

Inside the Putin show

What next for SoftBank?

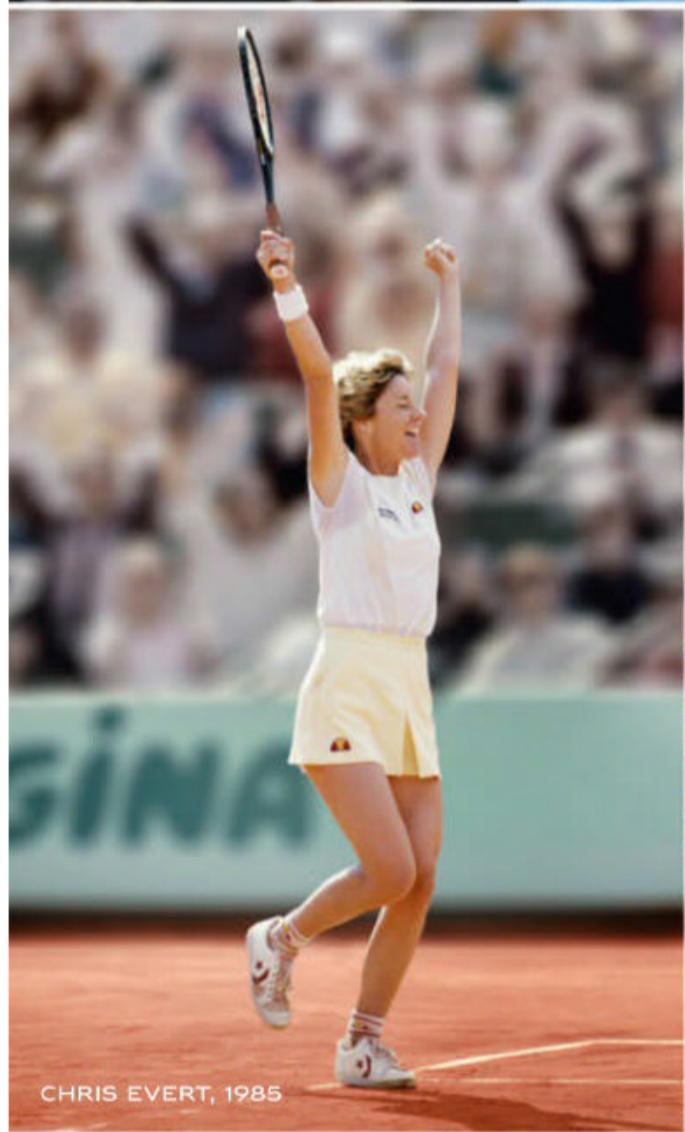
Graphene and decarbonisation

Is China uninvestible?

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The coming food catastrophe







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On the cover

War is tipping a fragile world towards mass hunger. Fixing that is everyone's business: leader, page 11, and briefing, page 19. How to get Ukrainian grain to a hungry world? Page 48. America's Congress has maintained bipartisan agreement on the war by not talking about it much: Lexington, page 30

Inside the Putin show How the Ukraine war is presented to Russians, page 56

What next for SoftBank? The Japanese investment group's travails are global tech in a nutshell, page 59

Graphene and decarbonisation A wonder material that promised much but delivered little may at last have found its killer app, page 75. The Brazilian Amazon has been a net carbon emitter since 2016: graphic detail, page 85. America's clean-energy industry is stuck. Blame in part its climate-friendly president: Schumpeter, page 64

Is China uninvestable? Stockpickers grapple with the new geopolitical reality: Buttonwood, page 71. Even China's official economic figures look bleak, page 68

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The world this week

8 A summary of political and business news

Leaders

- 11** **War and farming** The coming catastrophe
12 **NATO expands** Sweden and Finland apply
12 **Cryptocurrencies** Sink or swim
13 **Immigration** Half-open borders
14 **Travel after covid-19** Asterisks and spiderwebs

Letters

- 18** On abortion, Jaroslav Hasek, doctors, Celtic, staff meetings

Briefing

- 19** **The food crisis** Facing famine



Charlemagne A sitcom mocks the Brussels bubble, page 52



United States

- 23** Democrats and welfare
24 Mass shooting in Buffalo
26 O'Hare's cargo boom
28 Altruism in Oregon
28 Pennsylvania's primaries
29 Abortion and the left
30 **Lexington** The Ukraine consensus



The Americas

- 31** Colombia's second city
32 Brazil's mystics
34 **Bello** Divided Americas



Asia

- 35** Myanmar's resistance...
36 ...and its self-deception
37 Women in Turkmenistan
37 East Asia's baby bust
38 **Banyan** Political attribution



China

- 39** Xinjiang
40 Cardinal Zen's cardinal sin
41 Beijing lockdown?
41 Ultra-nationalism
42 **Chaguan** A very political pandemic



Middle East & Africa

- 43** Trouble at the AfDB
46 Media freedom in Ethiopia
46 Lebanon's shock election
47 The swirl of sandstorms
47 Iran's false messiahs



Europe

- 48** Unblocking Odessa
49 The relief of Kharkiv
50 A new French PM
50 A blow for Olaf Scholz
51 Greece and the press
52 Charlemagne
 A parliamentary sitcom

**Britain**

- 53** A new normal for travel
54 That bloody protocol
55 Bagehot UKSA! UKSA!

**International**

- 56** A day in the life of the Russian media

**Business**

- 59** SoftBank's hard landing
60 Does Musk want Twitter?
61 Adani cements his legacy
61 The great unspacing
62 Supermarket crash
63 Bartleby Better brainstorming
64 Schumpeter Green power v Biden



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Finance & economics

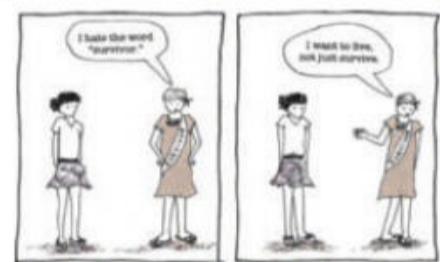
- 67** Recession watch
68 China's bleak economy
69 A baby-milk shortage
69 Unstablecoins
70 Carbon offsets
71 Buttonwood Is China uninvestible?
72 Dodgy stats in India
74 Free exchange Investing in intangibles

**Science & technology**

- 75** Graphene's green future

**Culture**

- 78** Comic-book medicine
79 The interspecies age
80 Casanova's crimes
81 Home Entertainment
 Rural tales
81 England's civil war
82 Johnson Enter the dragon app

**Economic & financial indicators**

- 84** Statistics on 42 economies

Graphic detail

- 85** The Brazilian Amazon has become a net carbon emitter

Obituary

- 86** Saotome Katsumoto, the man who would not forget

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Finland and **Sweden** both formally submitted their applications to join **NATO**. The two Nordic countries had stayed outside the alliance since its inception in 1949, for fear of provoking the Kremlin. But since Vladimir Putin invaded Ukraine, Swedes and Finns have decided they would be safer inside than out. Rapid acceptance of the two would-be members is expected, although Turkey is raising objections. NATO's border with Russia will double in length.

Russian forces pulled back from the area around Kharkiv, **Ukraine's** second city. It is no longer in range of Russian artillery, having been pounded since the start of the war in February. Elsewhere, the invaders continued to make slow progress. In Mariupol more than 250 fighters, who had been holed up in the Azovstal steel works, surrendered. An unknown number remain, preventing Russia from securing a town it has almost completely destroyed.

Borne to lead

Emmanuel Macron appointed Elisabeth Borne as prime minister of **France**. Her first task will be to ensure that the president retains his majority in parliamentary elections due next month.

Germany's chancellor, Olaf Scholz, suffered a new blow when his party performed poorly in state elections in North Rhine-Westphalia, the country's most populous state. The vote for his Social Democrats was down by four percentage points from the previous election, in what was for decades the party's stronghold.

Northern Ireland's main unionist party, the DUP, blocked the formation of a new power-sharing executive in the province, after Sinn Féin, an Irish nationalist party, won the most seats in a recent election. The DUP says it wants the British government to scrap or fundamentally change the Northern Ireland protocol, a post-Brexit agreement which creates a customs border with the rest of the United Kingdom. Liz Truss, Britain's foreign secretary, duly announced plans for legislation to do just that.

In **Lebanon** an alliance led by Hizbullah, a Shia political party-cum-militia, lost its majority in parliament at an election, while independent candidates gained ground. A new government could take months to emerge. The old sectarian system is still likely to block wholesale reform.

Ten days after **Zimbabwe's** president, Emmerson Mnangagwa, announced a ban on all bank lending, including overdrafts, the country's central bank lifted it. The ban had been intended to curb spiralling inflation. The opposition had described it as "absolute madness".

Mali's junta, which has twice seized power in coups since 2020, said it had foiled an attempted putsch. The military government has also withdrawn Mali from a regional counter-terrorism force, the G5 Sahel, blaming it for failing to make progress against the jihadists who control large parts of the country.

America plans to return about 500 troops to **Somalia** to fight al-Shabab, a militia affiliated with al-Qaeda. This reverses Donald Trump's decision to pull all American troops out of the country. Hassan Sheikh Mohamud, who was Somalia's president from 2012 to 2017, was elected to another term. The election ended a constitutional crisis created by his predecessor, whose term should have ended a year ago.

Ranil Wickremesinghe took over as prime minister of **Sri Lanka**, as the country attempts to navigate an economic and political crisis. In his first speech he warned that shortages would worsen, stocks of petrol were depleted, and that he had no choice but to print money to pay wages. The government is negotiating with the IMF for a bail-out.

North Korea reported nearly 2m cases of "fever". Outsiders assume this means covid-19. As the Omicron variant spreads, at least 56 people have died, officially. No North Koreans have been vaccinated. The country's isolated socialist dictatorship has so far declined offers of help from democratic South Korea, but is asking China for medical supplies.

Officials in **Shanghai** cheered residents by laying out a plan to ease covid restrictions by June 1st, after two months of a strict lockdown that has crippled the city's economy. In many other parts of China, restrictions remain.

America's pain



Joe Biden visited the site of a mass shooting in **Buffalo**, at which ten people, all of them black, were murdered. The 18-year-old white perpetrator had published a 180-page online rant full of racist and anti-Semitic tropes in which he said that he intended to kill as many black people as possible. He then livestreamed the atrocity. Last year police in the suspect's home town had hauled him in to assess his mental health after he threatened to attack a school. But he was released.

In southern **California** a Taiwan-born American citizen was arrested after he shot dead one man and wounded five people at a church frequented by Taiwanese-Americans. Police said the shooter had been "upset about political tensions involving China and Taiwan".

Guatemala's attorney-general, Consuelo Porras, was barred from entering the United States. Antony Blinken, America's secretary of state, accused Ms Porras of corrupt acts which "undermine democracy in Guatemala". She denies the allegations. Last year Ms Porras sacked Juan Francisco Sandoval, the head of Guatemala's anti-corruption unit.

The Biden administration loosened a few of the restrictions imposed on **Cuba** by Donald Trump's administration. It is issuing more visas for Cubans under a family-reunification scheme, allowing more flights from America to cities outside Havana and scrapping a limit on remittances.

The number of people in **Mexico** officially listed as "disappeared" has risen to 100,000 from 73,000 two years ago. The records go back to 1964. Many are thought to have been murdered by criminal gangs, sometimes with "varying degrees of acquiescence or omission" by officials, as a UN report delicately put it.

Greenhouse-gas concentrations, the rise of sea levels, ocean heat and ocean acidification all set new records in 2021, according to the World Meteorological Organisation, a UN body. It said that the past seven years have been the warmest on record. A study from Britain's Met Office reported that "**climate change** is driving the heat intensity" of recent weather in north-west India and Pakistan, where temperatures have exceeded 50°C (122°F) in some spots.

