in other e-commerce-related areas, including trucking and warehousing, have surged, too, notes John Haltiwanger of the University of Maryland. The quit rate, which indicates churn in the labour market, is at a record high. Nearly 3% of workers left their job in July, presumably because they believe they can get a better one.

Larger contenders are also thriving. Take America's biggest startups. CB Insights, a data firm, found that in 2019 a monthly average of five unlisted firms became "unicorns" (ie, were valued at over $1bn). Since the start of 2020 that figure has swelled to 12. Many older unicorns have gone public. Airbnb, a holiday-rental firm, was the biggest American initial public offering (IPO) of 2020. Its valuation surged past $100bn on the first day of trading. Since January 2020 the average number of monthly IPOs has risen three-fold, to around 80. In that period American firms have raised nearly $350bn, more than in ▸▸

the preceding seven years added together.

Some of the ferment comes out of necessity. A survey by the Kauffman Foundation, a think-tank, finds that the share of new entrepreneurs who are starting businesses because they spy an opportunity rather than because they lost their jobs dropped from 87% in 2019 to 70% in 2020. But the "physiological shock" of the pandemic may also have led people to re-evaluate their lives, says Kenan Fikri of the Economic Innovation Group, another think-tank. Some of them handed in their notice and struck out on their own.

With the Federal Reserve flooding markets with newly created cash, investors had plenty of capital to back businesses of all sizes. Jim Tierney of AllianceBernstein, an investment firm, observes that the market is favouring disruptive new entrants such as Robinhood, a broker catering to day-traders. With less than one retail trader for every 70 at Charles Schwab, recently listed Robinhood already boasts half the incumbent firm's market capitalisation. Small wonder American unicorns are eager to list, says Mr Tierney.

Cheap capital is also encouraging the established beasts of American business to boost their investment plans. American companies' real spending on equipment, structures and software grew at an annualised rate of 13% in the first half of the year, the fastest since 1984. Apple, the world's most valuable company, will spend $430bn in America over a five-year period, 20% more than it had previously planned. Intel is splurging some $20bn a year on new microchip factories.

If dynamism was ever in retreat, then, it no longer appears to be. Even Mr Cowen has all but declared the great stagnation over. What about American firms' global stature? World trade as a share of planetary GDP peaked in 2008. In America imports and exports as a proportion of output have declined from an all-time high of 31% in 2011 to 26%. Mr Biden's policies show a preference for jobs at home over free trade. Covid-19 has disrupted some supply chains, prompting a number of pundits to predict a wave of reshoring. "The era of reflexive offshoring is over," declared Robert Lighthizer, Mr Trump's trade representative, in the *New York Times* in 2020.

Before the pandemic some data were indeed hinting that corporate America was becoming less global. Dealogic, a research firm, estimated that cross-border mergers and acquisitions by American firms as a share of domestic M&A activity declined from 16% in 2014 to 9% in 2019. In the past 18 months, however, this figure has jumped back to around a fifth, thanks in part to all that cheap capital. Other indicators of internationalism have barely budged. Kearney, a consultancy, tries to capture the extent of reshoring by looking at the total value of manufactured goods imported from a list of 14 trading partners, including China, Vietnam and Malaysia, relative to American manufacturing output. Between 2018 and 2020 this ratio has stayed stable at around 13%.

Some companies are, it is true, adapting their supply chains. They are seriously considering moving manufacturing out of China, says Jan Loeys of JPMorgan Chase, a bank. But those companies are mostly eyeing nearby countries, often in addition to rather than instead of their Chinese suppliers. American imports from Taiwan rose by 35%, or $11bn, in the first seven months of 2021, compared with the same period in 2019. But those from China increased by nearly as much in dollar terms.

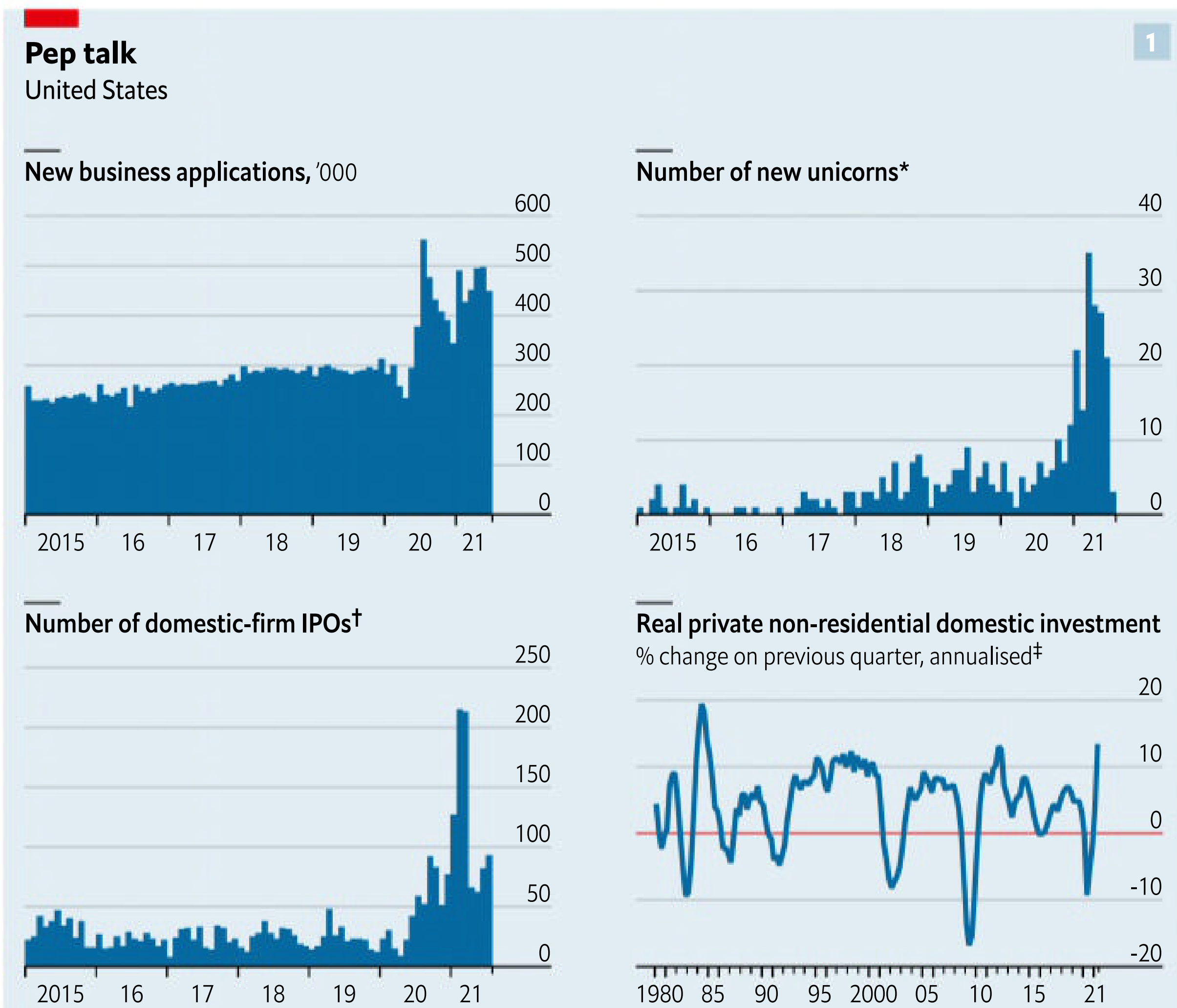
Americans also continue to sell a lot to foreigners. *The Economist* looked at the share of revenue earned overseas by non-financial firms in the Russell 3000, a broad index of American firms. Some industries, such as professional services, have seen their domestic share of sales increase, as lockdowns around the world hampered foreign contracts. Others, such as entertainment, have become more reliant on foreign sales; Netflix now books 54% of its revenue abroad, up from 40% a few years ago. Imax, a cinema chain, has made over two-thirds of its revenue this year from Asia, compared with two-fifths in 2017.

Overall, the median firm's foreign sales as a share of its total has stayed flat at 15%. So has the revenue-weighted average, which has oscillated around 35% (see chart 2 on next page). Two in five firms make more than half of their sales abroad, a share that has also remained more or less constant in the past four years. CEOs fall over themselves to signal international ambition during earnings calls. On July 27th Tim Cook, who runs Apple, named 14 countries where the iPhone-maker's sales reached a record high for the third quarter. "I could go on...It's a very long list." On the same day Kevin Johnson, boss of Starbucks, said he was "very bullish" about the coffee-pedlar's prospects in China.

Power dynamics

The third area of concern is market concentration. In 2016 we published an analysis that divided the American economy into around 900 sectors covered by the five-yearly economic census. Two-thirds of them had grown more concentrated between 1997 and 2012. The weighted-average market share of the top four firms in each sector had risen from 26% to 32%. The latest census data up to 2017 show that the trend did not reverse. But nor did it accelerate. Although concentration edged up in around half of industries between 2012 and 2017, the weighted-average market share across all sectors remained at 32%.

More recent census data will not be published for years. So we looked at the market share of the top four firms in the Russell 3000. In seven of the ten sectors, the revenue-weighted market concentration was a bit higher in the past 12 months than in 2019. Similarly, Bank of America,



Sources: CB Insights; Bloomberg; US Census Bureau *Startups valued at over $1bn †Initial public offerings ‡Four-quarter moving average

which has tracked the Herfindahl-Hirschman index, a gauge of market concentration, for firms in the Russell 3000 since 1986, reports that it hit a new high in 2020.

This could be because deep downturns like last year's covid recession tend to favour large firms with healthy balance-sheets. Big tech in particular has benefited from the pandemic shift to all things digital. America's five tech titans—Alphabet, Amazon, Apple, Facebook and Microsoft—notched up combined revenues of $1.3trn in the past 12 months, 43% higher than in 2019. They are America's five most valuable companies, accounting for 16% of its entire stockmarket value—considerably higher than the 10% attributable to the five biggest firms in the past 50 years, according to calculations by Thomas Philippon of New York University's Stern School of Business.

In hard-hit industries, meanwhile, cash-rich survivors are snapping up struggling rivals, fuelling an M&A bonanza. Between January and August American companies announced deals worth almost $2trn. The sectors which saw the biggest rise in concentration were those disrupted by covid-19, such as real estate and consumer goods (where the top four's share has jumped by around four percentage points since 2019). Some big firms are getting a larger slice of a shrinking pie. Among energy-services companies, such as Halliburton, the strongest four increased their market share from 59% to 75%, even as sectoral sales fell by a quarter.

All this would be worrying—were it not for concomitant trends. The tech giants, for example, are increasingly stomping on each other's turf. Nearly 40% of the revenues of the big five now come from areas where their businesses overlap, up from a fifth in 2015. Facebook wants to become an e-merchant, Amazon is getting into online ads, Google and Microsoft are challenging Amazon in the computing cloud, and Apple is reportedly building a search engine.

Such oligopolistic competition is not ideal, perhaps, but much better than nothing. And money flowing to newly listed disruptors and to corporate capital budgets implies that companies and investors are spying fresh opportunities for future profits, including at the expense of incumbents, should they become complacent. American business could use some more pep here or there—who couldn't? But it does not scream sclerosis, either. ■

Big tech and antitrust

An unEpic victory

SAN FRANCISCO

Apple wins a court battle against Epic Games—sort of

"California has always been a place for people with big ambitions and big dreams...We are proud to call California our home." It is unclear why Tim Cook, Apple's boss, prefaced the launch of the iPhone 13 on September 14th with a serenade to the Golden State. It was certainly not a reaction to the ruling handed down days earlier by federal judge there, Yvonne González Rogers. Her decision in a lawsuit brought against Apple by Epic Games, which owns "Fortnite", a popular video game, will make Mr Cook's life tougher.

On a skim of the 185-page decision, Apple can claim to be the winner. Broadly speaking, Epic had accused the iPhone-maker of abusing a monopoly over its App Store by, among other things, forcing developers to use Apple's in-app payment system and to pay excessive commissions of up to 30%. Not so, the judge argued. In her view, the relevant market is not the iPhone or the App Store, but "digital mobile gaming transactions", where Apple competes with Google's Android operating system. Although Apple controls more than half of this market, that does not amount to wrongdoing. "Success is not illegal," Ms González Rogers wrote, adding that no evidence was presented to suggest that Apple erected barriers to entry or engaged in conduct decreasing output or innovation.

Tim Sweeney, Epic's boss, did not hide his disappointment. "Today's ruling isn't a win for developers or for consumers," he tweeted, and vowed to fight on "for fair competition...for a billion consumers". Apple did not hold back its glee. In a statement, Kate Adams, Apple's general counsel, called it "a resounding victory". "We're extremely pleased with this decision."

On closer inspection, the bag begins to look decidedly mixed for the tech giant. The court did not say it is impossible to show that Apple is an illegal monopolist—only that Epic had failed to do so. The judge also found that, contrary to Apple's protestations, the App Store's operating margins, which one of Epic's expert witnesses put at 75%, are "extraordinarily high".

Most important, Ms González Rogers ruled that although Apple did not violate federal antitrust law, it had engaged in anticompetitive conduct under California's competition law. It did so by banning developers from including information in their apps that tells users how they can subscribe or buy digital wares outside the App Store. Such "anti-steering" provisions, the judge said, "hide critical information from consumers and illegally stifle consumer choice".

The decision will take effect in 90 days, though Epic has already appealed and Apple may do so, too. The case could end up in America's Supreme Court. Whatever its final outcome, it will pile more pressure onto Apple to loosen its tight control of the App Store. This could lower its margins and weaken Apple's services business, which analysts expect to be a big source of growth and profits. Apple's share price fell by more than 3% after the verdict was handed down, lopping $85bn off its market capitalisation, three times unlisted Epic's private valuation.

Perhaps in anticipation of the verdict, Apple has recently made some concessions. On August 26th, in a settlement with app developers, it agreed to allow them to email users about payment methods outside the App Store. On September 2nd, in another settlement, this time with Japan's Fair Trade Commission, it consented to letting apps that provide access to digital content, such as books and music, direct users to other ways to pay.

Apple will also have to comply with a new South Korean law banning app stores, including its own and Google's, from requiring users to pay using the stores' payment systems (see next article). The European Union and even America's polarised Congress have similar laws in the works. Apple may, just about, be able to claim a victory in the courtroom battle against Epic. But the drawn-out regulatory world war is far from over. ■

South Korean business

The other techlash

SEOUL

Are tech firms picking up the chaebol's bad habits?

A FEW MONTHS ago Kim Beom-su looked like the face of responsible capitalism in South Korea. In March the billionaire founder of Kakao, which runs the country's most successful messaging app and a slew of other digital services, promised to give away half his wealth for charitable causes, the second Korean tycoon to make that pledge. Now he is making headlines for some less salubrious reasons. Antitrust officials have reportedly set their sights on his private holding company for allegedly failing to report properly on its shareholders and affiliates.

The apparent move against Kakao's founder is the latest salvo in an ongoing battle. Like their counterparts in America and China, South Korea's technology giants have come under scrutiny. Officials worry that as firms such as Naver, which began life as a search engine, and Kakao have expanded into anything from ride-hailing to personal finance, they have picked up the bad habits of the *chaebol*. These sprawling conglomerates were instrumental in making South Korea rich and continue to dominate its economy. But they are notorious for murky governance structures, oligopolistic business practices and close ties with the political elite.

Over the past few weeks politicians have ramped up the rhetoric. "Kakao has turned from a symbol of growth and innovation into a symbol of old greed," Song Young-gil, a leader of the ruling Minjoo party, told the National Assembly this month. "We will find a way to stop its rapid expansion and help it coexist with small-business owners," he warned.

The same day regulators ruled that some financial services offered by Kakao and Naver violated consumer-protection laws because the platforms were not registered as intermediaries. The two companies will now be required to abide by brokerage regulations. Spooked investors dumped Kakao and Naver shares, shaving a tenth, or $11bn, off their combined stock-market value.

Korean trustbusters, for their part, are investigating allegations that Kakao's taxi-hailing service favours its own pricier cabs. They want e-commerce platforms to draw up proper contracts with third-party sellers, and specify what commissions they earn. In August Coupang, the country's biggest e-commerce firm, was fined 3.3bn won ($2.8m) for pressing suppliers to lower prices. South Korea's largely unregulated crypto-exchanges will have to register as legal trading platforms.

The techlash is not limited to domestic tech darlings. On September 14th regulators fined Google $177m for not allowing versions of its Android operating system to be installed on locally made smartphones. And last month South Korea became the first country to oblige Apple and Google to accept alternative payments systems in their app stores.