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Twitter insisted that it would enforce the buy-out deal it struck with **Elon Musk**, for \$44bn, after Mr Musk said he was putting the offer on hold. Mr Musk wants the company to provide evidence that spam and fake accounts make up less than 5% of all its users, as claimed by Twitter. Mr Musk thinks the figure is 20%. Investors wonder what he is up to. Mr Musk may be trying to get a lower price for the deal, or be seeking to walk away and pay a \$1bn break-up fee.

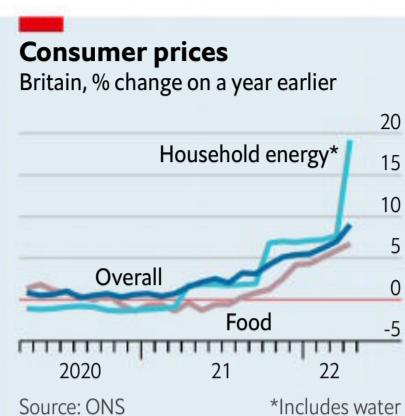
Investors took fright when a batch of company earnings revealed that higher costs and disrupted supply chains were hurting their business.

Target's share price slumped by 25% after the retailer issued a profit warning. **Walmart** said that higher food prices were also eating into its profits. Its share price swooned. The S&P 500 plunged by 4%, its biggest one-day loss since mid-2020. The NASDAQ composite fell by 4.7%, as tech giants such as Amazon and Apple shed more than 5% of their value.

António Guterres, the UN secretary-general, warned of a coming global **food shortage** caused by the war in Ukraine that would particularly affect developing countries. He called for Ukraine's grain supplies to be released from its ports, and for Russian food and fertiliser exports to be allowed to resume trading on world markets.

Global **wheat prices** surged after India, the world's second-biggest producer, decided to halt exports of the grain as it tackles soaring domestic food prices. Similar price increases have destabilised neighbouring Sri Lanka. Wheat supplies were already tight following Russia's invasion of Ukraine.

Higher commodity prices were one reason why **Japan's economy** shrank by 0.2% in the first three months of the year over the previous quarter. The country's import costs have risen as the yen has fallen to a 20-year low.



Britain's annual rate of **inflation** leapt to 9% in April, the highest level in four decades. Britain now has the worst rate of inflation in the G7. Andrew Bailey, the governor of the Bank of England, said there was not much he could do about it, singling out "apocalyptic" rises in food prices as an external cause, although energy costs account for much of Britain's inflation. His calls for restraint on pay increases, which firms usually pass on to consumers, have not gone down well with cash-strapped workers.

The end of McDemocracy

McDonald's decided to pull out of Russia for good, two months after closing its outlets there at the start of Russia's war on Ukraine. "The Golden Arches will shine no more in Russia," lamented the chief executive.

A judge in California struck down the state's requirement for **gender diversity** on the boards of companies that are based there. The judge, a woman, found that academic studies on the benefits of having more women on boards were inconclusive, and that the state had failed to show how the law improved opportunities for females. But although the law has been overturned, many firms are increasing their share of female directors under pressure from investors.

Shareholders at **JPMorgan Chase** voted by a wide margin against the bank's pay packages for senior management, including for Jamie Dimon, the chief executive. It was the first time it had lost a "say on pay" vote since its introduction in 2009; investors are not happy with the underperforming share price. The vote is non-binding, but Mr Dimon said he "appreciates the feedback".

Allianz announced a settlement with American authorities over fraud at one of its subsidiaries, which resulted in institutional investors losing billions of dollars. The German financial-services company is paying \$850m in penalties to the authorities, and \$5bn in compensation to the investors.

The stockmarket debut of **Life Insurance Corporation**, a state-run business and household name in India, was a disappointment, as the share price sank by almost 8% on the first day of trading. The government sold off 3.5% of LIC in what was India's biggest-ever IPO, raising \$2.7bn.

Gautam Adani, Asia's richest man, made his biggest acquisition to date when his conglomerate agreed to buy the Indian assets controlled by Holcim, a cement producer, for \$10.5bn.

Cash in hand

Mastercard launched a **biometrics payments** programme in which customers will need to give only a "quick smile" into a camera or "wave of your hand" over a scanner to pay for goods. Payment systems based on a person's biometric data, such as eye pattern or palm print, have stalled amid legal challenges to facial-recognition technology. Mastercard is starting its scheme in São Paulo, and then the Middle East and Asia, regions where privacy concerns are less prevalent. The firm said nothing about whether a scowl from shoppers, as they inspect their rising grocery bills, will suffice in place of a smile.



The food catastrophe

War is tipping a fragile world towards mass hunger. Fixing that is everyone's business

BY INVADING UKRAINE, Vladimir Putin will destroy the lives of people far from the battlefield—and on a scale even he may regret. The war is battering a global food system weakened by covid-19, climate change and an energy shock. Ukraine's exports of grain and oilseeds have mostly stopped and Russia's are threatened. Together, the two countries supply 12% of traded calories. Wheat prices, up 53% since the start of the year, jumped a further 6% on May 16th, after India said it would suspend exports because of an alarming heatwave.

The widely accepted idea of a cost-of-living crisis does not begin to capture the gravity of what may lie ahead. Antonio Guterres, the UN secretary general, warned on May 18th that the coming months threaten “the spectre of a global food shortage” that could last for years. The high cost of staple foods has already raised the number of people who cannot be sure of getting enough to eat by 440m, to 1.6bn. Nearly 250m are on the brink of famine. If, as is likely, the war drags on and supplies from Russia and Ukraine are limited, hundreds of millions more people could fall into poverty. Political unrest will spread, children will be stunted and people will starve.

Mr Putin must not use food as a weapon. Shortages are not the inevitable outcome of war. World leaders should see hunger as a global problem urgently requiring a global solution.

Russia and Ukraine supply 28% of globally traded wheat, 29% of the barley, 15% of the maize and 75% of the sunflower oil (see Briefing). Russia and Ukraine contribute about half the cereals imported by Lebanon and Tunisia; for Libya and Egypt the figure is two-thirds. Ukraine's food exports provide the calories to feed 400m people. The war is disrupting these supplies because Ukraine has mined its waters to deter an assault, and Russia is blockading the port of Odessa.

Even before the invasion the World Food Programme had warned that 2022 would be a terrible year. China, the largest wheat producer, has said that, after rains delayed planting last year, this crop may be its worst-ever. Now, in addition to the extreme temperatures in India, the world's second-largest producer, a lack of rain threatens to sap yields in other breadbaskets, from America's wheat belt to the Beauce region of France. The Horn of Africa is being ravaged by its worst drought in four decades. Welcome to the era of climate change.

All this will have a grievous effect on the poor. Households in emerging economies spend 25% of their budgets on food—and in sub-Saharan Africa as much as 40%. In Egypt bread provides 30% of all calories. In many importing countries, governments cannot afford subsidies to increase the help to the poor, especially if they also import energy—another market in turmoil.

The crisis threatens to get worse. Ukraine had already shipped much of last summer's crop before the war. Russia is still managing to sell its grain, despite added costs and risks for shippers. However, those Ukrainian silos that are undamaged by the fighting are full of corn and barley. Farmers have nowhere to store their next harvest, due to start in late June, which may therefore rot. And they lack the fuel and labour to plant the one

after that. Russia, for its part, may lack some supplies of the seeds and pesticides it usually buys from the European Union.

In spite of soaring grain prices, farmers elsewhere in the world may not make up the shortfall. One reason is that prices are volatile. Worse, profit margins are shrinking, because of the surging prices of fertiliser and energy. These are farmers' main costs and both markets are disrupted by sanctions and the scramble for natural gas. If farmers cut back on fertiliser, global yields will be lower at just the wrong time.

The response by worried politicians could make a bad situation worse. Since the war started, 23 countries from Kazakhstan to Kuwait have declared severe restrictions on food exports that cover 10% of globally traded calories. More than one-fifth of all fertiliser exports are restricted. If trade stops, famine will ensue.

The scene is set for a blame game, in which the West condemns Mr Putin for his invasion and Russia decries Western sanctions. In truth the disruptions are primarily the result of Mr Putin's invasion and some sanctions have exacerbated them. The argument could easily become an excuse for inaction. Meanwhile many people will be going hungry and some will die.

Instead states need to act together, starting by keeping markets open. This week Indonesia, source of 60% of the world's palm oil, lifted a temporary ban on exports. Europe should help

Ukraine ship its grain via rail and road to ports in Romania or the Baltics, though even the most optimistic forecasts say that just 20% of the harvest could get out that way. Importing countries need support, too, so they do not end up being capsized by enormous bills. Emergency supplies of grain should go only to the very poorest. For others, import financing on favourable terms, perhaps provided through the

IMF, would allow donors' dollars to go further. Debt relief may also help to free up vital resources.

There is scope for substitution. About 10% of all grains are used to make biofuel; and 18% of vegetable oils go to biodiesel. Finland and Croatia have weakened mandates that require petrol to include fuel from crops. Others should follow their lead. An enormous amount of grain is used to feed animals. According to the Food and Agriculture Organisation, grain accounts for 13% of cattle dry feed. In 2021 China imported 28m tonnes of corn to feed its pigs, more than Ukraine exports in a year.

Immediate relief would come from breaking the Black Sea blockade (see Europe section). Roughly 25m tonnes of corn and wheat, equivalent to the annual consumption of all of the world's least developed economies, is trapped in Ukraine. Three countries must be brought onside: Russia needs to allow Ukrainian shipping; Ukraine has to de-mine the approach to Odessa; and Turkey needs to let naval escorts through the Bosphorus.

That will not be easy. Russia, struggling on the battlefield, is trying to strangle Ukraine's economy. Ukraine is reluctant to clear its mines. Persuading them to relent will be a task for countries, including India and China, that have sat out the war. Convoys may require armed escorts endorsed by a broad coalition. Feeding a fragile world is everyone's business. ■



Sweden, Finland and NATO

The meaning of membership

It shows the flimsiness of Vladimir Putin's justification for invading Ukraine

FOR FINLAND and Sweden to join NATO is a rebuke to the anti-NATO arguments of Russia's president, Vladimir Putin. Two countries that are proud of their long history of military non-alignment think the risk of antagonising their neighbour to the east is outweighed by the security they will gain. It is the direct result of the invasion of Ukraine, which Mr Putin ordered ostensibly to forestall NATO's expansion.

Finland and Sweden submitted their applications on May 18th. Despite Turkey's stalling tactics, over Kurdish militants and possibly American fighter planes, their admission is likely. They will bring formidable capabilities in Arctic warfare and, in Finland's case, the largest artillery force in Europe. Membership will more than double the length of NATO's border with Russia. It will also make the Baltic states easier to defend.

Mr Putin's regime has responded by cutting electricity supplies to Finland and threatening "military-technical" action, whatever that is supposed to mean. He is not the first Russian leader to object to enlargement. In the 1990s Boris Yeltsin complained when members of the old Warsaw Pact applied to join the alliance. Over the years this hardened into the line of argument cited by Mr Putin as justification for invading Ukraine.

Russia's president says that enlargement breaks an undertaking that James Baker, then America's secretary of state, gave the Soviet Union in February 1990. Many Western commentators argued that enlargement was unwise, because Russia would feel threatened. The West had other ways to enhance security, such as the Partnership for Peace, which sets out to strengthen relations between the alliance and non-members.

These arguments do not stand up. Mr Baker was speaking about eastern Germany. His words were overtaken by the collapse of the Warsaw Pact nearly 18 months later. NATO and Russia signed an agreement in 1997 that did not contain any restriction on new members, though enlargement had been discussed. The

Czech Republic, Hungary and Poland joined almost two years later. The undertaking that has been violated is Russia's pledge to Ukraine not to use economic or military coercion, given in 1994 when it surrendered the nuclear weapons based on its soil.

In fact NATO has every right to expand. Under the Helsinki Final Act of 1975, signed by the Soviet Union, countries are free to choose their own allies. The Warsaw Pact suffered grievously under Soviet rule. Why would its ex-members not seek a haven? For many years Finns and Swedes mostly opposed joining NATO. This shifted after the invasion of Ukraine in February. Indeed, the right for sovereign countries to determine their own destinies is one of the many things currently at stake in Ukraine.

But was NATO expansion wise? A spiral of mutual suspicion between Russia and NATO clearly exists, but to blame NATO expansion for triggering it is scarcely credible. Mr Putin has increasingly used nationalism and Orthodox religion to shore up his rule. He needs enemies abroad to persuade his people that they and their civilisation are under threat. That is why he seized territory in Georgia in 2008 and in Ukraine in 2014. Besides, Russia has a long history as an imperial

power. Like most declining empires, it was likely to resist as its periphery drifted off, regardless of NATO expansion.

Finland and Sweden are both long-term members of the Partnership for Peace. If one of them were attacked, NATO would have no commitment to intervene. Nor would American and British nuclear weapons cover them. Their choice to join NATO suggests that the partnership was not able to cope with Russian aggression. Likewise, denying central and eastern Europe membership of NATO would have created a security vacuum that Russia may very well have been tempted to fill. Finland and Sweden are right to have concluded that Mr Putin is dangerous and unpredictable—not because of NATO, but in the way he governs Russia. Their applications should be rapidly approved. ■



Cryptocurrencies

Sink or swim

As financial markets tumble, we decode the cryptocurrency crash

FINANCIAL APHORISMS are trotted out by investors in every financial cycle. Think of "Buy the rumour, sell the fact", or "Markets can stay irrational longer than you can stay solvent". These sayings have staying power because they often ring true. Today, amid a general market rout, cryptocurrency assets are collapsing in value, and the aphorism of the moment is "When the tide goes out, you find out who is swimming naked".

The crypto slump has been brutal. In November the market value of cryptocurrencies was almost \$3trn. That fell to \$2trn by mid-April before plunging by another 35% to just \$1.3trn now. Bitcoin has briefly dipped below \$29,000, its lowest since late

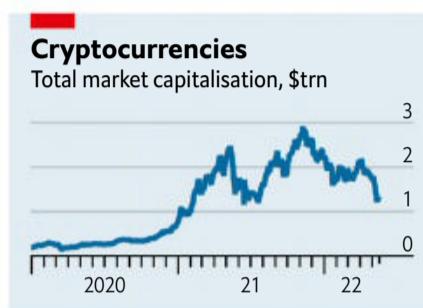
2020. Crypto's detractors have long argued that it is useless—unless you are a money-launderer or con-artist—and predicted its demise. The crash will convince many that they are right. In fact the picture is rather different: a sorting process is under way, as the dodgiest parts of the crypto world are exposed, while other bits prove more resilient (see Finance & economics section).

The crypto collapse is part of that broader slump. Red-hot inflation is forcing central banks to tighten monetary policy, triggering a sell-off in riskier or long-dated assets. After a heavy sell-off on May 18th, the tech-heavy NASDAQ index is down by 29% from its high. The S&P 500 index has shed "just" 18%. ■

▶ However crypto is top of the list of speculative assets receiving a drubbing. The sell-off has exposed glaring weaknesses. Consider terra, an “algorithmic” stablecoin, whose value is backed by another asset, supposedly making it dependable. On paper, users could redeem \$1 of terra for \$1 worth of another cryptocurrency, luna, which would be issued to meet demand. But luna’s price began to slide in early May, putting pressure on the terra peg. There was a rush to redeem. As luna’s supply ballooned, its price collapsed. On May 10th 350m luna tokens existed; now 6.5trn do. At its peak, luna was worth \$40bn and supported \$18bn of terra. Now it is worthless, and terra is trading at 10 cents. In hindsight the scheme looks mad.

At the other end of the spectrum is USDC, a stablecoin backed by cash and short-dated Treasury bills which publishes audited financial statements each month. It has done fine. So has dai, another stablecoin that is backed by crypto and run by algorithms. It has a decent degree of transparency and holds at least 1.5 times as much backing as it needs. The supply of the cryptocurrencies it relies on—USDC and ether—is independently controlled.

In the middle of these two extremes is tether, the biggest stablecoin, which briefly dipped below its par value of \$1 per token on May 12th. It says it is backed by assets like cash, Treasuries and corporate debt, but its disclosure is awful. Tether refuses to reveal the precise asset mix, claiming this is its “secret sauce”. It has previously been fined by New York’s attorney-general for misleading investors. As the broader market sell-off in the past weeks has intensified, its holders have rightly grown nervous. Since it slipped from its peg, tether holders have redeemed



about \$9bn-worth of tokens, approximately 10% of the total.

Investors are now doing what they are supposed to: penalising instruments that are fundamentally flawed or issued by organisations that are badly run. Yet the sell-off has sparked renewed calls for the government to step in. Consumers are in danger of being ripped off. And volatility could yet spill over into the conventional financial system. For example, tether is a key part of the crypto-plumbing and the most liquid base currency for trading between other crypto assets, and between crypto and conventional ones. If it failed the fallout would be bigger.

Some critics would like the crypto system banned; others would like it heavily regulated, just as banks are; still others want regulation but fear that this might be interpreted as an official endorsement. The trouble is that a draconian crackdown would put at risk the benefits that crypto eventually promises, including new financial products that bypass stodgy banks; innovations in property rights; and the possibility of a less centralised financial system.

So what should governments do? The best path would be to accelerate the process of sorting that is under way. Key to this is more reliable information so that retail users and institutions can guard more effectively against fraud. In particular, stablecoins should be forced to disclose their backing—what the assets are, where they are held and who controls them. Some crypto ventures based outside America are beyond easy reach of its regulators, but Uncle Sam could require the big crypto exchanges in America, which are already regulated, to flag which tokens have met disclosure standards. The saying that springs to mind is “Help the market sort the wheat from the chaff”. ■

Immigration

State of disarray

America’s states are drifting apart over illegal immigration

CONGRESSIONAL DYSFUNCTION can cause chaos in America. Look at illegal immigration, where the law strands 10.5m unauthorised migrants in limbo, with little chance of deportation or the legal status that confers the right to work. In the absence of legislation, presidents oscillate wildly. Barack Obama sought to declare almost half of the unauthorised population exempt from deportation and eligible to work. Donald Trump turned the screws the other way, and tried deterring migrants by heartlessly separating parents from children. President Joe Biden is facing dissent from Democrats fearful of Republican attacks if, as planned, he ends a pandemic-response measure called Title 42 on May 23rd. This lets American border police expel asylum-seekers and other migrants on public-health grounds.

America’s federalist system wisely leaves much room to the states to act as laboratories. But state experimentation on immigration has gravitated to the extremes. In some Republican states the aim seems to be cruelty for its own sake. Greg Abbott, the governor of Texas, has suggested that the Supreme Court should reverse precedent and remove the obligation to educate illegal children, as if that would do anybody any good.

Democratic states, by contrast, have opted to spend money. They are expanding welfare benefits for their illicit residents

(see United States section). New York, which in 2019 began issuing driving licences to residents in the state illegally, set up a \$2.1bn fund to provide unemployment benefits and pandemic relief. Three years ago California expanded Medicaid, the government health-insurance programme for the poor, to include young irregular residents. Its governor, Gavin Newsom, wishes to offer the programme to all, regardless of immigration status.

America is an outlier. In Europe and elsewhere access to benefits is limited to citizens or legal immigrants—who often have to wait for several years to be eligible. You would not expect Bavaria to sponsor Syrian migrants that the German interior ministry had turned away, or councils in London to offer housing benefits to adults who are in Britain illegally. It is Congress’s lack of will to deal with illegal immigration in America that explains the urge in California and New York to do something about their permanent shadow-class. Despite vigorous efforts, one-tenth of California’s non-elderly population lacks health insurance. Of that group, the illegal immigrants account for 40%.

Alas, these efforts are likely to be yet another stop-start measure. Because most federal laws ban spending on illegal residents, states must fund the expanded services without federal subsidies. At present, their budgets are swollen by a strong re-

covery and overgenerous federal funding during the pandemic. In a recession, when budgets are squeezed, such spending is likely to come under political attack. Democrats have long maintained, correctly, that unlawful immigrants by and large work hard and pay taxes, but receive few benefits. That line will be harder to sustain as these programmes grow—to the relish of the nativist right, who will deem their warnings vindicated.

Only Congress can sort out the confusion of half-built border walls, seesawing presidential decrees and contradictory state regimes. Immigration reform, with an orderly path to legal residency for those who pay taxes and do not commit crimes, was once a bipartisan pursuit. It has been forgotten amid the Trumpian takeover of the Republican Party. Some Democratic senators, like Bob Menendez and Catherine Cortez Masto, remain committed to the idea of trading a route to citizenship for stronger border security and faster immigration courts, which today

are overwhelmed. The party's left has turned instead to day-dreaming about abolishing America's immigration authority. The pity is that a labour shortage makes this an especially propitious time for mending the system.

When the federal government works, it establishes a legal floor of rights and obligations that states cannot fall below, but can choose to exceed. On abortion, climate change and immigration, however, it is failing. In its place, Democratic and Republican states are looking ever more balkanised and the courts are filling the vacuum, creating confusion and uncertainty.

In 1858, as American states began dividing over slavery in the run up to the civil war, Abraham Lincoln warned that: "A house divided against itself cannot stand. I believe this government cannot endure permanently half-slave and half-free." This isn't 1858 and immigration isn't slavery. However America's fissures are running alarmingly deep. ■

Travel after covid-19

From asterisks to spiderwebs

The old travel patterns are not coming back. Time for a new approach to public transport

IN AUCKLAND, the largest city in New Zealand, public-transport fares have been cut in half. In London politicians leave passive-aggressive notes on civil servants' desks telling them to turn up for work and implore people to start going back to the office. Eric Adams, the mayor of New York, has asked bank bosses to set an example by riding the subway.

None of it seems to be working. The subway is only two-thirds as busy as it was before covid-19. Auckland's bus system was half as busy in April as it was three years earlier. Despite fears of "carmageddon", people have not swapped public transport for the private kind. They are simply moving around less (see Britain section).

Although travel is likely to recover a little further, a return to the pre-pandemic pattern seems implausible. One clue is that not all journeys have declined. Parisians made more shopping trips last summer than they did before covid appeared. In New York Sunday travel has held up better than weekday travel. What has collapsed is rush-hour commuting, particularly among well-paid workers in the knowledge economy. That suggests the change in behaviour is caused not by fear of infection—which might be expected to diminish over time—but by a fundamental resetting of work habits.

Rich countries should accept this new reality, and start building transport systems to match. Infrastructure projects that just add capacity to conventional suburb-to-city-centre routes now seem pointless, especially in the biggest cities. They are rooted in the idea that urban travel is like an asterisk, or the spokes of a wheel, with people squeezing onto radial roads and railway lines. Travel is now more like a spiderweb. People take fewer, often shorter journeys along thinner routes; they move to the side, as well as in and out. That explains why buses, which are often used for short journeys, have emptied out less drastically than commuter trains.

Now that people travel less predictably, there is a stronger case for innovations such as on-demand buses and "mobility as

a service", which weaves together public transport and personal modes such as taxis and hired bikes. These make better use of the existing infrastructure, and come closer to the convenience of cars. Antwerp, Genoa and Helsinki lead in this area. British cities need to do something more basic, by integrating their public-transport networks. Outside London, they tend to have a clutch of bus companies, some railway lines and perhaps a tram system, all doing their own thing. The result is confusion and often greater cost for the public.