App developers like Epic Games, which suffered a courtroom defeat against Apple in America on September 10th (see previous article), welcomed the move. The maker of "Fortnite" invoked the South Korean law to try to get its app reinstated on Apple's app store, from which it had been booted for breaching rules that barred such in-app payments. Apple has refused.

Lim Jung-wook, a venture capitalist, applauds the government's instincts to protect consumers and small suppliers. But he reckons stricter rules will do little to curb the tech companies' power in the long run. "These firms' services are too convenient for them not to keep growing."

Nonetheless, faced with sinking stock prices, the Korean firms have begun to respond. On September 14th Kakao announced a new 300bn-won fund to help small suppliers and promised to scrap new services such as flower delivery that compete with mom-and-pop businesses. Mr Kim promised that the company would "throw away" its old growth model and replace it with one that fostered "social responsibility".

Coupang has chosen a more combative approach. It insists that its platform has made it easier for small firms to get their products to consumers. And it is appealing against the antitrust fine, claiming that the penalty serves to protect *chaebol* such as LG, which brought the complaint. ■

If only regulators were so cuddly

Supply chains

Marginal revolution

HONG KONG

Japanese firms try to reduce their reliance on China. But only a bit

AT THE END of the month the production line of a Toshiba factory in Dalian will come to a halt, 30 years after the Japanese electronics giant opened it in the north-eastern Chinese city. Once a totemic example of global supply chains expanding into China, the closure exemplifies how these are being reconfigured. The short answer is: delicately and at the margin.

Toshiba's plant in Dalian has spanned a sea change in Asian business patterns. When it opened, Japan was the undisputed linchpin of the region's trade and manufacturing networks. By 2019 Japan's $390bn in intermediate-goods trade with big Asian economies was vying for runner-up status with South Korea and Taiwan. China, with $935bn-worth, was way ahead.

Hourly wages commanded by Chinese workers have risen tenfold in nominal terms this century, to $6.20. That is still a quarter of Japanese rates but twice the pay of Thai workers, who were at parity with Chinese ones as recently as 2008. If that were not enough, geopolitical tensions are souring relations between the increasingly heavy-handed Chinese Communist Party and the world's rich democracies.

These trends help explain why China's share of Japan's new outbound foreign direct investment has steadily declined since 2012. The number of manufacturing affiliates that Japanese companies have in China stopped growing almost a decade ago, ▸▸

Bartleby End of the travelling circus

Who needs expats these days?

IF CHIEF EXECUTIVES are the monarchs of the corporate world, the cadre of well-paid staff they deploy from head office to oversee operations across the planet are their ambassadors. In the golden era of globalisation, sending an expatriate Western executive to a distant emerging market signalled the place was being taken seriously. That model was starting to feel out of date before covid-19 made foreign travel a misery. As Zoom and remote work have become the norm, is shuffling emissaries across the world even worth it anymore?

Some 280m people live in a country other than their own, often because of their job. Many toil on building sites in the Gulf or mind brats in Manhattan. High-flying expats are the most cosseted of these migrants. Their exalted status, should it need to be pinned down, is secured by snagging a housing allowance, school fees for the brood, annual flights home and a healthy salary bump. Some business folk have turned into perennial business wanderlusters, making a career out of flitting from Mumbai to Abu Dhabi to Lagos.

The business case for expats had started to look stretched in recent years. Moving staff to the ends of the Earth made sense when it was tricky to find globally minded (and English-speaking) employees over there. But globalisation has worked its magic. If an American investment bank in Shanghai wants a bright number-cruncher with a top-tier MBA, it has plenty of local candidates to choose from. They will cost a fraction of what it would take to move a transplant—and already speak the language.

Getting head-office staff to up sticks for Jakarta has been getting harder, too. In decades past a compliant "trailing spouse" took on the responsibility of keeping a household running in far-flung places. Now she (as is still more often the case) is likelier to quibble about the impact on her own career. A survey carried out by the Boston Consulting Group found 57% of workers globally were willing to move to a foreign country for work in 2018, down from 64% four years earlier.

The figure fell even further, to 50%, once the pandemic hit. Many expat haunts, such as Hong Kong, Singapore and Dubai, went through looser lockdowns than America or Europe. But that often meant throttling foreign travel or imposing weeks-long quarantines for returnees. The prospect of a trip to see family for Christmas, or of a weekend getaway to Bali, is part of what makes living in Singapore attractive. Once that goes the trade-off between career and personal life starts looking uncomfortably different.

Many foreigners who had once been given royal treatment felt treated like second-class citizens. Some hesitated to leave their country of assignment for fear of not being able to get back in. Others had to wait longer than locals for vaccines.

Clubby communities no longer made space for outsiders. As Hong Kong, once the spiritual home of expatdom, has fallen into China's ambit, Western imports have started to look like a vestige of the colonial past.

This speaks to a broader economic shift that has dented the need for expats. Once upon a time they used to be the ones able to facilitate access to foreign capital and know-how, often from Western sources. Now money is abundant and the most exciting business opportunities are emerging markets doing business with other emerging markets, particularly in Asia. You don't need a Westerner to show you how to do that. The world they understand is no longer as relevant.

Expats are not just expensive perk-baggers (as this stand-in Bartleby, a foreign correspondent in his day job, can attest). Companies have cultures and processes which are forged at headquarters, and which envoys can disseminate. They in turn will imbibe new ways of doing things that can be transferred back to other bits of the business. Having an outsider somewhere in the organisational chart of a distant subsidiary can provide reassurance no funny business is taking place there. However, penny-pinching bosses might now consider whether regular Zoom calls will not achieve much the same thing for a fraction of the cost—not least if employees the world over are going to be working from home at times anyway.

The surest way to signal commitment to a market these days is not by importing top talent but by nurturing it locally. Many companies that proudly deployed expats now boast of appointing local bosses to head up each country. That isn't a reversal of globalisation so much as an affirmation of it.

while new affiliates elsewhere in Asia—notably India, Indonesia, Thailand and Vietnam—have continued to mushroom. Toshiba will offset some of the forgone capacity with expansion in some of its 50 factories back home and also in Vietnam, one of its 30 overseas facilities. It is tapping the Japanese government's year-old subsidy scheme to encourage reshoring and diversification of supply chains (and whose unspoken aim is to reduce reliance on China).

Many other Japanese firms find themselves in a similar situation. This month OKI Electric Industry, a smaller Japanese electronics-maker, announced that its factory in Shenzhen, set up 20 years ago, would stop making printers. That capacity would move to existing factories in Thailand and Japan. Still, most are not rushing to exit China altogether. A survey last year for the Japan External Trade Organisation, a government body, found that 8% of Japanese companies said they were planning to reduce or eliminate their Chinese presence, less than the average for Japanese firms in other countries. Many global companies, from Hasbro (an American toymaker) to Samsung (a South Korean technology giant) are making a similar calculation. Toshiba itself will maintain a second, part-owned factory in Dalian.

Even the most tub-thumpingly patriotic executive would hesitate to sever ties with the world's second-biggest economy (see Schumpeter). This would disrupt profitable relationships with Chinese suppliers and manufacturing know-how. Such things take years to forge. But at the margin, where companies find themselves pressed by the imperatives to cut costs and guarantee stable future supplies, China no longer looks like the place to be. ■

Schumpeter | Who will be next?

The vanishing allure of doing business in China

It is nothing new for foreign firms to endure shakedowns by the Chinese Communist Party. As far back as revolutionary times, Chairman Mao's victorious troops did not directly confiscate foreign-owned assets as their Bolshevik forerunners had done in Russia. Instead, they wore them down with higher taxes and fines so big that eventually companies gave away their assets for nothing. In one memorable case dug up by Aron Shai, an Israeli academic, a British industrialist in 1954 professed to be handing over everything to the Communists from "large blocks of godowns (warehouses) down to pencils and paper". And yet, he complained, Comrade Ho, his opposite number, continued to haggle "like a pre-liberation shopkeeper".

Though multinationals have flocked back to China since, the government's nit-picking has continued, encompassing everything from technology transfer to how freely firms can invest. There have been big improvements, but the pettifoggery is a constant reminder, as one American puts it, that companies should not get "too big for their britches". Western firms operate in China on sufferance and one day the country may seek to replace them.

As a result, some may have felt a sense of *Schadenfreude* that Chinese firms, not Western ones, have been the main victims of President Xi Jinping's recent effort to socially engineer a new type of economy. In the past week alone the government has taken steps to reduce barriers between tech giants Alibaba and Tencent, and, according to the *Financial Times*, ordered the break-up of Alipay, a financial super-app owned by Alibaba's sister company, Ant. Some go so far as to draw flattering comparisons between Mr Xi's efforts to emasculate China's tech "oligarchs" and the way governments in America and Europe are going after Western tech giants.

The heavy-handedness, though, is chilling to an unusual degree. So is the capriciousness. Kenneth Jarrett, a veteran China watcher in Shanghai for the Albright Stonebridge Group, a consultancy, says the question on everyone's lips is "who might be next?" The crackdowns occur against the backdrop of rising tensions between China and the West that leave multinationals stranded in a sort of semilegal limbo. For many the lure of China remains irresistible. But the perils are catching up with the promise.

Besides banks and asset managers, some of whose investments in China have taken a big hit in recent months, several types of multinational firm are at risk. One group includes those that make most of their money in China from pandering to a gilded elite who flaunt their $3,000 handbags and sports cars. Another encompasses companies that irritate their customers for what can be construed as Western arrogance; Tesla, the electric carmaker, is an example. A third category includes European and American makers of advanced manufacturing equipment and medical devices that China feels it should be producing itself.

As usual, the threats come in the form of policy announcements that sound deceptively bland. One, "common prosperity", is a catch-all phrase extending from a reduction in social inequality to more coddling of workers and customers to the nannying of overstressed youngsters. Its most obvious impact is on Chinese tech, tutoring and gaming firms, which have lost hundreds of billions of dollars in market value as a result of government crackdowns. Yet multinationals, too, have been caught in the fallout. In a few days in August the valuation of European luxury brands, such as Kering, purveyor of Gucci handbags, and LVMH, seller of baubles and bubbles, tumbled by $75bn after investors finally took Mr Xi's common-prosperity agenda seriously.

Mr Xi does not intend to force Chinese consumers back into Mao suits. But his war on flamboyance, especially among the rich who may spend at least $100,000 each a year on foreign brands, threatens the most lucrative end of the market. It also imperils luxury marques that charge consumers in China more than they do in their outlets in, say, Milan. Flavio Cereda of Jefferies, an investment bank, expects the government to keep supporting a growing middle-class luxury market, since aspirational purchases reflect economic success. If China were to mess up the experiment, the shock could be huge. Its consumers account for 45% of the world's spending on luxury, he says. "No China, no party."

"Dual circulation" is another buzz phrase with troubling overtones. It is an attempt to promote self reliance in natural resources and technology, partly in response to fears that a dependence on Western suppliers could make China vulnerable to geopolitical and trade pressures. But it also poses a threat to Western multinationals in China by reducing imports of technology and creating a "buy Chinese" mentality. Friedolin Strack of BDI, a German industrial federation, notes that state firms in China have reportedly been given procurement guidelines that mandate domestic supply of devices such as X-ray machines and radar equipment.

Between a bloc and a hard place

It is all becoming a catch-22. On the one hand, America, Europe and allies are in a geopolitical contest with China, which they accuse of human-rights abuses in places like Xinjiang, home to the oppressed Uyghur minority. The West wants to restrict what technologies its firms sell to China and what materials, such as cotton, they source there. On the other hand, China asserts its right to retaliate against companies it thinks are wading into geopolitics.

Jörg Wuttke, president of the EU Chamber of Commerce in China, says the size of China's market makes it worth the discomfort. "The biggest risk is not to be in China," he insists. Yet anyone with a long-term perspective might see Mr Xi's undisputed personal authority, his gamble to reshape the Chinese economy, and the dark geopolitical backdrop as more than enough reasons to ponder an exit. It may never come to that. But as in post-revolutionary days, sometimes all it takes is one too many shakedowns to convince even the hardiest industrialist to throw in the towel. ■

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→ Also in this section

Container shipping

Perfect storm

Shipping costs and delays are piling up. That will have long-lasting effects

A GIANT SHIP wedged across the Suez canal, record-breaking shipping rates, armadas of vessels waiting outside ports, covid-induced shutdowns: container shipping has rarely been as dramatic as it has in 2021. The average cost of shipping a standard large container (a 40-foot-equivalent unit, or FEU) has surpassed $10,000, some four times higher than a year ago (see chart). The spot price for sending such a box from Shanghai to New York, which in 2019 would have been around $2,500, is now nearer $15,000. Securing a late booking on the busiest route, from China to the west coast of America, could cost $20,000.

In response, some companies are resorting to desperate measures. Peloton, a maker of pricey exercise bikes, is switching to air freight. But costs are also sky-high as capacity, half of it usually provided in the holds of passenger jets, is constrained by curbs on international flights. Home Depot and Walmart, two American retailers, have chartered ships directly. Pressing inappropriate vessels into service has proved near-calamitous. An attempt in July to carry containers on a bulk carrier, which generally carts coal or iron ore, was hastily abandoned when the load shifted, forcing a return to port. More containers are travelling across Asia by train. Some are even reportedly being trucked from China to Europe then shipped across the Atlantic to avoid clogged Chinese ports.

Trains, planes and lorries can only do so much, especially when it comes to shifting goods halfway around the planet. Container ships lug around a quarter of the world's traded goods by volume and three-fifths by value. The choice is often between paying up and suffering delays, or not importing at all. Globally 8m TEUs (20-foot-equivalent units) are in port or waiting to be unloaded, up by 10% year-on-year. At the end of August over 40 container ships were anchored off Los Angeles and Long Beach. These serve as car parks for containers, says Eleanor Hadland of Drewry, a shipping consultancy, in order to avoid clogging ports that in turn lack trains or lorries to shift goods to warehouses that are already full. The "pinch point", she adds, "is the entire chain".

High-water mark

Global container-freight costs*

$'000 per 40-foot container

Source: Drewry

*Based on eight major shipping routes

For years container shipping kept supply chains running and globalisation humming. Shipping was "so cheap that it was almost immaterial", says David Kerstens of Jefferies, a bank. But disruption after disruption means that the metal boxes are losing their reputation for low prices and reliability. Few experts think things will get better before early next year. The dislocations could even hasten a reordering of global trade.

Shipping is so strained in part because the industry, which usually steams from short-lived boom to sustained bust, was enjoying a rare period of sanity in the run-up to the pandemic. Stephen Gordon of Clarksons, a shipbroker, notes that by 2019 it was showing self-discipline, with the level of capacity and the order book for new ships under control. Then came covid-19. Shipping firms, expecting a collapse in trade, idled 11% of the global fleet. In fact, trade held up and shipping rates started to climb. And, flush with stimulus cash, Americans started to spend.

In the first seven months of 2021, cargo volumes between Asia and North America were up by 27% compared with pre-pandemic levels, according to BIMCO, a shipowners' association. Port throughput in America was 14% higher in the second quarter of 2021 than in 2019. There has been little growth elsewhere: throughput in northern Europe is 1% lower. Yet rates on all routes have rocketed (see map), because ships have set sail to serve lucrative transpacific trade, starving others of capacity.

A system stretched to its limits is subject to a "cascading effect", says Eytan Buchman of Freightos, a digital-freight marketplace. Rerouting and rescheduling would once have mitigated the closure of part of Yantian, one of China's biggest ports, in May and then Ningbo, another port, in August after covid-19 outbreaks. But without spare capacity, that is impossible. "All ships that can float are deployed," remarks Soren Skou, boss of Maersk, the world's biggest container-shipping firm. Empty containers are in all the wrong places. Port congestion puts ships out of service. The average door-to-door shipping time for ocean freight has gone from 41 days a year ago to 70 days, says Freightos.

Some observers think normality may return after Chinese new year next February. Peter Sand of BIMCO says disruptions could even take a year to unwind. Lars Jensen of Vespucci Maritime, an advisory firm, notes that a dockers' strike on America's west coast in 2015 caused similar disruption, albeit only in the region. It still took six months to unwind the backlog.

On the demand side much depends on whether the American consumer's appetite for buying stuff continues. Although retail sales fell in July, they are still 18% above pre-pandemic levels, points out Oxford Economics, a consultancy. But even if American consumer demand slackens, firms are set to splurge as they restock inventories depleted by the buying spree and prepare for the holiday season at the end of the year. And there are signs that demand in Europe is picking up.