Countries should not down tools on public-transport projects. Their populations are growing, and they will need to cut congestion and carbon emissions. But instead of building more radii, along the lines of London's new Elizabeth line or the tunnel being dug at huge expense under the East river in New York,

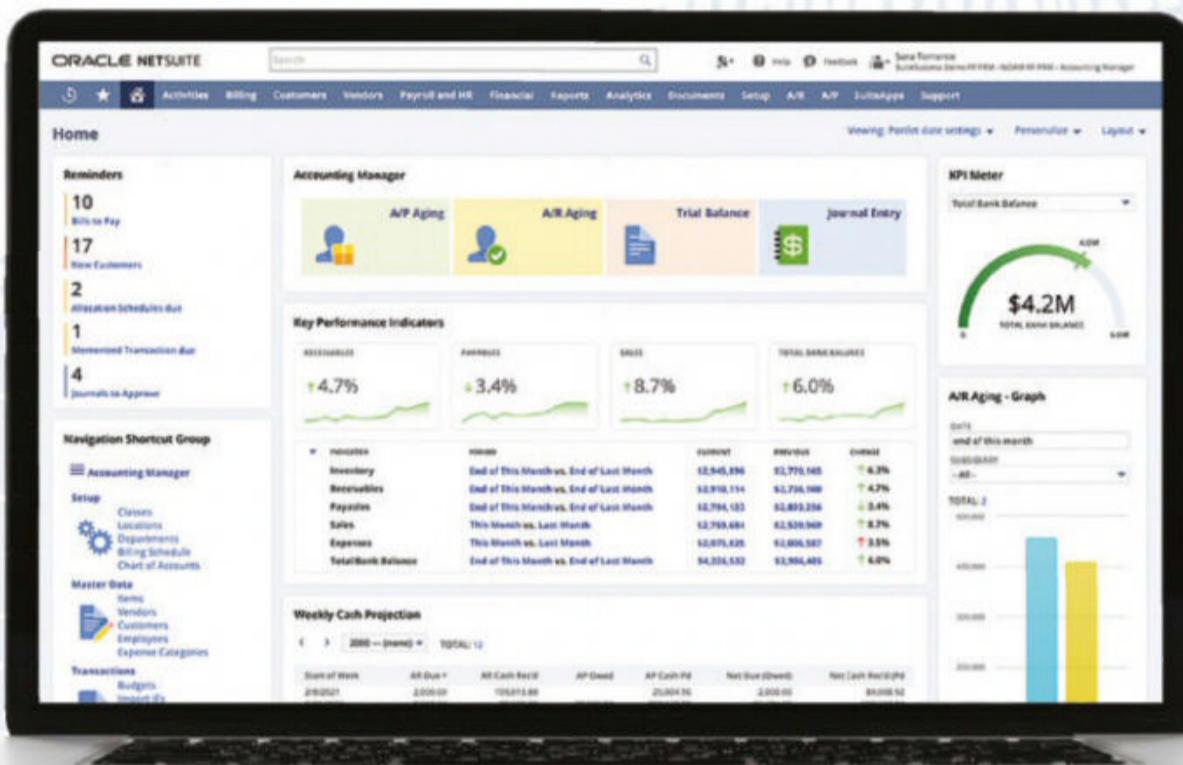
they should make it easier to travel around cities, or from one satellite town to another.

For the time being, governments will have to shell out to keep public-transport systems from collapsing. But another source of money will eventually have to be found to replace lost fare revenue. The best one is road pricing. Countries should stop holding referendums on congestion-charging schemes and get on with creating

them. They would also be wise not to muddy the waters by exempting electric vehicles from the charge. Road pricing ought to be primarily for managing demand and raising money for public transport. Other levers—regulations, subsidies and fuel duty—can be used to get people out of the most polluting vehicles.

The transition from asterisks to spiderwebs will be difficult. Everybody from motorists to transport unions will complain. But at least a couple of things have become easier. Because so many people have learned to work from home, engineers should not fear to work on roads or railways between Monday and Friday, rather than disrupting a string of weekends. And any transport union that threatens to strike is welcome to try. The days when unions could paralyse cities by shutting down public transport are over. Along with much else. ■





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Deadline for application: 6 June 2022.

Vacancy references: Santiago: RAPS/1/2022/AM/04 • Cairo: RAPS/1/2022/AF/01.

America's thorniest issue

Another way of looking at Justice Samuel Alito's leaked draft on abortion is that it is a rare instance of judicial restraint ("A countermajoritarian difficulty", May 7th). He is considering relinquishing power back to the states on a policy issue, rather than taking power. The constitution contains no clear law on abortion. In *Roe v Wade*, Justice Harry Blackmun had to torture the words of the constitutional text in order to find a federal right to an abortion. It was an egregious act of judicial activism. Justice Alito is simply showing that the issue is complex and returning the question to the people to decide through state legislatures.

Nor is it the case that the court only rules on policy where Congress has failed to. In the case of gay marriage, Congress had taken clear action by passing the Defence of Marriage Act, which defined marriage as between a man and a woman. The court overturned that democratic decision. Again, there was no provision on a policy (gay marriage) in the constitution.

LANTZ MCCLAIN
Sapulpa, Oklahoma

Many religious people believe that sexual relations are solely for the purpose of bearing children. Must women now live according to the religious views of others in states that want to ban abortion? One fact shown throughout history is that women cannot be stopped from having abortions. They can only be stopped from having safe ones.

MARGOT CHAMPAGNE
Phoenix

Every issue for the Democrats has become a life or death battle leading to an ideological purge. How about concentrating on protecting women's right to choose before expecting people to learn 74 genders? Meanwhile, the Democrats' focused political opponents have scored their biggest win in generations. Give the states the right to make policy on

abortion, win the state legislatures in elections and codify abortion into law.

ANDRES SATIZABAL
New York

"How to save the Supreme Court" (May 7th) suggested that abortion is illegal in Canada later in pregnancy. In fact, Canada does not have any laws on abortion. The procedure is legal at any age for any reason, including sex selection or eliminating those with potential disabilities. Some hospitals and doctors have their own limits and will refuse to carry out very late-term abortions, but there is no legal reason why they could not.

We are working to introduce an International Standards Abortion Law, which would ensure that all women who seek an abortion have access to independent counselling, are given a 48-hour waiting period between requesting an abortion and the actual procedure and which would restrict abortion after the first trimester. Around 70% of Canadians are opposed to abortion in the third trimester. Surely the time has come for Canada to extend at least some protection to the unborn.

ANNA NIENHUIS
Policy analyst
WeNeedaLaw
Ottawa, Canada

You briefly mentioned the citizens' assembly in Ireland. Around 100 demographically diverse people were convened. They studied all sides of abortion and generated recommendations that closely reflected the will of the population at large. These were put to a referendum; it was ultimately the voters who chose to overturn the Irish constitution's ban on abortion.

DENNIS MERRITT
Shelburne Falls, Massachusetts

This issue will not be resolved and this cancer in our body politic will not be removed until the people of the United States express their will through a democratic process.

ROBERT DEGAVRE
Friday Harbor, Washington

Sit down and have a drink

It was a pleasure to read your brief description of Jaroslav Hasek's "The Good Soldier Svejk", a classic of Czech literature ("The idiocy of war", May 7th). It's true: Russian soldiers invading Ukraine could do worse than read it. They could also learn from Hasek's version of the theory that commerce civilises people. When asked whether he likes the "heathen" Turks, Palivec, the coarse barkeeper at a local pub, says that he welcomes all guests to his establishment, no matter the nationality: "For us tradesmen there's no politics. Pay your beer, sit down and shoot the breeze, that's my policy!" Obviously, the Russian version would go with vodka.

CHRISTIAN SCHUBERT
German University in Cairo

Levelling-up for doctors

Your article on the challenges faced by Britain's medical profession ("When the applause fades", April 30th) did not mention the fact that 90% of consultations by patients are with their general practitioner (GP) rather than a hospital doctor. Yet GPs receive less than 10% of the National Health Service's budget. In March 2022 alone over 30m appointments were made with primary care. GPs help keep people out of hospital, for a fraction of the cost of a visit to the emergency department.

A large part of the difficulties faced by our hospital colleagues is because of a workforce crisis in primary care. A third of GPs are thinking of retiring or leaving the profession in the next five years. Boris Johnson's plan for a net gain of 6,000 more GPs by 2025 is, so far, nothing but hot air. Having spent most of my career in secondary care I know full well the difficulties faced by my colleagues, and the effect this has on patients. But the problem cannot be solved unless primary care becomes a priority.

DR TANYA DHIR
GP trainee
London

Celtic roots

"The desire to create heroic origins of language" (Johnson, April 23rd) may also explain our ignorance of Celtic contributions to Spanish and other Romance languages. The assumption seems to be that degenerate Latin alone eventually created the members of that language family. Yet many of the local populations that were conquered by Rome spoke unwritten Celtic languages, which surely interbred with Latin to create Romance languages.

One of my favourite examples of the evolution of a Celtic word is *colleen*, a generic word for girls, into Colleen as a girl's proper name. I like to imagine a Viking father who settled down in Britain with a Celtic wife hearing her call for *colleen* and misunderstanding it as the girl's name. And *avon* means river in Celtic. So the River Avon is the River River.

RICHARD WAUGAMAN
Clinical professor
of psychiatry
Georgetown University
Washington, DC

Yakety yak

I loved Bartleby's fun take on innovations for the workplace (April 23rd). Could we please also have a countdown clock for in-person forums too? Having sat through countless staff meetings over the past 30 years I know this would be widely appreciated. Since there are no microphones to turn off at employee gatherings, it could play music when the speaker's time is up.

The Black Eyed Peas' "Shut Up" comes to mind. If that is too rude these lyrics in "Show Me" from "My Fair Lady" would work: "Words, words, words, I'm so sick of words".

SUROOR ALIKHAN
Geneva

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After the pestilence, after the war...

DHARAULI, KYIV, LUKASHIVKA, RUGBY AND WASHINGTON, DC

War, extreme weather and export controls are driving tens of millions of people into potentially deadly hunger

IN 2001 OLENA NAZARENKO'S father started farming in Lukashivka, a small village about 100km north of Kyiv, with three cows and a horse called Rosa ("Dew" in Ukrainian). In 2020 Mrs Nazarenko and her husband Andriy inherited the 400-hectare (1,000-acre) farm, now named Rosa after that founding horse. Early this year they took out a substantial loan to cover fertiliser for the coming spring-wheat crop.

On March 9th, well before they had planted any, Russian troops occupied the village and the couple fled. On March 31st, when the invaders had turned tail, they returned. It was a harsh homecoming. The main farm building was shelled out. Three tractors had been vandalised and their diesel drained. Of their 117 cows, 42 were dead and the rest were roaming fields littered with debris, mines, mortar shells, unexploded cluster bombs and burnt-out trucks. Fifty tonnes of wheat, sunflower seed and rye had been destroyed, costing them tens of thousands of dollars. "We have no money left," says Mrs Nazarenko. "We have nothing to pay salaries and are struggling to pay interest on the loan."

Lukashivka and the villages around it have seen thousands of tonnes of grain destroyed or left to rot; much the same is true throughout the country's war zones. Russian forces have targeted grain elevators and fertiliser plants, leaving the infrastructure in pieces. The share of last year's grain harvest still in the country—about 25m tonnes of grain, a lot of it maize (corn)—is stuck there, because Odessa's ports, through which 98% of the grain exports normally pass, are blockaded. Getting the grain to alternative ports in Romania, Bulgaria and the Baltics is hard. "Before the war Ukraine exported about 5m tonnes of grain a month," says Mykola Solskiy, the minister for agriculture. "Last month we managed to get 1.1m tonnes out."

Vikas Kumar Singh, a farmer in Dharauli, a village in Uttar Pradesh about 700km south-east of Delhi, has no unexploded ordnance to worry about. But his March, too, was troubled. "It got too hot too early," he explains, picking up a handful of recently harvested wheat from a pile in his shed with a dejected look on his face. "See, the grains are thinner than they're sup-

posed to be." After being battered by severe winds and hail in February, the Chandauli district in which Dharauli sits suffered intense and unseasonable heat, shrivelling the ears of wheat when they should have been burgeoning. The same happened across most of the country. "Things are much worse in Maharashtra," says Awadh Bihari Singh, who farms nearby.

Mr Vikas Singh reckons that his yield is down by about a quarter compared with last year's. The district as a whole has harvested around a fifth less wheat than in a normal year, reckons Mr Awadh Singh. Before the heatwave, when a bumper harvest had seemed on the cards, the government had looked forward to the rupee being strengthened by grain exports. When expectations of the harvest's size tumbled it flip-flopped. Accelerating exports encouraged by high prices abroad raised worries of a shortage at home.