In a sea of uncertainty, one bedrock remains. The industry, flush with profits, is reacting customarily, setting an annual record for new orders for container-ship capacity in less than eight months of this year, says Mr Sand. But with a two-to-three-year wait, this release valve will not start to operate until 2023. And the race to flood the market may not match torrents of the past. There are far fewer shipyards today: 120 compared with around 300 in 2008, when the previous record was set. And shipping, responsible for 2.7% of global carbon-dioxide emissions, is under pressure to clean up its act. Tougher regulations come into force in 2023.

The upshot is that the industry "will remain cyclical", but with rates normalising at a higher level, says Maersk's Mr Skou. Discipline in both ordering and managing capacity may prove more permanent, aided by consolidation within the industry.

The impact of higher shipping costs depends on the good being transported. Those hoping to import cheap and bulky things like garden furniture might be in for a long wait. Mr Buchman notes that current spot rates might add $1,000 to the price of a sofa travelling from China to America. The effects on product prices so far may have been dampened: around 60% of goods are subject to contractual arrangements with shipping rates agreed in advance and only 40% to soaring spot prices.

Boxed in

Nonetheless, for most products, shipping costs tend to be a small percentage of the overall cost. The boss of a large global manufacturer based in Europe says the extreme costs now are "bearable". Nor might shipping rates rise much more even if disruptions continue. CMA CGM, the third-largest container-shipping firm in the world, stunned industry watchers on September 9th when it said that it would cap spot rates for ocean freight. Hapag-Lloyd, the fifth-largest, rapidly followed suit.

Decarbonisation costs mean rates will eventually settle at higher levels than those before the pandemic. Yet research by Maersk suggests that this may not affect customers much. Even if sustainable fuel cost three times as much as the dirty stuff, increasing per-container fuel costs to $1,200 across the Pacific, for a container loaded with 8,000 pairs of trainers, the impact on each item would be minimal.

Instead it is the problem of reliability that may change the way firms think. "Just in time" may give way to "just in case", says Mr Sand, as firms guard against supply shortages by building inventories far above pre-pandemic levels. Reliability and efficiency might also be hastened by the use of technology in an industry that has long resisted its implementation. As Fraser Robinson of Beacon, another digital freight forwarder, points out, supply chains can be made sturdier by using data to provide better "visibility" such as over which suppliers and shipping companies do a better or worse job of keeping to timetables and ordering goods earlier.

There is so far little evidence of "near-shoring", except in the car industry, says Mr Skou. But the combination of trade war, geopolitics and covid-19 may together lead trade patterns to tilt away from China. Some Chinese firms and the companies they supply are relocating production to lower-cost countries to diversify supply chains and circumvent trade barriers. Mr Kerstens of Jefferies notes that after America under President Donald Trump imposed tariffs on China the volume of trade from China to America fell by 7% in 2019, but American imports remained stable overall as places like Vietnam and Malaysia took up the slack. Hedging against covid-19 shutdowns, particularly given China's zero tolerance for infections, could provide another reason to move away.

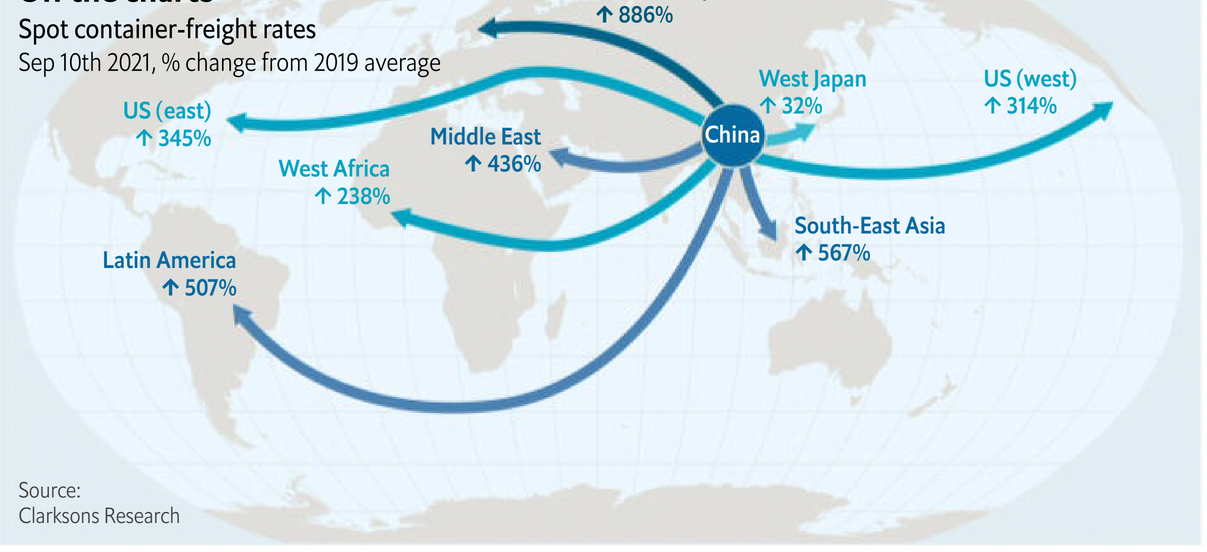
For their part, shipping firms may be preparing for more regionalised trade. The order book is bulging for ships of 13,000-15,000 TEU, smaller than the mega-vessels that can only be handled at the biggest ports. Vietnam opened a new deepwater terminal in January, which can handle all but those largest ships.

Finding new manufacturers is hard, however, especially for complex products. And building buffers into supply chains is costly. But conversations about deglobalising are said to be starting among some makers of low-cost clothing and commodity goods. If high costs and delays persist, some will judge that the benefits of proximity to suppliers outweigh the costs of bringing in goods made far away. With few alternatives to ships, the only choice will be to move the factories that make them. ■

Off the charts

Spot container-freight rates

Sep 10th 2021, % change from 2019 average



Source: Clarksons Research

Inflation

Fighting trim

WASHINGTON, DC

Alternative measures show that inflation is spreading in America

IT IS HARD to overstate the time that goes into calculating a consumer-price index. In America statisticians survey nearly 10,000 people every quarter, construct a sample of 80,000 things they buy, and then monitor their prices by ringing up thousands of shops, restaurants and offices. So the hard-working boffins might be miffed that the Federal Reserve thinks it wise simply to lop off the things with the biggest price swings. The result that emerges is known as "trimmed mean" inflation. With America facing its most sustained price pressure since 1990, this narrower measure is more than an academic exercise.

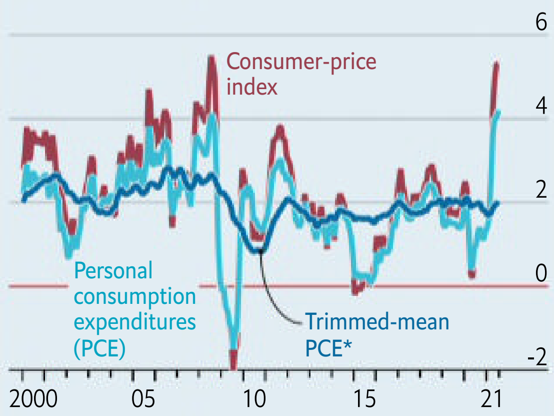
In August the headline consumer-price index was 5.3% higher than a year ago, according to data published on September 14th. It was the third consecutive month of inflation at roughly that pace. By contrast the trimmed-mean rate—using the Fed's preferred measure, the personal consumption expenditures (PCE) price index—has remained at just about 2%, in line with the central bank's inflation target (see chart).

The gap between the headline scare and the subdued alternative gets to the heart of the debate about whether the burst of inflation is transitory or persistent. Those taking the former view argue that a small number of things have driven the jump, almost all traceable to pandemic-related disruptions. The price of flights, for example, soared as air travel roared back, but in August ticket prices slumped as the Delta variant of covid-19 dampened enthusiasm for travel. The trimmed index is appealing because it strips out such outliers.

Jerome Powell, the Fed's chairman, has pointed to the measure as evidence that price pressures are not yet broad-based. A similar story can be told in other countries. In Britain consumer-price inflation soared to 3.2% year-on-year in August from 2% in July. But that largely stemmed from a low base of comparison a year earlier, when the government subsidised restaurant meals for a month. A trimmed mean, calculated by the National Institute of Economic and Social Research, a think-tank, indicates that Britain's underlying inflation was just 1.6% in August, barely higher than in July.

Snip and tuck

United States, % change on a year earlier



Sources: Bureau of Economic Analysis; Bureau of Labour Statistics; Dallas Fed

*Excludes items with the biggest price swings

There are two possible objections to the trimmed measure. The first is that it is cherry-picking. Central bankers often highlight narrower "core" inflation in order to capture deeper trends. In the past the Fed would point to the PCE index excluding food and energy prices. But this measure rose to 3.6% year-on-year in July, a three-decade high. Hence the suspicion that the trimmed mean is a handy substitute.

That, though, is unfair to the Fed. Central bankers have been tracking the trimmed measure since well before the pandemic. The Dallas Federal Reserve has published a version since 2005. A research note by Fed economists released in 2019 found that trimmed-mean gauges are less volatile than headline indices and better predictors of future price changes.

By focusing on the middle of the pack, the trimmed mean reveals just how widespread pressures are. (The Dallas Fed orders all items from the highest price increase to the lowest, and lops off the top 31% and the lowest 24%, as judged by expenditure weights.) Trimming also answers a standard complaint about gauges that exclude food or energy prices: that people spend so much money filling their bellies and their petrol tanks that it makes little sense to ignore these costs. Food and energy are included in trimmed indices, so long as their price swings are not wild.

The second objection is more damaging: that the trimmed mean flatters less than Mr Powell would have it. Economists at the Dallas Fed say that when headline inflation exceeds the trimmed mean by one percentage point, it feeds through to roughly a quarter point of extra trimmed-mean inflation in a year's time. On this basis the trimmed-mean rate may hit 2.5% next year. A different trimmed mean calculated by the Cleveland Fed, which snips less, has already jumped, climbing to 3% from 2% at the start of the year.

However you trim, the conclusion seems clear enough. Inflation is not as bad as the headlines suggest. But price pressures are steadily spreading. ■

China's growth (1)

Lion dance

HONG KONG

China takes on Delta and its property developers at the same time

FOR SUCH a small place, Singapore has exercised an outsized influence on China's economy. The city-state proved to reformers in China that a government could open up the economy without losing control. "Society in Singapore is quite orderly," said Deng Xiaoping, China's paramount leader, in 1992. "They managed things very strictly. We ought to use their experience as a model and...manage things even better than they do."

Unfortunately Singapore has not managed covid-19 as strictly as China would like. A resident of China's Fujian province, who recently returned from Singapore, tested positive earlier this month for the Delta variant. He is thought to have passed it on to his son, from whom it soon spread through his school. Fujian has now recorded over 200 cases since September 10th. Exchanges between Singapore and China's coastal provinces (the ancestral homelands for many Singaporeans) have brought many benefits. But this outbreak belongs in the other column.

In response, officials in Putian (a city with a population of 3m) and Xiamen (5m) have shut schools, bars and other high-risk venues. Economists worry that if the outbreak persists, it will disrupt travel and shopping during China's week-long holiday beginning on October 1st. That would delay the recovery from a similar outbreak that ended only last month. The cost of that scare became clearer with the release of economic data on September 15th. One casualty was retail sales, which rose nationwide by only 2.5% (in nominal terms) in August, compared with a year earlier, far weaker than expected. Based on the data so far, GDP in the third quarter is on course to shrink compared with the previous three months, suggests a "tracking" estimate by Morgan Stanley, a bank.

Singapore's strictly managed property market is another model China's reformers often admire but have failed to emulate. But the government in Beijing is belatedly cracking down on indebted developers, imposing curbs on their borrowing, even as mortgage costs rise and potential homebuyers think twice. Property firms sold 17.6% less residential floor space in August than a year earlier, and the price of new homes fell in ten out of 70 big cities tracked by the National Bureau of Statistics. Developers are now less willing and less able to build. Investment in real estate was only

0.3% higher in August than a year ago.

China's exports have so far proved resilient: they were 25% higher in August than a year ago. Indeed, China's manufacturers may have gained at the expense of countries that are struggling with worse covid-19 outbreaks of their own. Moreover, for as long as inflation remains subdued, China has scope to ease monetary and fiscal policy to support growth. It may thus combine tight control of infections, property and other unruly industries with an easing of its macroeconomic stance, a juggling act characterised as "micro takes, macro gives" by analysts at Goldman Sachs, another bank.

The question is whether macro can give enough. Analysts at China International Capital Corporation (CICC), an investment bank, point out that China's official fiscal deficit has been negligible so far this year. The government therefore has room to spend more without revising its deficit target. Sure enough, bond issuance picked up last month and the government's deposits with banks fell. CICC reckons that China might increase spending on infrastructure at an annual rate of 5% in the last three months of the year, compared with the same period in 2019, before the pandemic.

China's rulers hope that tighter regulations will help make housing more affordable and a less dominant part of the economy. It is part of the "new development dynamic" touted by Xi Jinping, China's ruler. But as this year wears on, China's development pattern is beginning to look wearily familiar: weak consumption, strong exports and additional public investment to save the economy from past speculative excess. Whatever might be said for this growth dynamic, it is anything but new. ■

Buttonwood The SEC's modest mission

Operation Tame Finance is under way

Gary Gensler's students at MIT Sloan were an appreciative bunch. Their nominations secured him the business school's "Outstanding Teacher" award for the 2018-19 academic year. Now that he is the chairman of the Securities and Exchange Commission (SEC), America's main markets watchdog, his constituents are rather more unruly. Finance has been upended by an explosion of raucous innovation, and Mr Gensler has to work out how, and to what extent, to police it all. Forget diligent undergraduates; it is rather like trying to run the world's largest, noisiest kindergarten.

The drive for more adult supervision is already under way in crypto. The SEC recently threatened to sue Coinbase, a large cryptocurrency exchange, if it launches a lending product without first registering it as a security. And this week the regulator extracted $539m from three media firms charged with illegal offerings of stocks and digital assets.

Crypto-believers may have expected a friendlier stance from a man whose courses at MIT included one on the uses of blockchain technology. But since taking the SEC's reins Mr Gensler has been at pains to point out that, while he is "neutral" on technology, he is anything but when it comes to investor protection and market stability. And that means beefing up regulation of the $2.2trn crypto market, which, he told a Senate committee this week, is a "Wild West ...rife with fraud, scams and abuse".

His agenda stretches beyond the seething cryptoverse. He is also warily eyeing other newfangled corners of finance, from trading apps like Robinhood that use "digital engagement practices" to encourage retail punters to trade more often, to special-purpose acquisition companies (SPACs) that push the envelope of what securities laws allow (an early victim was SPAC-king Bill Ackman's complex plan to invest in Universal Music Group). Other targets include the kinds of derivatives that blew up Archegos, a family office, and the shell-company structures used by many Chinese firms that list in America.

For all the focus on finance's cutting edge, Mr Gensler's SEC may end up having just as big an impact on more established markets. He thinks stock trading needs an overhaul; too much flows to "dark", off-exchange venues, where small investors can more easily be stiffed. They may also, he suspects, be short-changed by potential conflicts of interest such as the "payment for order flow" that brokers get for routing trades to particular marketmakers. He wants to force corporate disclosure of everything from climate risks to how firms treat their workers.

Quite a to-do list, then; policy reviews are under way in at least 50 areas. And quite a change from President Donald Trump's era, when the commission seemed happy to drag its feet on implementing post-financial-crisis reforms.

The obvious question is whether Mr Gensler is biting off more than he can chew. His background, equal parts poacher and gamekeeper, should help him. After 18 years at Goldman Sachs, the last ten as a partner, he worked in the Treasury and helped write the Sarbanes-Oxley reforms after the implosion of Enron, an energy firm, in 2001. As head of the Commodity Futures Trading Commission (CFTC), which regulates derivatives, he saw off an attack from the giant over-the-counter swaps industry, forcing it onto more highly regulated platforms.

Being a good communicator should also help. Mr Gensler understands that winning the argument means boiling the message down to simple analogies that most punters (and senators) can grasp. Under him, the SEC is even using social media to good effect. When the boss of Coinbase professed shock that a lending product could be classed as a security, the commission archly tweeted a 30-second guide to how bonds work.

Good one. But Mr Gensler can expect fierce lobbying against more red tape. He may also have to fight turf wars with other regulators; the CFTC wants a piece of the action in digital currencies. And then there are the politicians. Regulation-friendly Democrats have the upper hand in Congress but some people are queasy about a big expansion of the SEC's authority, given its patchy record: think of all the scandals, from Enron to Bernie Madoff, unearthed not by the regulator but by outside sleuths. Mr Gensler also needs more money. At $2bn, his budget is smaller than JPMorgan Chase's annual spending on marketing. But the increase pencilled in for 2022 is just 5%. Mr Gensler has big ambitions. His problem may be finding the big bucks to realise them.