On May 13th, the Indian government imposed an export ban on wheat, though it says it will make exceptions for specific countries in need; on May 15th a 500,000-tonne deal with Egypt was reported. There are currently 26 countries implementing severe restrictions on food exports. In most cases they are outright bans. The various measures cover 15% of the calories traded worldwide.

It takes a world to feed a world, and the way the world does it is through trade. By some estimates four-fifths of the global population live in countries which are net importers of food. More than 20% of the



world's calories, and more than 18% of its grain, crosses at least one border on the journey from plough to plate.

At the beginning of 2022 the world-spanning system which makes this possible was already in a ropey state. The number of people with access to food so poor that their lives or livelihoods were at immediate risk had risen from 108m to 193m over the past five years, according to the UN's World Food Programme (WFP). A lot of that near-doubling of "acute food insecurity" was due to the covid-19 pandemic, which reduced incomes and disrupted both farm work and supply chains; a good bit more was down to rising prices of energy and shipping as the effects of the pandemic wore off. Things were made worse by swine flu in China and a series of bad harvests in exporting countries, some of which were due to La Niña conditions that began in the middle of 2020. La Niña is a recurrent pattern of currents and wind patterns in and over the equatorial Pacific which has worldwide effects, just as its also-troublesome counterpart El Niño does.

Global grain stocks were, admittedly, quite high. But they were mostly in the hands of well-off importing nations, not those of exporters keen to sell them or poor importers likely to need them. "If we do not address the situation immediately," David Beasley, who runs the WFP, told the Munich Security Conference in February, "over the next nine months we will see famine, we will see destabilisation of nations and we will see mass migration."

Just six days after he spoke those words Russia rammed a rifle barrel into the already creaking machinery. In 2021 Russia and Ukraine were the world's first and fifth biggest exporters of wheat, shipping 39m tonnes and 17m tonnes respectively—28% of the world market. They also grow a lot of grain used to feed animals, such as maize and barley, and are the number one (Ukraine) and number two (Russia) producers of sunflower seeds, which means they have 11.5% of the vegetable-oil market. All told, they provide almost an eighth of the

calories traded worldwide.

Ukrainian food exports were promptly throttled by the war; Russian ones were dented by the indirect effects of sanctions. Grain prices shot up. Having fallen back a little as the shock wore off, they are now on the rise again. On May 16th, the first day of trading after India imposed its restrictions, wheat prices in Chicago, the global benchmark, rose by 6%; on May 18th they were 39% higher than they were when Russia launched its invasion.

America's department of agriculture (USDA) reckons that war and bad weather mean global wheat production is likely to fall for the first time in four years, which is bad. What is worse is that wheat is not really traded globally. Buyers often have long-standing bilateral relationships with exporters and set channels of trade which make switching suppliers hard. According to the UN's Food and Agriculture Organisation (FAO) nearly 50 countries depend on either Russia or Ukraine, or both, for more than 30% of their wheat imports; for 26 of them the figure is over 50%.

That it should come to this

East Asian countries which import a lot of Black Sea wheat, such as Indonesia, can fairly easily switch to rice. For most other big importers cutting off wheat would involve drastic changes in diet. Many countries in the Persian Gulf and north Africa eat at least twice as much bread per person as gluten-loving Americans. Some grain can be diverted from other markets, at the right price, and European farming interests say that governments are coming to them actively seeking deals: "Everything is on the table", says a big French producer.

Still, shortfalls seem certain. The WFP, on which more than 115m people depend, and last year got 50% of its wheat from Ukraine, says the crisis could drive 47m more people into acute food insecurity.

The war is also having effects on the things farmers need to grow food in the first place—and thus on how much they will plant in the seasons to come. Farms run on fuel. With Russia the world's biggest natural-gas exporter and its second-biggest oil exporter, fuel prices have risen. Farms also need fertiliser. Of the three main types of industrial fertiliser Russia is the biggest exporter in one market (nitrogen-based fertilisers, the only expensive ingredient of which is natural gas), the second biggest in another (potash, which provides potassium) and the third in the third (phosphates). Pesticides and herbicides, often produced from hydrocarbons, have also gone up in price.

There is a lengthening shadow over another of the farmers' prerequisites, too—one which predates the war and will outlast it. Good harvests need good, or at least moderate, weather. They are not well served by extremes. But climate change means extremes are increasingly what they get. Analysis by Britain's Met Office shows that global warming has made an extreme Indian heatwave like this year's 100 times more likely.

And global markets mean the effects of these extremes can add up in a way that goes beyond the globally correlated patterns of disruption brought on by the seesawing of La Niña and El Niño. The deluge which forced Chinese farmers to delay planting winter wheat last year, thus reducing this year's expected harvest, and In- ►

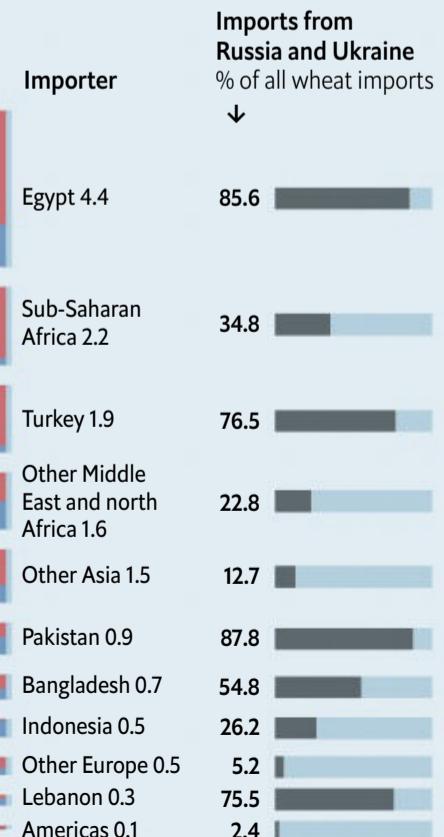
Where the wheat goes

Wheat trade, 2020, \$bn

Exporter

Russia 10.1

Source: Observatory of Economic Complexity



▶ dia's subsequent stem-shrivelling heat may not have any direct connection. But when the probability of extremes goes up worldwide, so too does the probability of multiple regions suffering from one sort of extreme or another at the same time, or in the same time frame.

And time frames matter. Although many commodities can be produced year round, crops depend on the seasons. Miss the window for certain crucial steps, such as planting, fertilising or harvesting, and much of a year's work can be lost in a matter of weeks.

This is the worry when it comes to Ukraine's winter wheat. Sown last year, it will be ready for harvest come June. Mr Solskiy expects this year's harvest to be 20-30% smaller than expected. Roughly half the winter-wheat fields are in the part-occupied, part-fought-over south-east. Many fields are scattered with explosives. Infrastructure has been destroyed. Water, power and fuel are sure to be in short supply.

Yields in the fields which do get harvested will be down by 10%, according to the FAO: fertiliser applications have been missed; pests and diseases have run amok. And as long as Odessa is blockaded, the harvest will have no route to market. Nor can it be stored away. The blockade means that the country's silos are still more than half full with last year's crop. Unless exports through the Black Sea start again (see Europe section) millions of tonnes could simply rot.

Things rank and gross in nature

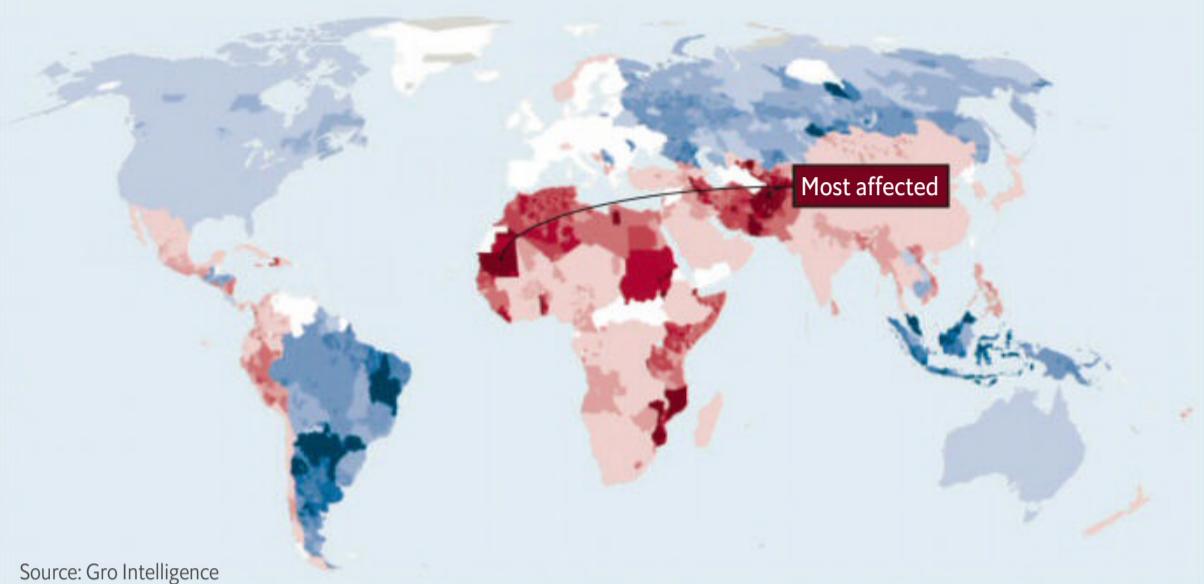
The crops now nodding their heads in Russian fields should fare better. International sanctions do not target food exports directly, and though they make the trade more difficult, ways through and around the problems they create can be contrived. Though exports have dropped by a few million tonnes, Russia has managed to sell more grain since the war began than experts expected, with Egypt, Iran, Syria and Turkey the main buyers. When this summer's harvest is brought home most of it will get to market. But that will not set right the shortfall in Ukraine.

Nor is the rest of the world well placed to make good the lack. China has warned that last year's floods mean its winter-wheat crop could be "the worst in history". Much of America's grain belt is undergoing a drought as bad as the one which it saw in 2012-13. Around 40% of the wheat growing in America's parched plains was recently deemed in poor or very poor condition (15-20% is average). On May 12th the USDA predicted that the country's production of hard red winter wheat, the main kind grown in the plains, would fall by 21% compared with 2021. Europe is getting too little rain at a point in the season when wheat is most vulnerable to dryness. A little late

A bigger battlefield

Net income effect of food-price changes, % of GDP
Dec 31st 2021-May 13th 2022

Lower impact Higher impact
Nil No data



rain may be enough to revive the crops. But it seems certain that production will come up alarmingly short this year.

There are still stocks in exporting countries that could make up some of the difference. Nick Schaefer, who works at a grain elevator in Rugby, North Dakota, says he sees 40 to 50 trucks a day dropping off grain to be loaded onto trains heading west. And he knows there's more where that came from. "It seems like whenever they sold, [the price] keeps going higher. So definitely, what they've got left in the bin, they're probably going to hold on, just to see what happens."

Normally the farmers would have an incentive to run down stocks before the harvest, when prices typically drop. But this year that looks unlikely to hold. Futures markets expect wheat and maize prices to stay at today's extortionate levels until mid-2023. Mr Solskiy says that it will be when the harvest fails to change things that the world will start to feel the true impact of the crisis.

"There is no room for any weather issue in the northern hemisphere this season," says an executive at one of the world's largest traders. While Ukraine's output remains inaccessible, "every single tonne in the market will be needed," says Michael Magdovitz of Rabobank, a Dutch lender. That tight coupling of supply and demand means that prices will be very volatile, too, moving on the slightest bit of news; further shocks could send them much higher.

What of harvests after that of this year's winter wheat? In Ukraine and elsewhere a smaller wheat crop is also planted in the spring, along with other things. For Mr Nazarenko this meant first uprooting the aftermath of war. With a number of employees, friends and relatives he walked the fields, removing spent shell cases and some unexploded shells, marking unexploded mines, pulling a "Smerch" rocket

from the mud in which it was entombed with a tractor. "It was scary, but we did not have a choice," he says.

In the end, he managed to sow most of his fields, barring the one still taken up by burnt-out Russian trucks. That puts him ahead of many. Some lack seeds. Some must plant at night to avoid air raids. Some are planting potatoes for home consumption rather than grain for export. A recent survey by Ukraine's agriculture ministry suggests 30-50% of the country's spring-wheat fields could end up not being planted. Yields may also suffer. Fertiliser is not yet scarce but some may well be repurposed to make explosives; ammonium nitrate serves well in both offices. Diesel is twice the price it was before the war, and it is hard to get hold of even if you can pay. Pesticides look set to be scarce.

Grown by what it fed on

Russian farmers do not face the problems of bombing, but they too will be short of inputs. The country's large farms, which specialise in supplying global markets with grain, require a lot of them. Last year Russia imported \$870m-worth of pesticides and \$410m-worth of seeds—mostly from the EU. Elusive bank financing, payment headaches and a lack of willing shippers are making such purchases much more difficult. Most big Western seed and chemicals companies have pulled out of Russia, or are in the process of doing so (Chinese ones have stayed). Some may return after the war ends, but some may stay away.

Fertiliser will not be in short supply for the Russians. But it will be in most other places. In 2021, 25 countries got more than 30% of their fertilisers from Russia. In Europe energy-security concerns are restricting the use of natural gas to make nitrogen-based fertiliser, so the continent will need to import more, adding extra demand to a market where the natural-gas price has al-

▶ ready increased most manufacturers' costs. Nigeria and Qatar, flush with natural gas, are opening new nitrogen plants; there also seems to be some room for increasing Canada's potash production. But prices will stay high.

More costly energy and fertilisers drive up prices across all sorts of agriculture. The farmers in Chandauli say high prices for fertiliser, diesel and labour have pushed their costs up by 20-25% so far this year. And wheat prices have effects across the market, too. If the cost of a commodity goes up, consumers look for alternatives. That is why food-price inflation is being seen in commodities that are not directly affected by the war, says Seth Meyer, the USDA's chief economist. Indicators of price volatility compiled by the International Food Policy Research Institute in Washington, DC, are flashing bright red for all major grains—including, for the past couple of months, rice, for which there are currently no supply concerns.

Flat and unprofitable

This all serves to blunt a seemingly natural response to high grain prices: for farmers to grow more grain. When input prices go up more than the grain prices, farmers' margins fall. Josef Schmidhuber of the FAO reckons the price of cereals, and food more generally, as perceived by farmers—that is, taking into account the costs of inputs—reached a peak in March 2021. Since then they have fallen by 27%.

Rather than rushing to plant more grain because the sale price looks high, farmers are looking at switching to crops with lower input costs. In March a USDA survey found many American growers intending to move from maize to soybeans this season. Grain prices may yet climb higher, tempting farmers back in. But they are also likely to remain highly volatile, depriving

growers of the certainty they need to plan a big expansion one year in advance.

If it is hard to increase supply, what about decreasing demand? In theory there are low-hanging fruit where crops are used to feed cars or cattle rather than people. Gro Intelligence, a data firm, calculates that the calories diverted by current biofuel production and new commitments could soon be equivalent to the yearly needs of 1.9bn people. Biofuel production has increased markedly in America, Brazil and Europe as the oil price has risen; expensive crude makes the sector more profitable. Repealing biofuel mandates could lessen the damage.

The amount of food eaten by animals is even more vast. Last year China imported a record 28m tonnes of maize—more than what Ukraine normally exports in a year—to feed its immense hog herd. About 40% of the wheat grown in the EU is eaten by cows. About a third of America's maize is devoured by cattle. If the amount of such feed is reduced, though—or if, by using substitutes such as grass, maize stalks and silage, its energy content is lowered—the animals grow less, or more slowly, or both. That drives up the price of the end product. In the food-price crisis of 2007-08 changes to animal feed, together with culls and production cut-backs, caused meat and dairy prices to rocket.

No countries are immune to the effects of this crisis. Lamentably, people go hungry even in the richest economies. The countries hit worst, though, are poor ones, because poor people spend a greater share of their income on food. In most emerging markets food consumes something like a quarter of household budgets, as opposed to less than a fifth in advanced economies. In sub-Saharan Africa the figure is 40%. And grain makes up a larger part of those budgets than it does in richer places.

Many of these economies were in poor shape well before the food crisis hit. Across sub-Saharan Africa, output remains substantially below the level that they would have reached had pre-pandemic trends continued. The debt burdens of more than half of the region's low-income economies are either judged to be unsustainable or may soon become so, according to the IMF. Governments in such straits are poorly placed to help their citizens weather a food-price shock.

Reactions to higher food prices in rich countries are making things even harder. Food prices account for about 1.3 percentage points of America's 8.3% inflation rate, and about 1.0 percentage points of the euro area's 7.4% rate. They are thus one of the factors driving more aggressive monetary policies. The higher rich-world interest rates which ensue drag down currencies and tighten financial conditions in emerging economies. Falling currencies make food imports costlier still.

To bolster their currencies such countries need either to increase interest rates, to intervene with their often scant hard-currency reserves, or to do a bit of both. All the options come with costs that can exacerbate food insecurity. Putting up interest rates, as many have done over the past year, has in most cases merely slowed the pace of depreciation and has driven up the cost of credit—which hurts farmers, especially when inputs are expensive. Using up currency reserves, on the other hand, means they cannot be used to buy food. Choosing not to subsidise food and not to prop up the currency may preserve reserves, but it greatly increases the risks of social unrest.

It is possible to have the currency slide and to lose reserves at the same time. Egypt chose to allow the Egyptian pound to depreciate by 14% in March rather than run down its reserves to prop the currency up. Even so, it saw its hard-currency reserves drop by about 10%, to \$37bn, from February to March, in part because, as the depreciating pound made it harder for people to buy food, the state was buying more for them. Turkey, too, has experienced both a drop in its reserves and in the value of its currency since the beginning of the year. Its inflation rate has surged to nearly 70%. Iran has experienced demonstrations of public anger since reducing grain subsidies. Trouble seems certain to spread.

The World Bank sees the war's effects on trade and welfare as representing a reduction in global real income of about 0.74%, or \$600bn. In low-income economies the figure rises to 1.0%—which given their low incomes represents only about \$5bn. That sounds rather small. But the concentration of those losses in places wracked by hunger looks set to bring with it spectacularly disproportionate social, political and human damage. ■



Hurry up



Benefits for immigrants

The welfare states

NEW YORK

Democratic states are extending welfare benefits to the undocumented

ONE MARCH morning, a raucous parade of protesters passed by *The Economist's* offices in midtown Manhattan. Supporters of a policy called the Excluded Workers Fund were showing their discontent, discernible above the din of city traffic, with New York's governor, Kathy Hochul (whose office is a few blocks away). They also sought attention in other ways, disrupting traffic on the Brooklyn and Manhattan Bridges. Some even marched 150 miles (240km) to the state capital, Albany.

The Excluded Workers Fund was a state fund set up to pay workers who did not qualify for federal unemployment benefits or stimulus cheques—mainly undocumented immigrants. Established in August 2021, it exhausted the \$2.1bn allocated to it in three months, mostly through payments of \$15,600 to 130,000 people. The protesters were demanding \$3bn more to cover 175,000 workers who also qualified.

Expansions of benefits to immigrants illegally in America is a relatively recent, bicoastal affair. From May 1st, California has allowed undocumented residents

above the age of 50 to receive benefits from Medicaid, the government health-insurance programme for the poor. The state was already covering Medicaid costs for those under 26 out of its own purse. In his most recent budget the governor, Gavin Newsom, proposed covering the final missing group, those between the ages of 26 and 50—in essence offering Medicaid as a right to all Californians, regardless of immigration status. During the covid-19 pandemic, the state gave cheques amounting to \$1,700 per person to all.

Although the campaign to refill the Ex-

cluded Workers Fund failed in New York, Ms Hochul has put her state on the path to California-style incremental expansion by signing a budget in April that provides Medicaid for elderly undocumented residents who are over 65. Since 2020, California and Colorado allow undocumented immigrants to claim earned-income tax credits as though they were legal residents.

These moves have attracted muted controversy in their home states. Yet they are revolutionary. The federal government, like most advanced welfare states from Britain to Sweden, generally prohibits benefits from going to those without a legal right to work (and imposes waiting periods for legal migrants). Democrat-run state and local governments have long resisted federal immigration enforcement. These efforts take things to a new level.

Disaffection with Congress's inability to pass immigration reform, including a path to citizenship, has led some states, buoyed by recent surpluses, to spend their funds on emulating the federal safety-net for undocumented residents. In December New York City Council even voted to allow 800,000 non-citizens with work permits to vote in the city's next council and mayoral elections, including about 30,000 "Dreamers", who migrated illegally to America as children but received permits through an Obama-era programme. Only a few short years ago, such policies might have been dismissed as fever-dreams of the nativist right.

→ Also in this section

[24 Mass shooting in Buffalo](#)

[26 O'Hare's cargo boom](#)

[28 Altruism in Oregon](#)

[28 Pennsylvania's primaries](#)

[29 Abortion and the left](#)

[30 Lexington: The Ukraine consensus](#)

Activists employ two broad justifications for such moves. One is an accounting argument: that they have positive fiscal multipliers that improve economic output. The maths is debatable, given that states must forgo federal dollars when funding these expansions. As yet, the amounts involved also appear relatively small for rich states: the ongoing annual cost of a full Medicaid expansion to undocumented immigrants in California is estimated to be \$2.4bn. A bill under consideration to create California's version of a permanent excluded workers fund would cost an extra \$600m a year. Together, that is just 1.4% of the \$213bn in general-fund spending that Mr Newsom has just proposed.

The more compelling justification is moral. Advocates emphasise that undocumented immigrants make up a disproportionate share of essential workers, and that two-thirds have lived in America for more than a decade. "I think as New Yorkers, we need to do everything we can to create parity for our communities, no matter their status," says Jessica González-Rojas, a Democratic member of the state Assembly from Queens, New York. "They pay into the system...so they're quite deserving of this."

The trajectory remains towards expansion of benefits. In Albany, Ms González-Rojas has been agitating for legislation that would qualify undocumented New Yorkers for government-sponsored health insurance for the poor, the elderly and those of working age. This year, much of that agenda has stalled "largely because of the potential political ramifications in our election year" and "the relentless attacks by Republicans on how we're spending our tax money". She calls the exclusion this year of undocumented children from a programme to expand child-care subsidies "just cruel".

Asked whether or not she worries that the state's generosity may function as a magnet for more undocumented immigrants, Ms González-Rojas is unperturbed: "I welcome undocumented communities. I know they fuel our economy, they make our neighbourhoods richer and more vibrant and are people I love. It wouldn't bother me to have folks come here because it's an exciting place to be, and as long as the services are provided, I think we'll have a very vibrant economy."

Within the Democratic caucus, disagreement is hard to discern. Most home-grown criticism comes from Republicans who are in the minority. "In a state like New York—or any state—we cannot confer citizenship. That is exclusively the role of the federal government. But we can confer de facto citizenship when you provide unemployment benefits, you provide identification, drivers' licences, you provide access to free or state-funded health care and education," says Rob Ortt, the Republican

leader of the New York Senate, who argues that the issue may help his party electorally in more conservative parts of the state. "A lot of New Yorkers are going: 'OK, well what about me? I'm not on drugs; I haven't broken the law; I'm not here illegally. All I try to do is pay my exorbitant taxes.'"

Blue for benefits, red for rage

These state experiments face practical problems. Once built up, government programmes are not easily dismantled. In recessions, the pledged obligations to non-citizens may seem harder to justify to voters. And although a poll in 2021 found that a majority of Californians supported health-care expansions for the undocumented, a majority of Americans do not. The programmes may become a potent attack line in a Republican Party which has previously done well by criticising progressives for wishing to abolish the federal immigration-enforcement agency. New York City's voting proposal has attracted criticism in Republican primaries as far

afield as Georgia, fuelling right-wing ire.