China's growth (2)

The Thales of economics

HONG KONG

By one measure, China is the world's most dominant economy

In 2010, when President Barack Obama welcomed his Chinese counterpart to a summit in Washington, DC, he greeted him with a handshake and a swift, shallow dip of the head. The image of America's president bowing before China made an arresting cover photo for the book "Eclipse", published the following year. The book, written by Arvind Subramanian of the Peterson Institute for International Economics, a Washington-based think-tank, predicted that China would soon come to dominate the world economy and that America could do precious little about it. Your correspondent once included the cover image in a presentation at the Central Party School in Beijing. It caused quite a frisson.

To gauge a country's economic "dominance" Mr Subramanian combined its share of world trade, net capital exports and global GDP (measured at both market exchange rates and purchasing-power parities, which try to correct for international differences in the price of similar goods). He gave each attribute a weight loosely based on the IMF's formula for allocating votes to its members. His index, he argued, successfully captured Britain's economic hegemony in 1870, its rivalry with Germany in 1913 and its eclipse by America in the subsequent decade.

According to this measure, Mr Subramanian predicted, China would become the world's most dominant economy by 2020. In the ten years since that forecast, China has faced a trade war with America, its growth has slowed and its currency has suffered bouts of volatility, obliging it to tighten controls on capital outflows. Yet Mr Subramanian's central prediction has come true. Based on the book's original formula, China became the world's most dominant economy last year (see chart). Its growth slowdown has been no worse (so far) than Mr Subramanian expected and the covid-19 pandemic has helped increase its share of global trade.

Mr Subramanian successfully predicted how his own index would evolve. But does his index successfully capture economic dominance? Other authors have included wealth, GDP per person and other proxies for economic sophistication, as well as scale. (Our favourite index of a country's global influence, put together by Francesc Pujol of the University of Navarra, counts the number of times a country appears in the charts of *The Economist*.) These measures give America a bigger edge.

For the sake of tractability, Mr Subramanian's measure gives every dollar of exports equal weight. But some of America's high-tech exports appear to give it an economic "chokehold" over China that is worth more than their market value. Mr Subramanian thought that China's growing share of GDP and trade could soon elevate its currency into a rival to the dollar. But China's yuan has made little headway. That is partly because China has tightened capital controls, a possibility that Mr Subramanian acknowledged. But he thought that if China clung to such controls it would be to keep the yuan cheap (by preventing capital inflows) not to prop the yuan up (by deterring capital outflows). Still, given the sorry record of most economic predictions, the book's author deserves a handshake and a bow. ■

Income inequality

Pie in the sky

The share of wages in national income is both over- and under-explained

The idea that the spoils of the modern economy are unfairly distributed has become part of public discourse in the rich world. One common villain is the growing class of wealth-owners living off the returns from capital rather than hard-earned wages, an explanation popularised by Thomas Piketty in his book, "Capital in the Twenty-First Century", published in 2013. The idea has gained currency with politicians. And studying the "labour share", the slice of national income earned by workers through wages, has become something of a cottage industry in economics.

A new paper by Gene Grossman and Ezra Oberfield of Princeton University trawls Google Scholar and finds that more than 12,000 economics papers containing the words "labour share" and "decline" have been written in the past decade. Their review of the research suggests that economists' understanding of why workers are taking home a smaller slice of the pie is murky at best.

One reason for this involves measurement difficulties. Official statistics suggest that America's labour share fell by about six to eight percentage points between the 1980s and the 2010s. But Messrs Grossman and Oberfield list a number of recent papers that cast doubt on the numbers. A change to American tax law in 1986, for instance, lowered taxes for partnerships and other "pass-through corporations", which had the effect of distorting the measurement of wages. After the tax cut, many more business owners began classifying their firms as pass-through corporations and their earnings as profits, which led to a decline in measured wages.

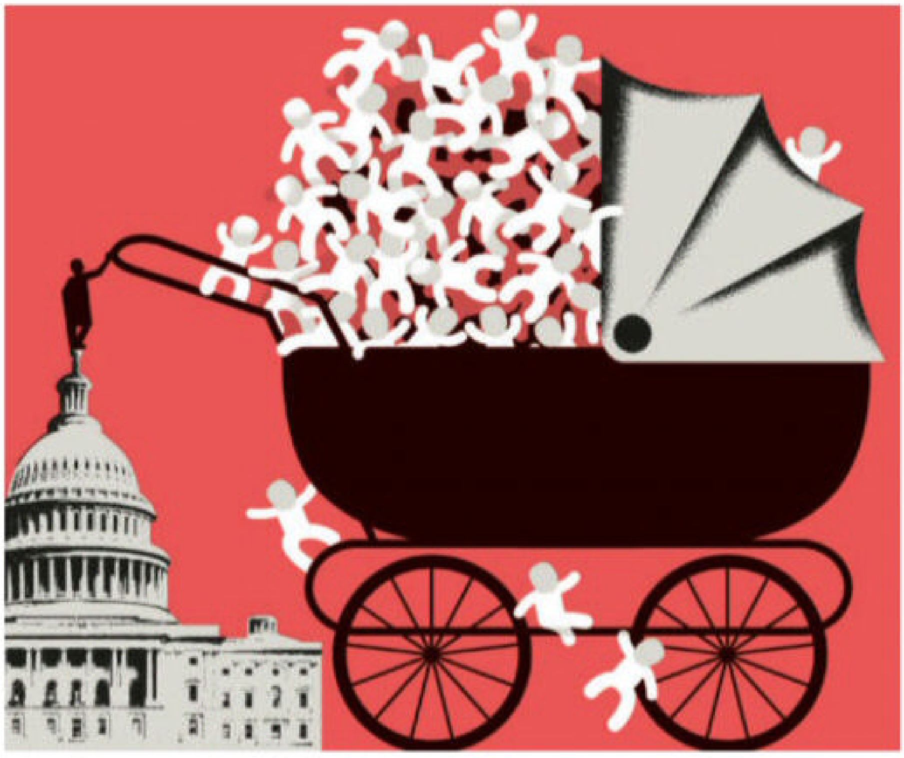
Another distortion comes from the use of gross national income to calculate the labour share, rather than a net measure that takes account of the depreciation of assets. Using the net measure, which may better capture income available for consumption, suggests a smaller fall in the labour share. That is because the growth of assets like computers has pushed depreciation rates up and weighed on net profits and national income over time. That in turn increases the labour share today.

Messrs Grossman and Oberfield put forward another reason for why the decline in the labour share is not well understood: economists' many explanations are not consistent with each other. Researchers consider everything from automation to offshoring and rising corporate concentration. They use sophisticated methods to estimate the role of a given factor, holding everything else constant. But when the estimates are added together, the resulting number is too large. Messrs Grossman and Oberfield reckon that the total might come to three or four times the amount that the labour share actually fell by.

Why is this the case? The authors argue that researchers are proposing proximate causes for the decline, rather than fundamental ones. Many of the supposedly distinct factors may simply be different ways of labelling the same thing. Advances in information technology, for instance, have enabled the automation of many clerical jobs, while also enhancing the market power of some firms. Economists can tell themselves lots of stories, and those stories might even enter public discourse. But the truth remains elusive. ■

Free exchange | Nanny state

How America should spend on child care



Unlike most rich European countries, America lacks a coherent public child-care regime. But it has come surprisingly close to having one. During the second world war Congress set up federal child-care centres to encourage women to work in factories; these were later dismantled. In 1971 Congress passed a comprehensive child-care plan. But President Richard Nixon vetoed the bill, calling it "the most radical piece of legislation" to have crossed his desk, and arguing that "good public policy requires that we enhance rather than diminish both parental authority and parental involvement with children." Now Democrats in Congress are trying again, fashioning a child-care system as part of an enormous social-spending package. It is expected to consist of a universal pre-kindergarten programme for three- and four-year-olds and free or heavily subsidised child care for most Americans. The potential gains from more systematic support are large. But there are trade-offs around its design, too.

The case for some sort of state intervention is straightforward. As any new parent will readily confirm, child care across the rich world is eye-wateringly expensive. Women are disproportionately likely to stay at home to look after their children, so encouraging them to work in the formal sector could increase gender equality. For some children, formal care doubles up as education, helping overcome the disadvantages associated with their family circumstances. Some public spending on child care has such vast benefits in later life that in broad terms it is an investment that pays for itself. Research led by James Heckman of the University of Chicago, for instance, has found that spending on some high-quality programmes for children from birth until their fifth year generated an internal rate of return of 14%.

Once convinced that there is a case for intervention, governments must consider how to design their schemes: who should be eligible, and what sort of care to provide. The system must not only free up parents to work and be good for children; the benefits must also exceed the costs to the public purse. There is clear evidence that mothers gain from child-care policy. Many studies find that universal schemes (ie, those that apply to families of all incomes) boost labour-force participation. In 1997 the Canadian province of Quebec implemented a full-time universal scheme, costing parents just C$5 (and later C$7, $4-5.50) a day. This raised mothers' participation rates by nearly eight percentage points.

When it comes to children's outcomes, however, the results are mixed. The available research on existing schemes is often patchy. The large returns on investment identified by Mr Heckman and his colleagues, for instance, relate to targeted programmes for poor families. The outcomes of universal schemes, though, are less glowing. One meta-analysis published in 2018 by Thomas van Huizen and Janneke Plantenga of Utrecht University examined 30 studies of such programmes. Only a third found a positive effect of the schemes on children's outcomes, and a fifth found negative effects. Though the scheme in Quebec raised mothers' participation substantially, a study by Michael Baker of the University of Toronto, Jonathan Gruber of the Massachusetts Institute of Technology and Kevin Milligan of the University of British Columbia found that children suffered worse cognitive and health outcomes.

The literature review also found that poor children gained the most from universal programmes. One oft-cited study by Tarjei Havnes, then at the University of Oslo, and Magne Mogstad of the University of Chicago examined what happened to Norwegian children born in the late 1960s and early 1970s, as a heavily subsidised child-care scheme began expanding. They found strong positive effects on future earnings for poor children, but negative effects on rich ones, whose parents would otherwise have provided better child care than the state. The researchers conclude "that the benefits of providing subsidised child care to middle and upper-class children are unlikely to exceed the costs".

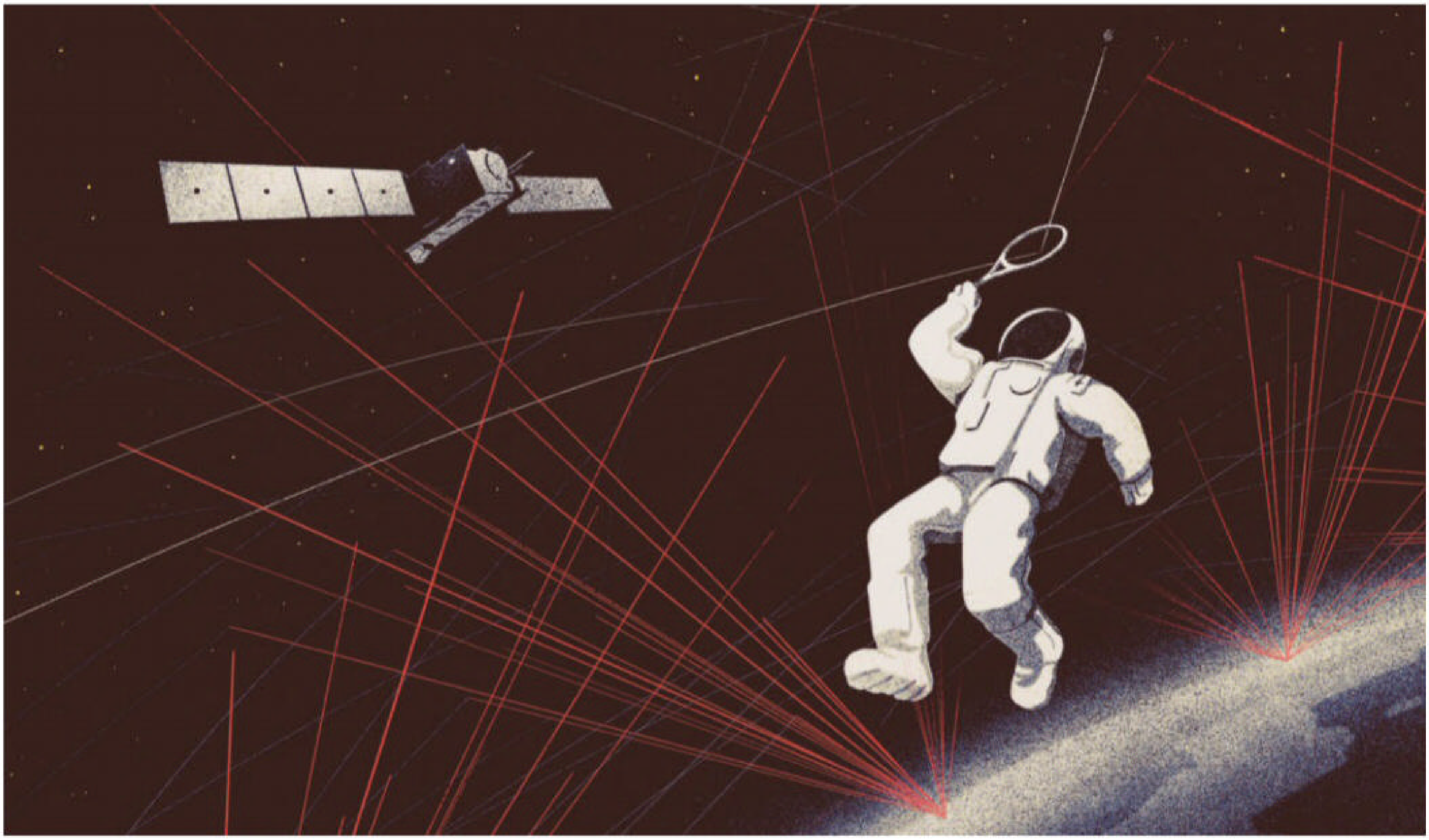
Added to this, universal care could be regressive. Across rich European countries, low-income families are a third less likely to use early child-care schemes than richer ones. In America poorer families are more likely to tell surveys that they prefer informal, family-based child care to formal care. That suggests that a universal offering would direct public funds to those who do not need it, and that means-testing is a more efficient way to target support.

Having decided who should receive help, the next question is how to deliver it. Here the evidence suggests that quality matters a lot for children's outcomes. Full-time programmes do not necessarily deliver better results than part-time ones. The disappointing results from Quebec are often attributed to wildly disparate standards. By contrast, a study by Mr Havnes and Nina Drange of Statistics Norway of a lottery to enter toddlers into a care scheme in Oslo—where quality is closely regulated by the state—found big improvements in standardised tests taken at age seven.

Child's play

Left-leaning American politicians like Elizabeth Warren tend to talk in terms of "underinvestment" and "child-care deserts". But if existing child-care arrangements are low-quality, then spending alone will not improve outcomes for children. A framework that weighs up the benefits of spending on child care for families and setting that against the costs is essential, if the policy is to help the most in need. Without it, child care in America also risks becoming subject to an unseemly mess of regulations: the same tangle of subsidies, supply restrictions and poor quality that afflicts higher education and health care.

As America attempts to Europeanise its safety-nets, the question is not whether a more coherent child-care regime ought to exist, but how it should be designed. Fifty years after Nixon vetoed universal child care, the search is still on for a truly effective American nanny state. ■



Orbital debris

Seeking bolts from the blue

As the number of satellites grows, private companies are joining governmental efforts to track space junk

At orbital speeds a tennis-ball-sized piece of space junk packs enough energy to obliterate a satellite. It makes good sense, then, to track orbiting debris, the better to steer spacecraft away from danger. That this is hard was underscored on April 23rd, as a SpaceX capsule sped toward the International Space Station (ISS). The crew were preparing to sleep when ground control hastily announced they had just 20 minutes to complete a safety procedure before a potential impact. The object, probably a piece of defunct spacecraft, later whizzed past harmlessly.

At the moment, space-going junk is mapped mostly by radar. But of an estimated 34,000 orbiting objects ten or more centimetres across, only about 29,000 are being tracked with reasonable accuracy. Smaller pieces are more numerous, and harder to follow. Those between one and ten centimetres across number more than 900,000; those at least a millimetre across, perhaps 128m. Even tiny bits of debris can do damage. In May the Canadian Space Agency said an untracked piece of junk had punched a hole 5mm across in Canadarm2, a robotic limb attached to the ISS.

As orbiting objects multiply, the danger grows. Roughly a dozen sizeable pieces of space debris break up every year as a result of collisions, exploding rocket fuel, or the rupturing of pressurised tanks or old batteries. Solar radiation chips off bits of paint and metal. And the number of launches is increasing. According to BryceTech, a consultancy in Virginia, at the end of 2001 there were 771 active satellites orbiting Earth. Ten years later that population had grown to 965. Since then, it has nearly quintupled, to roughly 4,500—and this does not include defunct satellites. And small, cheap satellites are a booming business. Maciej Konacki, an astronomer at the Polish Academy of Sciences, in Warsaw, who has studied the matter on behalf of the European Union, reckons there could be 100,000 active satellites in orbit by the end of the decade.

One sign of this crowding is that forecasts of potential impacts have roughly doubled in the past few years, says the Space Data Association, an industry group based in the Isle of Man which calculates collision risks for its members. But the rise conceals some good news. Part of the reason for more predicted impacts is better forecasting. As the quality and quantity of information grows, many potential collisions which would have gone unnoticed in the past are now foreseen.

Collision warning

Radars operated by America's Department of Defence have long been the biggest providers of "space situational awareness". Little more than ten years ago, position fixes were generally accurate only to within a few hundred metres. Since then, says François Laporte, an expert at CNES, France's space agency, the accuracy of America's debris tracking has improved by an "extraordinary, marvellous" order of magnitude, to a few tens of metres.

One big advance has been "Space Fence". This is a system built in the Marshall Islands for America's air force. It is billed (admittedly by its maker, Lockheed Martin, an arms firm) as the world's most advanced radar. It went into service in March 2020 and now makes 2m observations a day, many of closely spaced objects just 5cm across. In time, that level of scrutiny should more than triple the number of items which have their orbits regularly updated in a catalogue maintained by the 18th Space Control Squadron, at Vandenberg Space Force Base in California.

Since 2014 the EU has been chipping in too. Seven of its members pool their space-surveillance and tracking assets in an arrangement called the EU SST Consortium. Europeans worry that American data on debris may not remain forever free and freely available. Pride also plays a role. Mr Laporte says Europe's spacefarers want to see debris for themselves, "not just through the Americans". The consortium has yet to increase meaningfully the number of catalogued objects—"We're not even in the same league" as America, says Mr Laporte. But satellite operators welcome the effort nonetheless.

One problem is that there is no consensus on the best way to predict an object's future orbit. To do this its position must be recorded several times, to observe how its path is being altered by the gravitational pulls of the Earth, Moon and sun, the pressure imposed on it by solar radiation and, in low orbits, the drag caused by wayward wisps of air from the upper atmosphere, and so on. Different teams often come up with different results, says Dr Konacki, who was once a delegate to the EU SST Consortium. Any extra data should help make the process more accurate.

The private sector is gearing up its efforts, too. In April LeoLabs, a firm in Silicon Valley, switched on its fourth debris-tracking radar station. This facility, in Costa Rica, joins others in Alaska, New Zealand and Texas. A fifth is being built in the Azores. LeoLabs can currently track objects slightly bigger than tennis balls. The short wavelength and high power of the radars mean it may eventually be able keep tabs on bits of junk just 2cm across.

LeoLabs sells data to satellite operators, space agencies, America's armed forces and insurers keen to calculate better actuarial tables for spacecraft. Dan Ceperley, the firm's boss, notes that government agencies often take several "hand-wringing" hours to answer requests for a satellite's probability of collision. His firm's website lets customers see within seconds whether a proposed manoeuvre will lead, over the next week, to danger from any of the objects in LeoLabs' catalogue.

Besides using radar, debris can also be tracked optically. In collaboration with Curtin University, in Perth, Lockheed Martin runs FireOPAL, a system of 20 cheap cameras aimed at the sky from various parts of Australia. For several hours at dawn and dusk, when these cameras are in the dark but sunlight still illuminates debris orbiting above, the cameras take pictures every ten seconds. The closer an object, the more it appears to move relative to the stars, allowing triangulation of its position. For items at an altitude of 400km, says Phil Bland, who is in charge of Curtin's side of the project, the system is accurate to within 30 metres.

FireOPAL's greatest success so far was locating a satellite half a metre across, 26,000km up. The smallest objects the lenses capture in low orbits are about 30cm across. Rod Drury, Dr Bland's counterpart at Lockheed, says the firm now plans to expand FireOPAL around the world.

Lasers are another option. Around 40 outfits, including some belonging to the members of the EU SST Consortium, are shooting laser pulses at "retro-reflectors" fitted to many satellites. Clocking the return time allows positions to be calculated with an accuracy of a few millimetres. Seven laser stations also use a more powerful pulse that can spot debris without retro-reflectors, to within around a metre.

Space tourism

Lights, camera, lift-off

The latest set of space tourists put Branson and Bezos in the shade

Reality television loves small, enclosed worlds. Space travel requires them. That these two facts would, some day, come together has long seemed inevitable. The launch of four civilian astronauts into orbit early on September 16th (London time) sealed the deal. These days, missions are streamed on the YouTube channel of the agencies and companies involved. An East Coast prime-time stream on Netflix's YouTube channel for the launch of a mission which is the subject of an ongoing documentary series on the streaming service, "Countdown: Inspiration4 Mission to Space", is something else. Footage from the mission will be used in a feature-length final episode later this month.

The Inspiration4 mission was conceived and paid for by Jared Isaacman, the founder of Shift4, a payments company. Billionaires in space has been something of a trend in recent months, with Richard Branson ascending 86 kilometres in a rocket-plane built by Virgin Galactic, a company he founded, and Jeff Bezos reaching 107km atop a New Shepard rocket built by his company Blue Origin.

The greatest show in space

Mr Isaacman's trip is different. It is being undertaken not to show off his own wares but to enjoy someone else's—specifically those of SpaceX, a company founded by Elon Musk—while raising money for a charity close to his heart: St Jude Children's Research Hospital in Memphis, Tennessee.

It is also far more ambitious. Instead of briefly crossing a largely arbitrary line in the upper atmosphere which defines "space", as Sir Richard and Mr Bezos did, Mr Isaacman and his three companions have gone all the way to orbit, propelled by one of SpaceX's Falcon 9 rockets. At about 575km, they are around 150km higher than the astronauts on the International Space Station (ISS). On September 19th, after more than 40 orbits—40 sunrises, 40 sunsets—they will re-enter the atmosphere and splash down in the Atlantic.

The mission is similar to the flights SpaceX provides as part of its contract with NASA to take astronauts to and from the ISS. Fulfilling that contract was what got SpaceX into human spaceflight; tourism is a sideline it is exploring now that business is up and running.

Other companies are getting involved, too. Axiom Space, a firm which aspires to build a private space station of its own, is selling SpaceX trips to the ISS as part of a deal made with NASA. Most will be sold to the wealthy. But in May the Discovery Channel announced that one of the passengers would be the winner of a new reality-show competition called "Who Wants to be an Astronaut?" Whether that will make for compelling viewing remains to be seen. One difference between reality TV and space flight is attitudes to conflict. Television bosses want lots. Mission controllers prefer none.

For finding stuff in high orbits, though, neither lasers nor radars are much help. But telescopes work. ExoAnalytic Solutions, a Californian firm, tracks junk up to 170,000km away—nearly halfway to the Moon—using instruments "just laying on the shelves" at astronomy shops, according to Clint Clark, the firm's "Vice President of First Impressions" (as some marketing bosses like to be known in California). As for debris in geosynchronous orbit, a mere 36,000km up, ExoAnalytic's 300 telescopes, scattered in 35 clusters over five continents and Hawaii, track grapefruit-sized objects to within an accuracy of about ten metres. The company is adding a couple of sites a year, to improve the degree of precision. Customers include insurers keen to see if policyholders fly their satellites as safely as they claim to.

These efforts are impressive. Even so, back at LeoLabs Dr Ceperley reckons that ten times more tracking capability is needed than is available today. Such demand has allowed Northstar Earth & Space, a new firm in Montreal, to raise money to build, at $25m a pop, three 100kg satellites that will use telescopic cameras to track junk from orbit. The plan, according to Northstar's boss, Stewart Bain, is to launch the satellites in 2023, into an orbit with an altitude of 575km—the celestial equivalent, he quips, of "riviera or beach-front property". If this goes well, another nine will join them in subsequent years, to create a panopticon a dozen strong.

Where there's muck there's brass

For customers, none of this comes cheap. Northstar, for example, plans to charge annual subscriptions of between $10m and $100m. But that will buy more than just a degree of collision-proofing. It will also permit the manoeuvres made to avoid such collisions to be fine-tuned, or even deemed unnecessary. That will save fuel, extending a satellite's useful life. And it will also reduce pauses in service, which are almost inevitable when a satellite's orbit is being adjusted.

Naturally, this orbital-tracking technology has military value as well. Knowing objects' orbits can reveal much about an adversary's capabilities—including, perhaps, orbital combat. Movements that represent any deviation from normal patterns are most telling, says Scott Norr, an expert at Lockheed in the use of Space Fence for military intelligence. To illustrate why, he points to an object that had been considered to be just a piece of debris from a Russian military launch. In May 2014 the "debris" sprang to life. Its movements since then have fuelled fears that it could be an anti-satellite weapon. Whether other such "sleepers" are hidden in plain sight among the clouds of rubbish orbiting Earth remains to be seen. ■

Zoonotic diseases

All the better to infect you with

Why meat-eating mammals incubate human diseases

In November 2020, at the height of the second covid-19 wave in Europe, the Danish government revealed that a new strain of the virus had been found in farmed mink. Officials worried that the new strain could become widespread in humans, where it might prove deadlier or more resistant to vaccines. For Clare Bryant, a veterinary scientist at the University of Cambridge, this was exactly what she feared might happen. "I thought holy moly, there you go," she says.

At the time, she and her team were investigating the biology of *Carnivora*, an order of meat-eating mammals that includes cats, dogs, bears and mink, among others. *Carnivora* is a potent source of "zoonotic" diseases—those that have jumped to humans from their original animal hosts. Almost half of its members carry one or more unique zoonotic pathogens. Biologists have long wondered why that should be. Dr Bryant's paper, published in *Cell Reports*, suggests an answer.

Diseases jump from animals to humans when a pathogen stumbles upon a mutation that allows it to infect human cells as well as animal ones. Since mutation is a random process that mostly happens when pathogens reproduce, a bug is most likely to hit the jackpot when it has plenty of time to survive in its host unmolested.

Healthy animals do not usually allow pathogens such leisure time. Infection triggers an immune response aimed at wiping out the invader. One part of that response relies on proteins governed by chemicals called receptors, adaptors and effectors. Receptors sound the alarm when a pathogen is spotted. They cause adaptors to trigger the release of effectors, which are enzymes that produce proteins capable of destroying the invader.

Dr Bryant found that, in *Carnivora*, some of this machinery is broken. Immunological pathways in the gut, in particular, seem not to work properly. Genes for receptors are missing or disabled, allowing pathogens to go unseen. Two effector genes are fused, compromising any response that is mounted. After spotting these anomalies in dogs, the researchers edited the fused effector genes into mice. Sure enough, the animals' immune response was hampered.

While Dr Bryant's team looked only at dogs, the mutations resemble those found in other sorts of carnivorous mammal, including cats, ferrets and bears. All share the fusion in the effector genes, though the specific faults with their receptors differ. That suggests similar defects have evolved several times in different lineages.

But that is only half the story. For an animal to act as a useful carrier from a pathogen's point of view, it not only has to let the pathogen survive but also stay alive itself in order to infect others. One possibility is that carnivores have alternative lines of defence that partially compensate for their defective immune systems. These extra defences might be potent enough to keep animals from getting sick, but not effective enough to wipe out pathogens completely.

Dietary adaptations, says Dr Bryant, may be the culprit. Earlier experiments on caterpillars have shown that animals with protein-rich diets have fewer infections. The meaty diets of *Carnivora* may grant its members similar protection. The key, says Dr Bryant, is likely to be the microbiome, the ecosystem of bacteria that live in animals' guts. Her guess is that these bacteria metabolise dietary protein into antimicrobial compounds which suppress pathogens. That imperfect protection may allow other bits of the animals' immune systems to fall into evolutionary disrepair.

The exact details are still to be worked out. But the pet carnivores with which so many humans share their homes are unlikely to pose much risk. The real danger comes from when such animals are herded together in close quarters, giving pathogens access to a bigger pool of individuals in which to mutate. The upshot of all this, says Dr Bryant, is that farming animals in *Carnivora* is a bad idea. Indeed, after discovering the mutant version of SARS-COV-2, the Danish government culled millions of those mink—effectively ending the world's only large industry that did so. ■

Farming and the climate

How to toilet train your cow

Another way to fight climate change

PUPPIES CAN be taught. So can human children, though not for the first couple of years. Now, in the hope of fighting climate change, Dr Jan Langbein, of the Fredrich-Loweffler-Institut in Germany, and his colleagues hope they can train cows to use the toilet, too.

Cow urine contains urea, a nitrogen-rich compound that, when broken down by enzymes in cow faeces, is converted into ammonia. Bacteria in the soil, in turn, convert that ammonia into nitrous oxide. Best known as a dental anaesthetic, the stuff is also a potent greenhouse gas. And agriculture is a big source of it. In the European Union, livestock farming accounts for around 70% of ammonia emissions.

Collecting and treating cow pee before the ammonia can be produced might, therefore, seem like a good idea. But it has proved difficult in the past without confining the cows to small areas, which is bad for their welfare. As Dr Langbein describes in *Current Biology*, this conundrum could be solved if free-roaming cows could be persuaded to voluntarily relieve themselves in a latrine.

But going to the loo is a tricky business, says Dr Langbein. It requires awareness of bladder fullness, self-control to override excretory reflexes, selection of a latrine, and intentional relaxation of the muscles which control the flow of urine. Nevertheless, he has developed a three-stage process to help cows master toilet training.

The first job was to establish the latrine as the correct place to conduct business. Calves were confined to a latrine and rewarded with molasses or crushed barley after peeing in it. Next, they were given the freedom to roam around an alley outside the latrine. Urinations in the latrine were rewarded; those in the alley were gently punished with a spray of water. Finally, the alley that led to the latrine was extended, to allow the animals to practise self-control for longer, and over a greater distance.

Cows are fairly intelligent animals, and the lessons proved quite effective. Of the 16 calves enrolled in the training process, 11 were considered successfully toilet-trained by the end of it. Their overall performance, say the researchers, was roughly comparable to that of human children. The animals managed to pee in the latrine around 77% of the time.

Dr Langbein is optimistic that his methods can be improved further. One step would be to extend the principle to faeces, which also contains nitrogen, and is another source of nitrous oxide. The effectiveness of the training could be boosted too, perhaps with longer-lasting lessons, or by making adjustments to rewards and punishments. He notes that the success rate increased after repositioning the water-sprayer used to punish errant animals. Four out of eight calves were successfully trained before it was moved, compared with seven out of eight afterwards—though the small sample size means this difference is not statistically significant. More research, as always, is required.

The next step, says Dr Langbein, is to see if cattle on a working farm can be similarly trained. Whether farmers will be keen is another question. Building toilets and training animals costs time and money, after all. But when it comes to climate change, every little helps. ■

Capturing carbon

Sucking money from thin air

REYKJAVIK

Customers are lining up for the world's first big CO_2-removal plant

SHORTLY AFTER 6pm on September 9th, the Orca carbon-capture plant, just outside Reykjavik in Iceland, switched on its fans and began sucking carbon dioxide from the air. The sound was subtle—a bit like a gurgling stream. But the plant's creators hope it will mark a big shift in humanity's interaction with the climate.

Orca is, for now, the largest installation in the infant "direct air capture" industry, which aims to remove CO_2 from the atmosphere. When sealed underground such CO_2 counts as "negative emissions"—an essential but underdeveloped method for tackling global warming. To stop temperatures rising by 1.5°C or even 2°C above pre-industrial averages, as per the Paris climate agreement, hundreds or thousands of billions of tonnes of CO_2 will have to be removed from the atmosphere in the second half of the century.