The more serious problems are elsewhere, though. Democratic and Republican America are fast splintering. That is true on matters of abortion, electoral legitimacy and immigration. In Republican-dominated Texas the governor, Greg Abbott, is fantasising that a conservative Supreme Court will overturn the precedent of *Plyler v Doe*, meaning that his state would no longer have to pay the public-education costs of undocumented children. He is also gathering unlawful migrants arrested on the state's southern border and sending them by the busload to Washington, as a sign of defiance to President Joe Biden. These divergent immigration regimes are emerging because the illegal-immigration question has so little chance of being resolved federally. The authority of the federal government to set the country's immigration policy is dwindling as a result.

States are supposed to function as laboratories of democracy. Today they commonly act as laboratories of disunity. ■

Domestic terrorism

Sickening theory and lethal practice

BUFFALO

A conspiracy theory that was once on the fringe leads to another mass shooting

HE WAS A really great guy," says Dayna Overton-Burns, of her friend Aaron Salter, who was shot dead at Tops, the supermarket on Jefferson Avenue in Buffalo where he worked as a security guard. "You can talk with him about anything," she recounted tearfully. Mr Salter, a retired policeman, tried to stop Payton Gendron, the 18-year-old gunman. But Salter's gun was useless against the assailant's bulletproof vest. Mr Gendron, who live-streamed the horror on Twitch, a gaming site, killed ten people and injured three more. Eleven of

his victims were African-American. All "because of the colour of our skin", says Ms Overton-Burns.

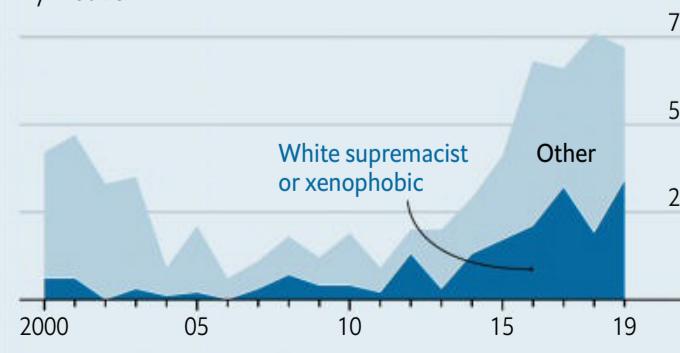
From a 180-page manifesto that the white shooter allegedly wrote, and hundreds of messages he apparently posted online, it is clear he targeted the supermarket because it was in a mainly African-American neighbourhood in New York state's second-biggest city. He planned the assault for months, driving the 200 miles (320km) from his small town near New York's border with Pennsylvania, on recon-

Home-grown horror

United States

Terrorist attacks within country

By motive



Share saying gun laws should be:

% responding*



Enabling a circular plastics future

Indorama Ventures is the world's largest producer of polyethylene terephthalate, a recyclable plastic. It wants to be the largest recycler as well.

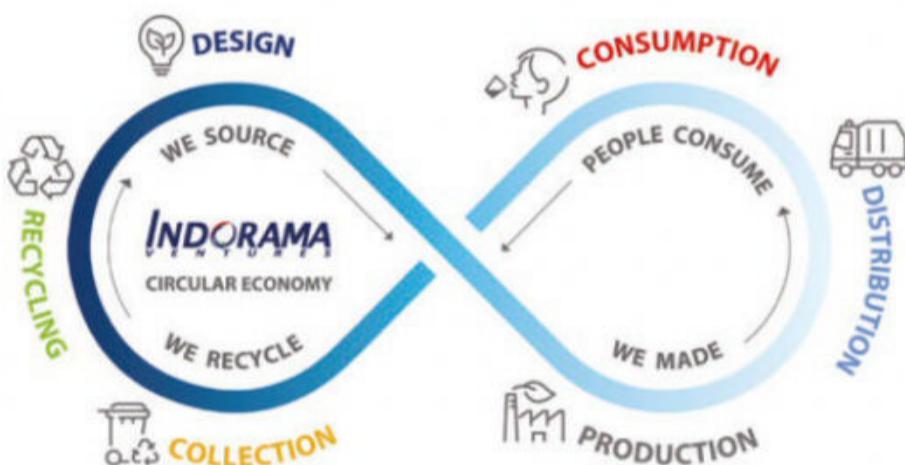
When the first fully synthetic plastic was invented in 1907, it was quickly dubbed "the material of a thousand uses". Over the next century, it would undergo multiple revisions to become exactly that—ubiquitous today in everyday products.

A circular plastic

The plastics industry is not singular. Made up of myriad types, each differs in their strength, use and environmental impact.

Polyethylene terephthalate (PET) is just one of the plastics used everyday. After arriving on the global scene in the 1970s, it revolutionised the plastics game as a lightweight, safe and affordable option. Other qualities, including its durability and strength, make PET the go-to material for food and household packaging, and beverage bottles.

Crucially, what sets PET apart is its circular factor. As a fully recyclable plastic with a cradle-to-cradle life cycle, existing PET packaging can be easily ground into flakes, washed, decontaminated and turned back into new products made of recycled PET—a process that can be repeated again and again.



Reimagining Chemistry together to create a better world

Central to the global PET market is Indorama Ventures Public Company Limited (IVL). With operations in 140 sites across 35 countries, along with 18 recycling facilities, the Bangkok-based multinational is not just the world's largest producer of PET, but also a leading recycler, with long-term plans to keep sustainability as a priority.

IVL has done well in this space thus far, with tangible results to show for it. Over the past decade, the firm has recycled over 75 billion PET bottles, reducing over 2.4 million tons of carbon footprint from the product lifecycle.

And there is much more to come. As climate change continues to threaten ecosystems and economies, avoiding the worst impacts will require the world collectively reaching net-zero by 2050. Recognising the urgency, IVL is committed



to walk the talk with its new 'Vision 2030' strategy, powered by their purpose of "reimagining chemistry together to create a better world". Under it, IVL wants to power 25% of all of its electrical needs from renewables, source 25% of its feedstock from bio-based sources, and recycle 100 billion bottles per year.

Currently, a majority of IVL's feedstock is polyester related. To be more circular, the firm will also work towards increasing bio-renewable or circular feedstock. Testament to its commitment, the firm recently acquired Oxiteno, a Latin America and US manufacturer of surfactants with one-fifth of its products containing renewable ingredients. In taking this step, IVL becomes the leading sustainable producer in the Americas.



A promising tomorrow

Since embarking on its sustainability journey over a decade ago, IVL has led by example in the industry. Its global PET recycling capacity has grown nearly a hundred-fold since. "Sustainability and responsible business are not just slogans to us,"

says Founder and Group CEO, Aloke Lohia. "Sustainable manufacturing is critical if we are serious about protecting our planet and our people."

And indeed they are, with IVL's ambitious green journey continuing to match its global operations. The firm's hope is that working towards the closed loop recycling of PET will have a snowball effect: that doing so will drive a wider circular economy, and in turn create a less wasteful and more sustainable world for the following generations.



INDORAMA
VENTURES

naissance. He mapped out the shop's aisles. And his manifesto outlined his motives, based on a belief in a sinister plot known as the Great Replacement theory.

This conspiracy theory, which has deep roots, asserts that there is a plan to bring non-white people to Western countries to replace whites. The "invaders" would eventually lead to the extinction of the white race. Some extremists, like one who killed 11 people at a Pittsburgh synagogue in 2018, think Jews are behind it all. The previous year white supremacists chanted "Jews will not replace us" in Charlottesville, Virginia, as they protested against the removal of a confederate statue. Such rhetoric was once confined to the fringe, but some of its themes have been echoed by media personalities and politicians.

A *New York Times* investigation showed that in more than 400 episodes of his Fox News show, Tucker Carlson alluded to the theory when he said that Democrats and elites want to use immigration to force demographic change. During a visit to Buffalo on May 17th to comfort victims' families, President Joe Biden called white supremacy a "poison" which had been "allowed to fester and grow right in front of our eyes".

White-supremacist terrorist attacks have risen alarmingly in America (see chart on previous page). In 2019, half of all attacks were orchestrated by supremacists, up from 14% in 2000. New atrocities create fears of copycat killings. The Buffalo gunman hoped he would be emulated.

Mr Gendron wrote in his manifesto that he became radicalised browsing 4chan, a far-right message board. Ideas travel far and fast online. Erin Miller of the University of Maryland's Global Terrorism Database, which tracks attacks, thinks this "creates an incentive to take action...when you're feeling insignificant". Dylann Roof, a teenager who killed nine church congregants in South Carolina in 2015, also radicalised himself online. In Buffalo Mr Gendron copied the methods of Brenton Tarrant, who killed 51 people at mosques in Christchurch, New Zealand, in 2019. Mr Tarrant, too, wrote a manifesto (Mr Gendron lifted whole passages) and live-streamed his attack.

Hours after Mr Biden spoke, a few people yelled at police for not killing Mr Gendron when they had the chance. Others are frustrated that no red flags were put on his record last year, after he threatened to carry out a school shooting. Instead, he was able to buy a weapon easily in New York, which has stricter gun laws than Pennsylvania, where he also bought some of his arsenal. Few expect a tightening. According to Pew Research Centre polling, barely half of Americans even want stricter laws (see right-hand chart on previous page).

There is anger in Buffalo, but mostly there is sorrow and fear. At a vigil outside



Comforters-in-chief

the supermarket on May 17th, prayers and hugs were in abundance. People also queued for donations of food, baby formula and nappies—with Tops closed, the low-income neighbourhood is without its only supermarket. Isaiah Goldsmith, a college student who grew up nearby, says Tops was a place where the neighbourhood's elderly, including his grandmother, would socialise. Jefferson Avenue is one of the main commercial arteries for Buffalo's African-Americans. In a way, said one local, "Tops is Jefferson's heart." ■

Supply chains

O'Hareport

CHICAGO

Supply-chain woes are forcing more trade onto planes

FOR PASSENGERS arriving at the rather faded terminals at Chicago O'Hare, it may not feel like it. But as of last year they are landing at America's most important port, measured by value of trade. In the north-eastern corner of the airport, a stately if ageing Korean Boeing 747 lands and within ten minutes moves into position outside a giant warehouse. On board, bound in plastic and cord, are 115 tonnes of cargo—mostly consumer electronics, but also pharmaceuticals, food and more. In an hour it will be unloaded, and will soon be on trucks heading around the country. If the cargo is worth the average of cargo processed at O'Hare, that one flight will have brought \$14m of imports into America.

Chicago is built on its transport links. Before European settlers arrived, it was the site of a portage between the Mississippi

river and Lake Michigan, over which people carried trade goods between boats by hand. Later, in the mid-19th century, came the Illinois and Michigan Canal, and then the railways, linking the fast-growing farmlands of the Midwest to the industrial cities of the east coast, and turning Chicago into the "hog butcher for the world". Today its airport is doing the lifting work of the City of Broad Shoulders. And it shows how the pandemic, and its supply-chain stresses, are changing American trade.

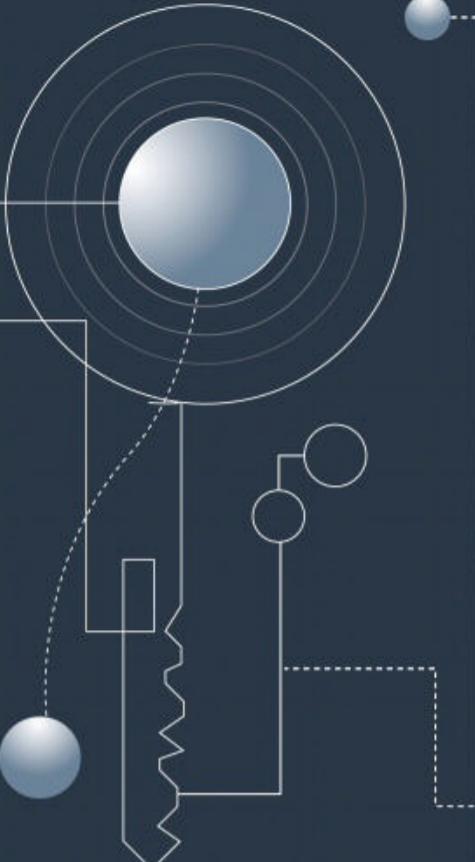
In 2021, reckons usTradenumbers.com, a website, goods worth roughly \$305bn passed through O'Hare, about 6.6% of American trade. It is far from being the port that receives most goods by volume (that is Los Angeles) or even the busiest airport (Anchorage's moves more goods). But the 2.5m tonnes moved through Chicago is made up of far pricier stuff.