Air conditioning for the world

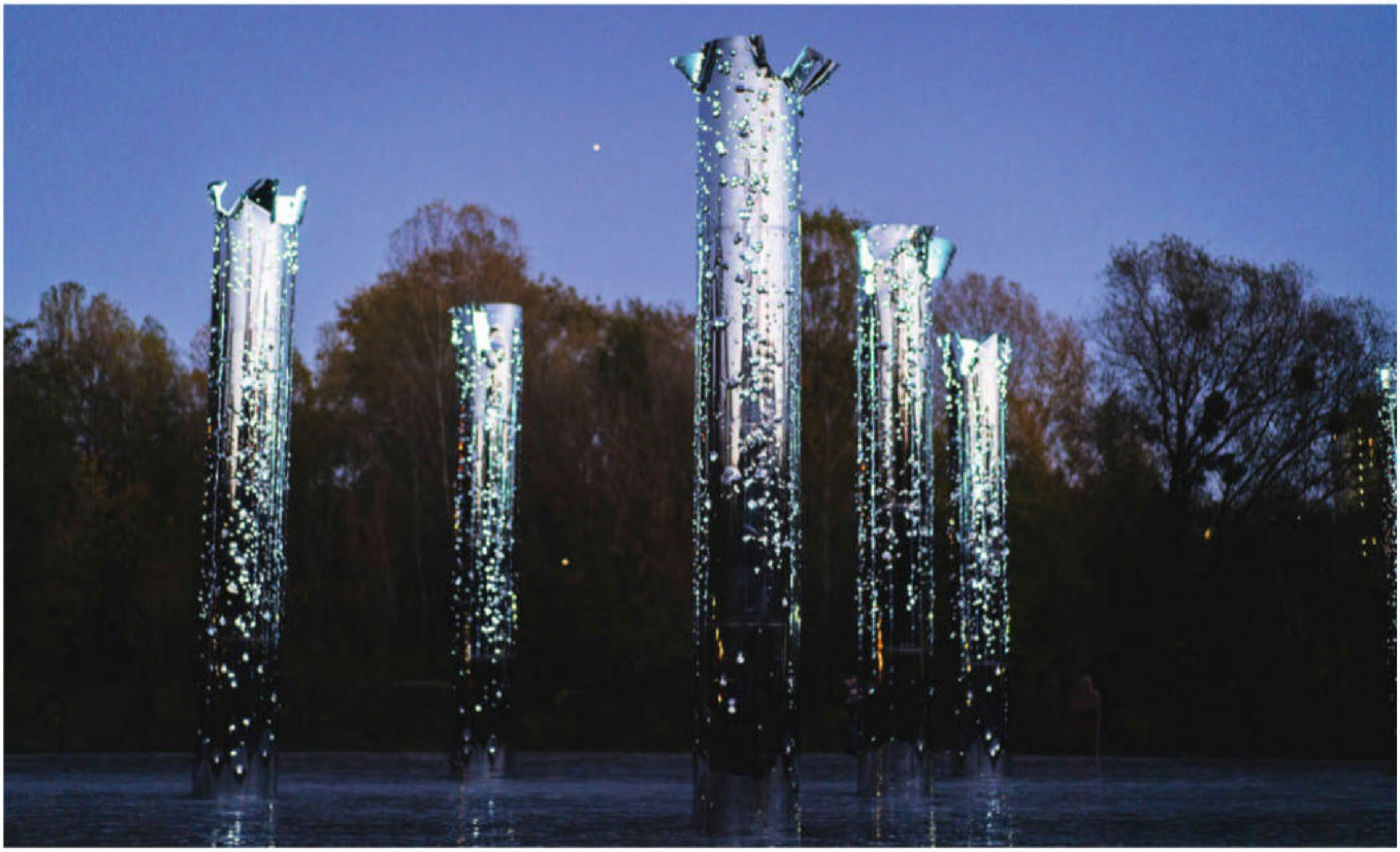
Currently, the only means of doing that is planting trees, an option that is not entirely without drawbacks. Trees burn in wildfires and can be cut down. When this happens, much of the carbon they store escapes. The Orca plant shows another way. Climeworks, the company that owns it, has developed chemical filters which snag CO_2 when air passes through them. When heated they release the CO_2 again, generating a stream of gas that is handed to another firm called Carbfix.

Carbfix pipes the gas to nearby wells, mixes it with water and pumps the resulting carbonated water into the bedrock. In Iceland that consists almost entirely of volcanic basalts, which contain minerals that react with carbon dioxide to form calcium carbonate, a white crystal that is the main ingredient in limestone. Thus, the full operation extracts CO_2 from air and turns it to rock. Trials have shown that Icelandic basalts can sequester CO_2 in solid rock within two years. Power comes from a nearby geothermal power station.

One catch is volume. Orca will capture 4,000 tonnes of carbon dioxide a year, out of around 35bn tonnes produced by burning fossil fuels. Climeworks is "confident" it can reach millions of tonnes before the decade is out. (A previous, eye-popping ambition to grab 1% of emissions by 2025 is no longer on the cards.)

Another is cost. It costs Orca somewhere between $600-800 to sequester one tonne of carbon dioxide, and the firm sells offset packages online for around $1,200 per tonne. The company thinks it can cut costs ten-fold through economies of scale. But there appears to be no shortage of customers willing to pay the current, elevated price. Even as Orca's fans revved up, roughly two-thirds of its lifetime offering of carbon removals had already been sold. Clients include corporations seeking to offset a portion of their emissions, such as Microsoft, Swiss Re (and *The Economist*), as well as over 8,000 private individuals.

Climeworks is not alone in having spotted the opportunity. Using different chemistry, Carbon Engineering, a Canadian company, is gearing up to switch on its own carbon-scrubbing facilities. It will take more than these pioneer engineers and financiers to build a gigatonne-sized industry. But the fans are turning. ■



Memory and the Holocaust

The ravine

KYIV

An ambitious memorial aims to honour the dead and galvanise the living

On a balmy September evening locals stroll in a leafy park in Kyiv. Parents push prams. Couples kiss. Young men perch on benches with cans of beer and shawarmas. Among the trees and promenaders stand slabs of granite the height of a person. Implanted in each is a peephole, like the lens of a camera. Peer into one of them, and you see a colour photograph taken on this spot 80 years ago: a ravine, scattered clothes, three German officers looking over the edge. This is Babyn Yar.

The picture was taken at the beginning of October 1941. A few days earlier, on September 29th and 30th, Nazi forces shot 33,771 of the city's Jews in the ravine (a figure that excludes small children). It was the biggest such massacre of the second world war. Over the next two years, perhaps 100,000 more people were killed, dumped and burned in the same place, including Roma, communists, Ukrainian resistance fighters and patients of a nearby psychiatric hospital. But the slaughter in Nazi-occupied Kyiv began with Ukraine's Jews; 1.5m had perished by 1945, a quarter of all victims of the Holocaust.

The tragedy of Babyn Yar was never forgotten. Yet as both a topographical feature and a site of mourning, it all but vanished from the map after the war. Now, an international team of artists, scholars, architects and philanthropists is transforming the landscape again, physically and emotionally. The photographs are a small part of a vast project that involves museums, art installations, books, education initiatives and films. Endorsed by Volodymyr Zelensky, the country's president, it is funded by businessmen including Mikhail Fridman, a Ukrainian-born Russian tycoon, his associate German Khan, and Viktor Pinchuk, a Ukrainian oligarch.

The mix of painful history, Russian involvement and oligarchs is explosive in today's Ukraine. But the memorial's ramifications go wider. Many countries have mass graves, "but nobody wants to remember [the victims]", says Patrick Desbois, a Roman Catholic priest and adviser to the project who spent years documenting the "Holocaust by bullets". The new memorial, he says, is a message to mass-murderers everywhere: "We always come back."

For decades Babyn Yar was a place not only of murder but of the physical suppression of memory, first by the retreating Nazis, who scrambled to conceal their crimes, then by the Soviets. Josef Stalin wanted to celebrate his triumph, not mourn tragedy; after the war he launched a new anti-Semitic campaign of his own. Official historiography depersonalised the victims of Nazism as undifferentiated Soviet citizens.

Babyn Yar was levelled. In 1952 some of its cavities were flooded with pulp from a brick factory. There were plans to build a football stadium and entertainment park on top of it. The ravine did not go quietly: in 1961 a dam securing the pulp gave way and a mudslide carrying human remains hit a residential neighbourhood. Hundreds died (the exact toll was hushed up).

Later in the 1960s Viktor Nekrasov, a Kyiv-born Russian writer who had fought at Stalingrad and wrote about it movingly, spoke up about Babyn Yar. To him, covering up the Nazi genocide made the Soviet government complicit. Of the murder and ▸▸

"the subsequent attempt to forget about this murder, to eradicate the very memory of it", he wrote in 1966, "the first is more tragic. The second is more shameful."

Nekrasov led one of the first big commemorations of the massacre. Mourners, many of whom had known the victims, gathered at the edge of a Jewish cemetery that had been vandalised by both the Nazis and the Soviets. They held flowers and cried. The KGB cringed. The crowd was quickly dispersed; Nekrasov was expelled from the Communist Party and forced to emigrate. Then, in the early 1970s, Babyn Yar became a rallying point for Jewish dissidents. The Soviet authorities finally put up a monument near the site of the ravine, dedicated "to the Soviet citizens, prisoners and officers executed by the German occupiers". There was no mention of Jews.

Murder and memory

If Soviet ideology had little room for the Holocaust, it has been a sensitive subject for some Ukrainians for other reasons. Millions of them fought in the Red Army; millions died, in and out of uniform. But in some places the Nazi slaughter was abetted by Ukrainian auxiliary policemen. In others Jews were slain by nationalist partisans. (In the 1960s Ivan Dziuba, a non-Jewish poet who spoke of his shame over anti-Semitism in Ukraine, was imprisoned.)

After the Soviet Union collapsed in 1991 and Ukraine won independence, the area that had been Babyn Yar became a park. A jumble of plaques and memorials were erected; politicians paid their respects. But the main theme of historical restitution was the Holodomor—the famine Stalin inflicted on Ukraine in the 1930s, killing millions of peasants. As historical trauma often is in new states, the Holodomor became a central plank of national identity.

Five years ago Mr Fridman, the tycoon, saw an opportunity. Born in 1964, he grew up in Lviv, a city in western Ukraine where the large pre-war Jewish population had been all but obliterated. As a student in the 1980s he moved to Moscow and became one of Russia's richest businessmen. After the revolution that overthrew Ukraine's Kremlin-backed government in 2014, business and civil society helped fill a void left by the state's confusion. Having made his fortune in the turbulence that followed the Soviet collapse, Mr Fridman knew that such moments should be seized.

In 2016 he assembled a coalition of businessmen, politicians, activists and intellectuals, both Jewish and gentile, and launched the Babyn Yar Holocaust Memorial Centre. "Private money frees the project from state ideology," Mr Fridman says.

How to remember the second world war is always a neuralgic subject. In Poland, references to Polish complicity in Nazi atrocities can result in legal action; in Russia, comparison between Stalinism and Nazism is now a crime. And the idea of private cash shaping memory of the conflict, and of the Holocaust, would be jarring anywhere. Given Russia's annexation of Crimea and the war in the Donbas—not to mention Kremlin propaganda that tars Ukrainians as fascist—the involvement of Russian citizens at Babyn Yar inevitably riled politicians and others. Some feared that the Holodomor would be downplayed. Petro Poroshenko, who as president until 2019 supported the initiative, now worries that representatives of Russia are using history to "discredit the Ukrainian state and Ukrainians". Some local Jewish activists were irked by the outsiders too.

The appointment in 2019 of Ilya Khrzhanovsky, a Russian film director, as the project's artistic overseer led to more controversy. His previous work includes a dark film installation exploring coercion and power in a Soviet physics institute, which caused scandals in Ukraine and elsewhere. Mr Fridman has been accused of nefarious meddling; Mr Khrzhanovsky's initial ideas, such as a suggestion of role-playing by visitors as victims and killers, led to charges that he was planning a sort of Holocaust theme park.

The role-playing was dropped—but Mr Khrzhanovsky is determined to make an emotional impact on an audience for which the war is no longer part of living memory. Anton Drobovych, who left the project and now leads the Ukrainian Institute of National Remembrance, a state body, is sceptical about both the approach and what he sees as the aloof way it has been implemented. "You can't build a memorial of such national and international significance," he thinks, "without a proper dialogue and consultation with society."

The work is ongoing. Four museums, tackling different aspects of Babyn Yar's history, are still to be built. But Mr Fridman, whose outlook is shaped as much by his Jewish roots and upbringing in Ukraine as by his affiliation to Russia, does not see the memorial as a way to attribute blame; for him it is a means to empower Ukrainian society. "The ability of a country to talk about its past is a sign of maturity," Mr Fridman says. "People who assume the role of victim can rarely achieve success."

Sergei Loznitsa, an unflinching Ukrainian film-maker, agrees. "Telling the truth about the Holocaust is intertwined with state-building in Ukraine and the forging of its national identity," he says. His dispassionate documentary, "Babyn Yar. Context", which was partly funded by the memorial project, had its premiere at this year's Cannes film festival, to great acclaim. Based on German and Soviet archive footage, it shows devastated Soviet soldiers surrendering to German troops; Jews being abused by their neighbours in Lviv; jubilant crowds tearing down Stalin's portraits and cheering the Nazis as liberators, and less jubilant crowds greeting Soviet soldiers a few years later.

The massacre at Babyn Yar was not filmed. Instead viewers see pictures of Kyiv's Jews and a long, scrolling tribute from "Ukraine without Jews", an essay by Vasily Grossman, a Soviet war correspondent and author of the epic novel "Life and Fate", whose mother died in the Holocaust:

> Stillness. Silence. A people has been murdered. Murdered are elderly artisans...murdered are teachers, dressmakers; murdered are grandmothers who could mend stockings and bake delicious bread...and murdered are grandmothers who didn't know how to do anything except love their children and grandchildren...This is the death of a people who had lived beside Ukrainian people for centuries, labouring, sinning, performing acts of kindness, and dying alongside them on one and the same earth.

A wall of tears

Grossman's essay (translated by Polly Zavadivker) captures the ultimate purpose of the memorial as Mr Khrzhanovsky sees it: to rescue faces and voices from oblivion; to make them real, so they can be remembered, mourned and loved for who they were. "We want it to be a place of living memory and of empathy, where people—whatever their age or nationality—can establish their own emotional connection with those who died here. And you can only feel empathy for concrete people."

He began by collecting names and scanning archives to construct biographies of victims and perpetrators. A team of forensic architects and historians studied old maps, soil samples, photographs and witness statements to reconstruct the lost topography, and the terrible events that followed the Nazi invasion. The information has been used to produce a 3D model depicting scenes, buildings and people, which will be encased in a huge kurgan, or burial mound, erected on what was the edge of the ravine. The more detailed and tangible the story of Babyn Yar, the more universal its meaning is intended to be.

The life that was

Among the first art installations to be unveiled was a "mirror field", designed by Maksym Demydenko and Denis Shibanov. A large stainless-steel disk covers the ground, from which rise ten vertical columns, shot through with bullets of the same calibre used by the Nazis in 1941 (see lead picture). Visitors see their own reflections in the perforated columns and are immersed in sounds that emanate from below—names, prayers and snippets of everyday life recorded in Kyiv before the war. When night falls, the field becomes a mirage of this extinguished life.

A path leads to the "crying wall" (see previous page), created by Marina Abramovic, a feted Serbian artist, which will be completed before a state memorial service on October 6th. A 40-metre-long wall, made of Ukrainian coal, is embossed at the level of the head, heart and stomach with quartz crystals, meant to reflect the diversity of victims at Babyn Yar. Water weeps out. Nearby is a symbolic synagogue, designed by Manuel Herz, a Basel-based architect, made from Ukrainian oak and partly open to the elements. Once again, the past is present: the interior is decorated with copies of ornaments from long-gone synagogues in western Ukraine.

"Memory is not the past. It is the consequence of the past, it is what makes present life possible," says Anna Kamyshan, who grew up in Ukraine and helped develop the project. Some of her forebears died in the Holocaust; others cheered the murderers. What defines her identity, she says, "is not my blood, but this landscape, this environment, this soil. This Babyn Yar." ■

Friendship, fiction and philosophy

Her brilliant friend

Inseparable. By Simone de Beauvoir. Translated by Sandra Smith. *Ecco; 176 pages; $26.99.* Published in Britain as "The Inseparables". Translated by Lauren Elkin. *Vintage Classics; £12.99*

In 1958, in "Memoirs of a Dutiful Daughter", Simone de Beauvoir recalled meeting Elisabeth Lacoin in 1917, when she was nine. On the first day of the school year, de Beauvoir found that "the seat next to mine was occupied by a new girl: she was small, dark, thin-faced, with short hair." Lacoin explained that she had been confined to her bed for a year after her dress caught fire and she suffered terrible burns. De Beauvoir was captivated by the story, and by her. "Nothing as important as that had ever happened to me," she later wrote. Lacoin "seemed to me a very finished person… everything she had to say was either interesting or amusing."

The pair quickly became firm friends—dubbed "the two inseparables" by their teachers—as well as academic rivals. They would sneak into Lacoin's father's study, not to exchange "girlish confidences" but to talk about their reading and schoolwork, or lofty ideas such as the definition of love. They remained close until university.

Though de Beauvoir's family had once belonged to the *haute bourgeoisie*, her father had mismanaged their money, and she was expected to succeed academically and support herself. In Lacoin's family, however, education was seen as a distraction—eventually "you either had to get married or become a nun." De Beauvoir's friend "began to dread the future". In the end, Lacoin was denied a choice of any kind: she died of a brain infection in 1929. When de Beauvoir wrote the date in her diary, she blotted the ink with her tears.

Love at first sight

It was one of the most important relationships of the feminist philosopher's life; Sylvie Le Bon de Beauvoir, her adopted daughter, has described it as "her first great love affair". De Beauvoir loved Zaza (Lacoin's nickname) "with an intensity which could not be accounted for by any established set of rules". Time and again, she would try to immortalise her friend on the page: as Anne in "When Things of the Spirit Come First", a collection of short stories (written in 1937 but not published until 1979); in a passage, later deleted, in "The Mandarins" (1954), for which she won the Prix Goncourt, France's most prestigious literary award; and in her memoirs.

She produced another version of the story, too. De Beauvoir wrote "Inseparable", a thinly fictionalised account of the friendship, in 1954 but hid it in a drawer. Jean-Paul Sartre, her romantic and intellectual partner, considered such personal material uninteresting and dissuaded her from publishing it. Discovered by her daughter, the novella was released in French last year and is now out in English.

The marriage plot

Some of it will be familiar to admirers. The book begins with Sylvie (de Beauvoir's avatar) meeting Andrée (Lacoin's) at school and a description of the accident; it ends with Andrée's untimely death. In between it points up the strictures of decorum-obsessed bourgeois society, and reveals Andrée's thwarted courtship with Pascal (in real life Maurice Merleau-Ponty, another philosopher) and her parents' painful disapproval of it. The context in the memoir is stripped away, leaving only a poignant tale of intense affection. "I could only conceive of one kind of love," Sylvie reflects. "The love I had for her."

The book distils subjects that would preoccupy de Beauvoir throughout her career. "It gives us such a great insight into the formation of one of the most important thinkers of the 20th century," says Charlotte Knight, its British editor. One theme is religion. Through Sylvie, the author examines her own rejection of the church and loss of faith. "Without God, the world no doubt was difficult to explain," Sylvie says, "but God didn't explain very much, or at any rate we understood very little."

De Beauvoir would probe the meaning of self-determination and freedom in "The Ethics of Ambiguity", a defence of existentialism published in 1947. "Man exists," she wrote. "For him it is not a question of wondering whether his presence in the world is useful…It is a matter of knowing whether he wants to live and under what conditions." Andrée, meanwhile, is urged to believe in self-sacrifice, an idea de Beauvoir "wrestled with for much of her life", says Kate Kirkpatrick of Oxford University, author of "Becoming Beauvoir", a biography.

Lacoin's story also informed her feminism. In "The Second Sex" (1949), de Beauvoir wrote that a young woman "has a harder time than the young man in accomplishing herself as an autonomous individual". She lamented the fact that "marriage is the reference by which the single woman is defined" and the bourgeois fondness for arranged, loveless unions—an outcome Lacoin was desperate to avoid. In a scene described at length in the novella and briefly in "The Second Sex", Andrée/Lacoin brings an axe down on her foot to secure a reprieve from the drudgery of domestic labour and familial obligations.

As Lauren Elkin, the translator of the British edition, notes, women had typically married or died at the end of novels. In hers, de Beauvoir indicts the society and institutions that "make those Andrée's only two options". At the funeral, the imagery of the two fates is conflated as her grave is shrouded with pale flowers. She "suffocated in all this whiteness", Sylvie observes.

This lost novella will introduce some readers to the defining role Lacoin played in de Beauvoir's trailblazing life and career. The philosopher herself, who died in 1986, always understood it. At the end of her memoir, she says she is haunted by visions of her friend at night and by her memory during the day. "We had fought together against the revolting fate that had lain ahead," she writes, "and for a long time I believed that I had paid for my own freedom with her death." ■

Johnson Hitting the like button

If you, like, dislike "like", maybe, like, think again

NOBODY SEEMS to like *like*—or nobody with access to a printing press. Letters to newspapers and comment pieces often harrumph about this new, meaningless filler word. Can't it, they wonder, somehow be eliminated?

But academic linguists, at least, have a soft spot for *like*. They deal with even more of it than do most people. The average parent might see their children grow out of the *like* habit, but university lecturers have a constantly refreshed supply of 18-year-olds. Making a virtue of necessity, they have looked at the supposedly vacuous word in depth. Irritating or not, they have concluded, *like* is not new and is far from meaningless.

As an expression of wonderment, sometimes referred to as "beatnik like", it is found in decades-old exclamations such as "Like, wow, man." This is now rare; one scholar even considers it to have been apocryphal, more ascribed to beatniks than actually uttered by them. Another version is "quotative like": "She was like, 'You can't do that', and I'm like, 'Yes I can'." That was already identified in the early 1980s, associated (as so many disparaged trends are) with young women, particularly those in the San Fernando Valley of Los Angeles. This usage won out against *she goes* ("She goes, 'You can't do that', and I go…") and is now ubiquitous, and uncomplicated.

More interesting is *like*'s function as what linguists call a "discourse particle". In this role, *like* certainly does what some older grouches bemoan: it lets the speaker avoid committing to a statement. If someone says, "It's, like, five miles away", they signal an approximation. If they say, "He's, like, a consultant", that shows the speaker may not know the exact word needed. Already in 1983, Lawrence Schourup, a linguist, wrapped

these nuances together to suggest drily that "*like* is used to express a possible unspecified minor nonequivalence of what is said and what is meant."

But *like*'s functions go wider than signalling uncertainty; a later analysis by Muffy Siegel, now of the University of Pennsylvania, noted that only in some cases can "about" or "approximately" be swapped in for "like". In "She's, like, about to break up with him", it indicates a hesitancy to impart sensitive information. And in "Can I borrow like $50?" it softens a painful request. Introducing a whole sentence with "It's like" puts extra emphasis on it: "My roommates play music all the time. It's like I can't even concentrate enough to do my homework."

So the grousing about *like* (that it shows uncertainty or fear of commitment) misses the breadth of this supple word's uses. The point of a discourse particle is to give the listener some idea of the speaker's attitude about what they are saying. It provides a valuable second channel of information, overlaying the basic proposition of a sentence. Speakers who use *like* are not generally stupid or thoughtless. Research suggests that they employ it more with friends and in settings where they feel comfortable, indicating that they hope this second channel will be picked up by a sympathetic audience. They reduce its use in more formal settings—perhaps well aware how older, more powerful adults feel about it.

All this analysis might seem to be giving *like* too much dignity. Why don't people just clearly say what they mean? Yet consider that it belongs to a class of words that has other, more respectable members. *So* and *right* have joined *like* as much-criticised discourse markers, but they are beloved of some of the most influential people on the planet. For instance, both are typical of the speech of Mark Zuckerberg, Facebook's boss.

And if those are not classy enough, remember that words such as *well*, *now* and *indeed* often seem to do little more than buy the speaker a few more moments to think, much as *like* can. Or recall *as it were* and *so to speak*, which, like *like*, can signal uncertainty or approximation, but do not mark their users out as simpletons.

In the end, the strikes against *like* fall into two categories, one more legitimate than the other. The bad reason to dislike *like* is its association with the usual suspects who are supposedly destroying the English language: the young (women and girls in particular) and Americans (especially Californians).

The better gripe is that some people really do use *like* every fourth word. No word or phrase—not *like*, not *in terms of*—can bear that kind of repetition without annoying people. So if you're a *like* enthusiast, don't hang your head in shame. But, as with most things, variety is the spice of *like*.

Economic & financial indicators

Economic data

	Gross domestic product % change on year ago latest		quarter*	2021†	Consumer prices % change on year ago latest		2021†	Unemployment rate %		Current-account balance % of GDP, 2021†	Budget balance % of GDP, 2021†	Interest rates 10-yr gov't bonds latest,%	change on year ago, bp	Currency units per $ Sep 15th	% change on year ago
United States	12.2	Q2	6.6	6.0	5.3	Aug	3.6	5.2	Aug	-3.0	-12.6	1.3	63.0	-	
China	7.9	Q2	5.3	8.0	0.8	Aug	1.2	5.1	Aug‡§	2.8	-4.9	2.7 §§	-26.0	6.44	5.3
Japan	7.6	Q2	1.9	2.3	-0.3	Jul	-0.1	2.8	Jul	3.4	-8.9	nil	-8.0	109	-3.5
Britain	22.2	Q2	20.7	6.6	3.2	Aug	2.6	4.6	Jun††	-4.5	-10.9	0.7	49.0	0.72	8.3
Canada	12.7	Q2	-1.1	5.4	4.1	Aug	3.0	7.1	Aug	-1.7	-8.9	1.2	66.0	1.26	4.8
Euro area	14.3	Q2	9.2	4.6	3.0	Aug	1.9	7.6	Jul	3.4	-7.2	-0.3	18.0	0.85	-1.2
Austria	12.0	Q2	21.1	3.8	3.2	Aug	2.4	6.2	Jul	2.8	-7.9	-0.1	24.0	0.85	-1.2
Belgium	14.9	Q2	7.0	4.8	2.7	Aug	2.1	5.9	Jul	-0.2	-7.2	nil	17.0	0.85	-1.2
France	18.7	Q2	4.5	5.5	1.9	Aug	1.6	7.9	Jul	-1.4	-8.7	nil	19.0	0.85	-1.2
Germany	9.4	Q2	6.7	3.1	3.9	Aug	2.5	3.6	Jul	6.7	-5.7	-0.3	18.0	0.85	-1.2
Greece	16.4	Q2	14.5	5.4	1.9	Aug	0.1	14.6	Jul	-3.8	-5.7	0.8	-30.0	0.85	-1.2
Italy	17.3	Q2	11.2	6.0	2.0	Aug	1.3	9.3	Jul	3.8	-11.5	0.7	-30.0	0.85	-1.2
Netherlands	9.7	Q2	13.1	3.8	2.4	Aug	2.1	3.1	Jul	9.5	-1.7	-0.4	6.0	0.85	-1.2
Spain	19.8	Q2	11.5	6.2	3.3	Aug	2.0	14.3	Jul	0.8	-8.7	0.3	1.0	0.85	-1.2
Czech Republic	8.9	Q2	4.2	3.5	4.1	Aug	2.7	2.8	Jul‡	3.2	-8.5	2.0	89.0	21.4	5.3
Denmark	8.7	Q2	9.3	2.8	1.8	Aug	1.4	3.8	Jul	7.8	-0.5	nil	34.0	6.29	-0.2
Norway	6.1	Q2	4.4	2.6	3.4	Aug	2.9	4.8	Jun‡‡	2.5	-1.0	1.4	76.0	8.58	5.4
Poland	11.2	Q2	8.7	4.5	5.5	Aug	4.1	5.8	Aug§	2.4	-6.9	2.0	63.0	3.86	-2.6
Russia	10.5	Q2	na	3.8	6.7	Aug	5.8	4.5	Jul§	4.5	-1.8	7.2	82.0	72.5	3.5
Sweden	9.5	Q2	3.6	3.9	2.1	Aug	1.9	8.0	Jul§	4.8	-2.2	0.2	34.0	8.57	2.6
Switzerland	7.7	Q2	7.4	3.5	0.9	Aug	0.3	2.9	Aug	6.8	-3.8	-0.3	19.0	0.92	-1.1
Turkey	21.7	Q2	na	6.3	19.3	Aug	17.1	12.1	Jul§	-2.5	-2.6	16.5	360	8.44	-11.3
Australia	9.6	Q2	2.7	4.3	3.8	Q2	2.5	4.5	Aug	1.9	-6.1	1.2	26.0	1.36	0.7
Hong Kong	7.6	Q2	-3.7	5.4	3.8	Jul	1.6	5.0	Jul‡‡	2.5	-4.2	1.1	52.0	7.78	-0.4
India	20.1	Q2	-41.2	8.2	5.3	Aug	5.4	8.3	Aug	-1.0	-7.2	6.2	13.0	73.5	0.2
Indonesia	7.1	Q2	na	3.0	1.6	Aug	2.0	6.3	Q1§	0.3	-6.0	6.1	-77.0	14,243	4.2
Malaysia	16.1	Q2	na	3.8	2.2	Jul	2.4	4.8	Jul§	4.0	-6.0	3.3	60.0	4.16	-0.7
Pakistan	4.7	2021**	na	3.8	8.4	Aug	9.2	5.8	2018	-3.3	-7.2	9.8 †††	29.0	169	-1.6
Philippines	11.8	Q2	-5.1	4.3	4.9	Aug	4.1	6.9	Q3§	-0.9	-7.5	4.3	135	49.8	-2.8
Singapore	14.7	Q2	-7.2	5.4	2.5	Jul	1.8	2.7	Q2	17.3	-4.4	1.4	51.0	1.34	1.5
South Korea	6.0	Q2	3.1	3.9	2.6	Aug	2.2	2.6	Aug§	4.9	-4.4	2.0	52.0	1,171	0.7
Taiwan	7.4	Q2	-4.2	5.7	2.4	Aug	1.8	4.4	Jul	15.5	-0.8	0.4	nil	27.7	5.6
Thailand	7.5	Q2	1.5	1.4	nil	Aug	0.8	1.5	Dec§	-0.9	-7.5	1.5	40.0	32.9	-5.0
Argentina	2.5	Q1	11.0	7.8	51.4	Aug	47.5	10.2	Q1§	1.3	-5.5	na	na	98.3	-23.5
Brazil	12.4	Q2	-0.2	5.5	9.7	Aug	7.5	14.1	Jun§‡‡	0.1	-5.9	11.0	388	5.25	0.6
Chile	18.1	Q2	4.2	9.3	4.8	Aug	3.8	8.9	Jul§‡‡	-0.6	-6.7	5.3	262	781	-2.9
Colombia	17.0	Q2	-9.2	7.8	4.4	Aug	3.1	14.3	Jul§	-3.4	-8.5	7.1	227	3,830	-4.1
Mexico	19.6	Q2	6.0	6.4	5.6	Aug	5.2	4.1	Jul	1.6	-2.8	7.0	135	19.9	5.9
Peru	41.9	Q2	3.5	12.6	5.0	Aug	3.6	10.1	Aug§	-3.6	-5.8	6.4	300	4.11	-13.6
Egypt	2.9	Q1	na	3.3	5.7	Aug	5.5	7.3	Q2§	-4.6	-8.1	na	na	15.7	0.3
Israel	17.5	Q2	16.6	5.0	2.2	Aug	1.7	5.0	Jul	3.8	-7.0	1.0	29.0	3.21	6.8
Saudi Arabia	-4.1	2020	na	2.2	0.3	Aug	3.2	6.5	Q1	4.5	-2.0	na	na	3.75	nil
South Africa	19.3	Q2	4.7	3.0	4.7	Jul	4.0	34.4	Q2§	1.8	-9.4	8.9	-30.0	14.4	13.9

Source: Haver Analytics. *% change on previous quarter, annual rate. †The Economist Intelligence Unit estimate/forecast. §Not seasonally adjusted. ‡New series. **Year ending June. ††Latest 3 months. ‡‡3-month moving average. §§5-year yield. †††Dollar-denominated bonds.

Markets

In local currency	Index Sep 15th	% change on: one week	Dec 31st 2020
United States S&P 500	4,480.7	-0.7	19.3
United States NAScomp	15,161.5	-0.8	17.6
China Shanghai Comp	3,656.2	-0.5	5.3
China Shenzhen Comp	2,486.1	-0.3	6.7
Japan Nikkei 225	30,511.7	1.1	11.2
Japan Topix	2,096.4	0.8	16.2
Britain FTSE 100	7,016.5	-1.1	8.6
Canada S&P TSX	20,693.8	-0.2	18.7
Euro area EURO STOXX 50	4,145.9	-0.7	16.7
France CAC 40	6,583.6	-1.3	18.6
Germany DAX*	15,616.0	nil	13.8
Italy FTSE/MIB	25,762.1	-0.4	15.9
Netherlands AEX	794.2	0.7	27.1
Spain IBEX 35	8,635.4	-2.3	7.0
Poland WIG	71,711.5	1.0	25.8
Russia RTS, $ terms	1,766.7	2.3	27.3
Switzerland SMI	11,984.8	-1.9	12.0
Turkey BIST	1,424.0	-0.7	-3.6
Australia All Ord.	7,723.2	-1.1	12.7
Hong Kong Hang Seng	25,033.2	-4.9	-8.1
India BSE	58,723.2	0.8	23.0
Indonesia IDX	6,110.2	1.4	2.2
Malaysia KLSE	1,555.3	-2.7	-4.4

	index Sep 15th	% change on: one week	Dec 31st 2020
Pakistan KSE	46,716.7	0.7	6.8
Singapore STI	3,058.6	-0.3	7.6
South Korea KOSPI	3,153.4	-0.3	9.7
Taiwan TWI	17,354.0	0.5	17.8
Thailand SET	1,628.0	-0.8	12.3
Argentina MERV	78,488.5	1.3	53.2
Brazil BVSP	115,062.6	1.5	-3.3
Mexico IPC	52,192.3	1.4	18.4
Egypt EGX 30	11,149.4	0.1	2.8
Israel TA-125	1,862.5	1.4	18.8
Saudi Arabia Tadawul	11,411.0	-0.4	31.3
South Africa JSE AS	64,385.1	-1.7	8.4
World, dev'd MSCI	3,127.7	-0.6	16.3
Emerging markets MSCI	1,288.7	-1.9	-0.2

US corporate bonds, spread over Treasuries

Basis points	latest	Dec 31st 2020
Investment grade	116	136
High-yield	334	429

Sources: Refinitiv Datastream; Standard & Poor's Global Fixed Income Research. *Total return index.

Commodities

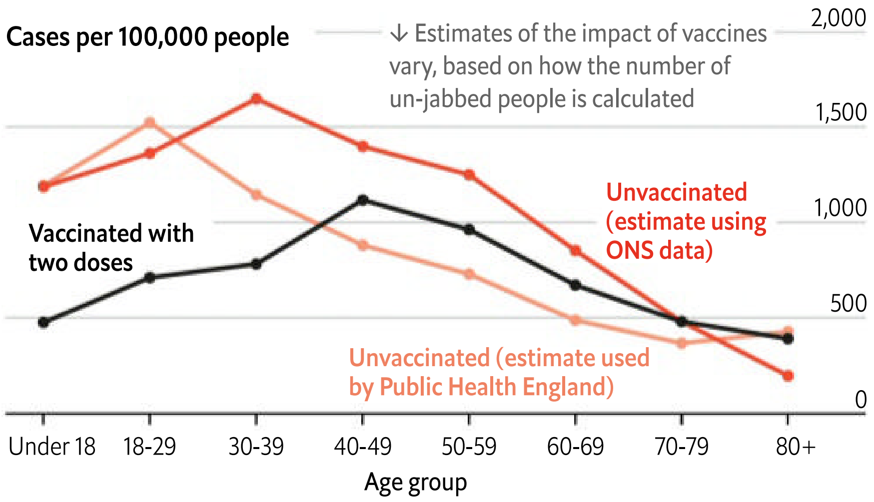
The Economist commodity-price index 2015=100	Sep 7th	Sep 14th*	% change on month	year
Dollar Index				
All Items	157.3	153.1	-8.1	17.8
Food	126.5	127.4	-3.2	26.9
Industrials				
All	186.1	177.0	-11.2	12.4
Non-food agriculturals	137.6	136.3	-3.0	21.3
Metals	200.5	189.1	-12.8	10.6
Sterling Index				
All items	174.2	168.6	-8.9	9.3
Euro Index				
All items	147.3	143.6	-9.0	18.1
Gold				
$ per oz	1,793.3	1,807.8	1.4	-7.4
Brent				
$ per barrel	71.9	73.7	6.7	81.5

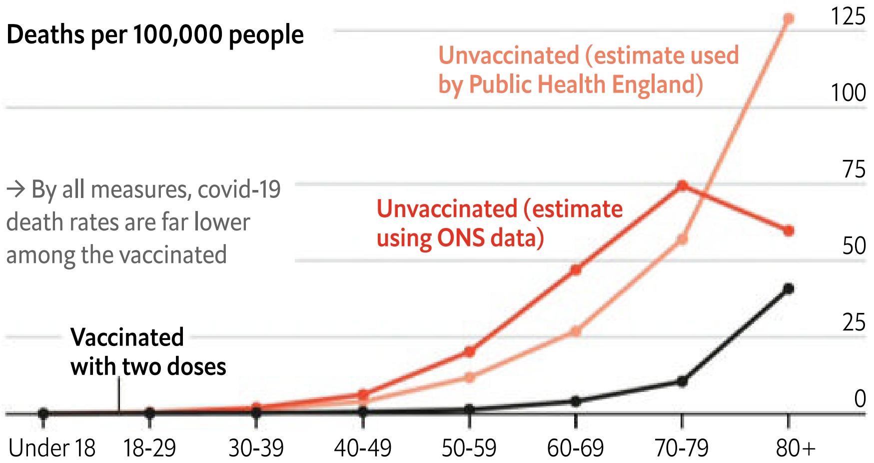
Sources: Bloomberg; CME Group; Cotlook; Refinitiv Datastream; Fastmarkets; FT; ICCO; ICO; ISO; Live Rice Index; LME; NZ Wool Services; Thompson Lloyd & Ewart; Urner Barry; WSJ. *Provisional.

For more countries and additional data, visit **Economist.com/indicators**

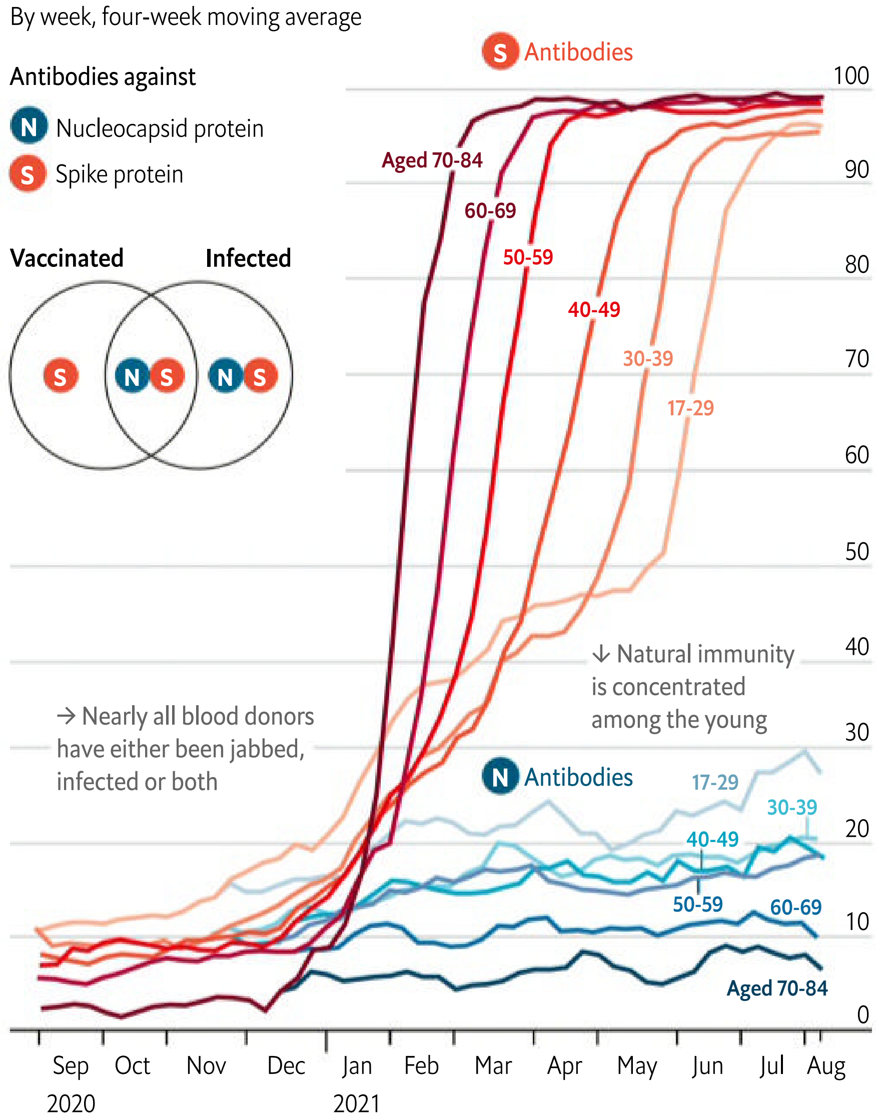
→ **Vaccines offer good protection against severe covid-19, and nearly 30% of young Britons now have natural immunity**

England, covid-19 case and death rates by vaccination status
August 9th-September 5th 2021





Share of blood donors with SARS-CoV-2 antibodies, by age group, %
By week, four-week moving average



Sources: Public Health England; ONS

As good as advertised

Despite Delta, severe covid-19 is much rarer among vaccinated Britons

CHINKS HAVE showed up of late in covid-19 vaccines' armour. With the Delta variant now dominant and many people already seven months removed from their second shots, estimates in recent academic papers of protection rates against infection have ranged widely, from 39-88%.

On September 9th Public Health England (PHE), a British agency, released a report using a different approach from that of such studies. Rather than tracking trial participants or people selected on the basis of their medical histories, it follows England's entire population from August 9th to September 5th, reflecting Delta-variant infections almost exclusively. The report measures the rates of covid-19 cases, hospitalisations and deaths for both vaccinated and unvaccinated people within the same age ranges, comparing groups that should be similarly vulnerable to the virus.

The most surprising result was that for people aged 40-79, cases appeared to be more common among the vaccinated than the unvaccinated. This may stem partly from PHE's use of a health-services database that can double-count people who change addresses. If PHE overestimated the number of unjabbed people, it would underestimate the benefit from vaccines.

After PHE published its report, James Ward, a consultant, repeated its calculations using population estimates from the Office for National Statistics, which runs Britain's census. This exercise reversed the pattern: cases became rarer for the jabbed than for the unjabbed below age 80, but more common above that age.

Unlike the murky case numbers, the data on hospitalisations and deaths were reassuring. Within age groups, these outcomes were 67-90% less common among the vaccinated than the unvaccinated—a result similar to the 90% decline found in data from America released on September 10th. PHE estimated that the jabs have prevented 112,000 deaths in Britain. The country's official toll from covid-19 is 134,000.

PHE's data offer two reasons to hope that Britain may avoid an autumn surge in severe covid-19. One is booster jabs, which begin this month. The gap in death rates between the vaccinated and unvaccinated was smallest among people aged over 79. Weak immune systems in this group could cause such a pattern. But another potential explanation is antibodies, the body's first line of defence against familiar pathogens.

Antibodies wane over time. Because old people were the first to get shots, the average amount of time that has passed since they got their jabs is unusually long, meaning that their antibody levels may by now be rather low. When young vaccinated people with few antibodies are infected, they often expel the virus quickly, yielding mild cases. In contrast, some old people need high levels of antibody protection to avoid severe disease. And booster shots cause a surge in antibodies. In Israel admissions to hospital among older people who have received boosters have fallen sharply.

The second encouraging trend is that the novel coronavirus is no longer so novel. PHE also studied the prevalence of various antibody types among blood donors. Fully 98% had S antibodies, which appear in response either to the virus or to vaccines. Moreover, 18% also had N antibodies, which show up only after exposure to the virus. Among people aged 17-29, the least vaccinated group, this share was 28%, implying that natural immunity may be unusually common among the unjabbed.

New cases in Britain are near their January peak, but jabs still stop most serious disease. That merits cautious optimism. ■

Soul music

Mikis Theodorakis, composer and political activist died on September 2nd, aged 96

It is quite possibly the most famous two-note phrase in post-war European music: a stepwise trip up the scale that sounds like a question. Repeated over and over, it invites you to stretch your arms out wide, lift your chin and start clicking your fingers. The first time you hear the opening notes of the theme tune to "Zorba the Greek", which was composed in a single late-night jamming session in 1964, Anthony Quinn is telling Alan Bates about his *santuri*, the instrument he cares for like a child. "It makes the best music. It goes with me always." From then on, at every dramatic turn, you hear a little bit more of Zorba's theme, until the moment on the beach when the tune swells into an ode on Grecian virility and romantic spirit as the two men leap into the rhythmic, slow-fast, *sirtaki* dance that cements their friendship.

Five years after "Zorba", the composer is living in internal exile in his homeland. His music has been banned, for arousing passions and causing strife among the people, it is said. A young woman is put on trial for playing one of his records and turning up the volume as high as it would go. The Greek colonels who had seized power in 1967 judged his compositions to be in the service of communism. His two small children are forbidden from playing with the other kids at school; his wife is strip-searched each time she goes shopping for groceries—and again when she returns to make sure she is carrying no smuggled messages. He writes a poem and calls it "I Had Three Lives":

the wind took one
the rain the other
and my third life
shut in behind two eyelids
was drowned in tears

The three lives of Mikis Theodorakis was a theme that would grow with the telling, until he seemed to be using it to braid together all the threads that gave his life meaning: boundless artistic energy, heroic political struggle and private love and sorrow. Chios, the island where he was born, had a reputation for courage and adventurism. His mother grew up in the Greek colony in Asia Minor, his father's family on Crete, each the source of very different folk traditions. The elder Theodorakis was an official in the Ministry of the Interior, so the family moved around the country often, exposing young Mikis to different musical influences. At seven in Ioannina he learned to sing Byzantine hymns; at ten in Argostoli, a town of 7,000 people and one piano, the bishop asked him to perform the Passion in church on Good Friday. Later, in Patras, he was given a violin and an accordion. He formed a band and wrote his first compositions. In his teens he directed a choir, assembled an orchestra and gave the first concert at which his Byzantine ode, "Kasiani", was played. In his 20s, during the Greek civil war, when he was imprisoned and tortured for being a communist, he saw friends killed and dedicated his symphonic work, "Elegy of Zanos and Karlis", to two victims of the fratricidal conflict.

With the advent of peace he left Greece at last in the early 1950s, winning a bursary to study counterpoint and musical analysis under Olivier Messiaen at the Paris Conservatoire. He became part of a fashionable circle of artists that included Salvador Dali and Jean Renoir, and quickly made his name as one of the most important symphonic composers of the age. The "New Wave" was coined to describe how cinema was changing, but music and dance were also part of the great post-war renewal. And he might well have stayed at the centre of it, had he not noticed, one evening at Covent Garden in London, quite how viscerally the audience responded to the Byzantine hymns he had woven into the music for his ballet "Antigone". Within months, he returned to Greece and his roots in Greek music.

He sought inspiration from poets: Odysseas Elytis, and also Yannis Ritsos with whom he had been imprisoned during the civil war. Drawing on *rembetika*, the Greek blues that is played in every taverna in Piraeus, he wrote music for their verses. So common did these songs become, so much part of the country's aural DNA, that Greeks might be able to sing every note he had composed yet not know who wrote the words.

He channelled his interest in politics into cultural activism and energetically supported better relations between Greece and Turkey. Yet he drew criticism too. Left-wing friends castigated him for suggesting, while the colonels were still in power, that Konstantin Karamanlis, the former rightist prime minister who had banned his music, was the only leader who could restore democracy to Greece. Friends abroad blanched at his excessive criticism of Israel, his friendship with the Serbian leader Slobodan Milosevic and his periods of support for the Soviet bloc.

Three lives

But to judge him for who he cosied up to politically is to misunderstand the deep roots of his popularity. Going back at least as far as the revolution of 1821, rebel songs and poetry have allowed differences of opinion to be given voice in Greece. In other countries, as Vaclav Havel showed in post-communist Czechoslovakia and now Bobi Wine in Uganda, nothing unsettles entrenched power quite like a pied piper.

If there was a day when his three lives came together, it was September 22nd 1971. Greeks poured into Athens for the funeral of the Nobel-prizewinning poet, George Seferis. Slowly they began to sing the song that he had composed for Seferis's poem, "Denial". From across the crowd rose cries of *Dimokratia! Eleftheria!*—Democracy! Freedom!—words that had barely been whispered since the colonels seized power. On an old recording, the shouts sound like gunfire. It would take another three years, and much additional pressure, but in the rhythm of his soulful anthem—an anthem that every Greek knows—on that autumn day you can hear the seemingly implacable face of the junta start to crack. ■