Though they are designed in California and assembled in China, it is Chicago where almost all Apple's products arrive in America. So, too, do aeroplane engines manufactured by Rolls-Royce in Britain, car parts made in Japan and sensitive medicines synthesised in India. Products from midwestern factories, such as two enormous hotel-kitchen ovens destined for Singapore, are loaded up for the journey out (flying things out to Asia costs a tenth of what bringing things in does).

The pandemic has boosted the airport's freight business. Before covid-19, people said that "bellies [of passenger jets] are taking over the world, we don't need freighters", notes Shawn McWhorter, the boss in America of Nippon Cargo Airlines, a Japanese firm. For Chicago, where most flights are domestic, that was not so positive. But when people stopped flying because of the pandemic, the cargo holds of passenger planes were no longer available. Instead, more freight has been flown into specialised cargo terminals, like the one in Chicago. Since 2019 the amount moved through O'Hare has increased by 47% in value, and almost as much in volume.

Now, passenger flights are returning, but not everywhere. Transatlantic travel is back almost to pre-pandemic levels, but far more imports are flown in from Asia, where covid restrictions are still in force, so specialist cargo flights are still needed.

Other factors too are fuelling demand, says Neel Jones Shah, a vice-president at Flexport, a freight-forwarding firm which operates a warehouse at O'Hare. Not only are Americans buying more physical stuff than ever, but also congestion at American seaports means that items that would previously have been shipped by sea are being flown instead. Even simple car parts are now being flown in to take to factories in Michigan. McDonald's French fries made from Idaho potatoes are being flown the other way. (Mr McWhorter recently



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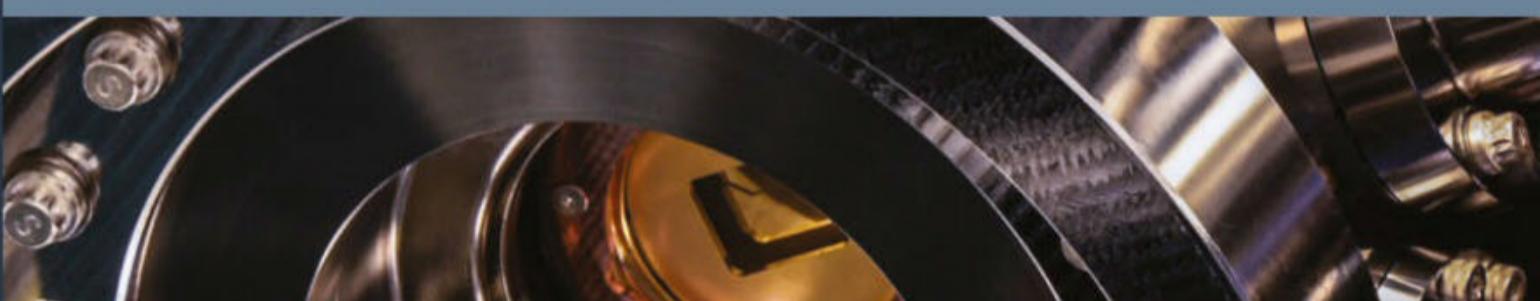
Banking & finance



Food production

Quantum computing is here.

In December 2021, we released Quantum Origin, the first commercial product entirely reliant on a quantum computer. Our team of scientists is leading the way in the development of practical uses for quantum computing. This is not science fiction—it is science fact; quantum-resilient technology that helps to protect data and communications.



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► shipped four full charter planes of them.)

Can the boom continue? It has been fantastic for air freighters: rates had trebled by the start of the year, says Mr Jones Shah. Profits at big firms, such as Germany's Lufthansa Cargo, have soared, even as the airline industry in general struggles. Orders for new cargo jets are flooding into Airbus and Boeing. But costs are also going up. The price of fuel has soared. Ground staff are in short supply. Some firms have not realised they need to raise pay, and are flailing. "You cannot run a labour-intensive operation with 50% staff turnover," says Mr Jones Shah.

To beat the crunch, a lot of money is now being invested in technology to try to increase efficiency. Flexport's warehouse has clever scanners that use artificial intelligence to try to spot automatically crates that have been loaded onto the wrong lorries. The firm also tries to use its data to offer clients more efficient ways to move their stuff around, balancing air and sea freight. In the short run, though, higher costs mean higher prices for consumers. That risks bringing the boom to an abrupt end—an O'Hare raising prospect. ■

Pennsylvania

Keystone-cop politics

HERSHEY, PENNSYLVANIA

Republicans may be fumbling a key step in their path to a Senate majority

LIKE A DOCTOR at the bedside, a politician must try to soothe voters' worries. At an event on the eve of the Republican Senate primary election in Pennsylvania, Mehmet Oz, a celebrity television doctor, took voters' blood pressure. They told him about their concerns, from inflation to schools, and their fondness for Donald Trump. But as they filed out, many still seemed sceptical. Dr Oz had won the former president's endorsement, but not the love of his fans.

By May 18th, the day after the election, Dr Oz appeared to have edged ahead of David McCormick. But with a margin of less than 0.5 percentage points separating the two, the race will probably head to a recount that must be completed by June 7th.

The saga will weigh on Republicans,

who cannot afford to lose the state come November. With an incumbent Republican senator retiring, Pennsylvania is one of Democrats' few chances to flip a seat and retain their thin majority in the upper chamber. But in chasing votes and Mr Trump's coveted endorsement, Dr Oz and Mr McCormick, a former hedge-fund executive, adopted nearly identical messages and spent much of the campaign attacking one another in television ads.

They had a scare from the insurgent campaign of Kathy Barnette, a charismatic African-American far-right commentator. She rocketed into contention on the back of her strenuous opposition to abortion and background as the child of rape. Mr Trump appeared alarmed to find his preferred candidate outflanked, and labelled Ms Barnette unelectable. "He's not Jesus, he can be wrong," said Ms Barnette, referring to Mr Trump, while tarring her opponents as part of the "woke right". In the end, after being vastly outspent, she came third with a quarter of the vote.

Republicans faced more discomfort in the governor's contest. The comfortable victor, a state senator, Doug Mastriano, is also among the more extreme flavours of Republican. He joined the rally (as did Ms Barnette) to overturn the election of President Joe Biden at America's Capitol on January 6th 2021. He has vowed to appoint a like-minded Pennsylvania secretary of state to administer elections—one who may resist certifying a future Democratic presidential victory there.

The Republican candidates now face two formidable Democratic opponents. The state's no-nonsense attorney-general, Josh Shapiro, won the uncontested nomination for governor. The Democrats' Senate nominee, John Fetterman, the hulking, goateed state lieutenant-governor, won by a landslide. Mr Fetterman spent the campaign disavowing his lefty reputation and would appear well-positioned closer to the centre. But he suffered a stroke five days before the primary, requiring surgery and raising questions about his fitness for the rough and tumble of a campaign.

If Democrats have managed to unite behind credible candidates, Republicans are increasingly panicked that they may squander two prime chances in Pennsylvania. Even Mr Trump appears less in control of a Republican electorate that continues to pay him homage. He endorsed Mr Mastriano with just four days to go before the primary, when he was already well ahead in the polls. If Dr Oz prevails, Mr Trump will no doubt claim further vindication, however shaky. Nearly every Republican candidate mimicked the former president's positions and rhetoric. But the experience suggests that, though the party has been recast in Mr Trump's image, taming the voters is more elusive. ■

Oregon's sixth district

Ineffective altruism

America's most expensive House race and the ideology that made it so

SAM BANKMAN-FRIED drives a Toyota Corolla and sleeps on a beanbag in a flat he shares with ten roommates. It might come as a surprise that the 30-year-old is a crypto-entrepreneur whose exchange, FTX, was valued at \$32bn in January. Recently he has taken an interest in politics.

On May 17th nine Democrats vied to contest a seat in Oregon's sixth, a new congressional district born from the 2020 census. And a \$10.5m donation from Mr Bankman-Fried to one of them, Carrick Flynn, made it the costliest House primary in this cycle to date.

Mr Flynn and his backer both live by the principles of "effective altruism", which urges people to maximise the amount of good they can do. Effective altruists argue that money should be spent where it goes furthest: forgo that donation to the local soup kitchen when the same amount could save hundreds of children in Bangladeshi slums. To Mr Bankman-Fried, adhering to the ideology means earning a lot to give to effective causes—he has pledged to donate 99% of his lifetime earnings. To Mr Flynn, a researcher with no previous political ambitions who became infuriated with Congress's poor response to covid-19, it

means running for office to bolster planning for disasters.

Effective altruists have long heralded the measurable benefits of deworming medication and mosquito nets. Politics, however, is more of a gamble, with hazier payoffs and a lower probability of success. The Centre for Effective Altruism, which champions "empathy with evidence", has advised the World Bank, the World Health Organisation and the British government. But in Oregon this week Mr Flynn failed to win the Democratic nomination: Congress is not about to experience an injection of altruism.

Political gamble

United States, top five House primary districts
By total spending, May 16th 2022, \$m



Source: OpenSecrets

Abortion

Outrage and outliers

WASHINGTON, DC

Democrats are overreaching in their defence of abortion rights

ARE DEMOCRATS blowing the chance that the probable overturning of *Roe v Wade* has given them? The revelation this month that the Supreme Court has voted, at least provisionally, to strike down the ruling that in 1973 declared abortion a constitutional right has provided the party with a rare opportunity to energise voters ahead of mid-term elections in November. Most Americans do not want *Roe* to go.

Yet in vowing to protect abortion rights, Democrats have at times gone further than may be politically wise. On May 11th the Senate voted against the Democrats' Women's Health Protection Act (WHPA), which would protect abortion access across the country. Holding the vote was largely symbolic: the bill stood no chance. Still, two rare pro-choice Republican senators, Susan Collins of Maine and Lisa Murkowski of Alaska, and a Democrat, Joe Manchin of West Virginia, voted against it, saying it went further than *Roe*.

Though the bill broadly echoes Supreme Court rulings, protecting abortion on demand until a fetus is viable (at around 23 weeks) and allowing exceptions on health grounds later, it would ban states from enacting abortion regulations that *Roe* permits. Ms Collins said she also disliked the bill because it did not allow Catholic hospitals to refuse to perform abortions. Erin O'Brien, a political scientist at the University of Massachusetts, Boston, reckons it would be "smart" for congressional Democrats to now back the more limited abortion-rights bill drawn up by Senators Collins and Murkowski.

Several Republicans have incorrectly described the WHPA as having "no limits" on abortion. Yet that fairly characterises the situation in at least four states (Colorado, New Jersey, Oregon, Vermont) and Washington, DC, that have passed laws protecting the right to abortion throughout pregnancy, according to the Guttmacher Institute, a pro-choice think-tank. Such laws are designed to make it easier for women from states that would ban abortion—and those that have already sharply curtailed access—to obtain it elsewhere.

Those laws stand in sharp contrast to the rest of the rich world. Many European countries have a limit on abortion on demand of 12 or 14 weeks; only two (Britain and the Netherlands) allow it until 24 weeks. Hence *Roe* itself is comparatively liberal: of 59 countries that allow abortion

on demand, America is one of only seven that allow it after 20 weeks of pregnancy.

Polling suggests that such liberal abortion laws are out of step with public opinion in America. A recent *Economist-YouGov* poll found that only a quarter of all Americans believe abortion should "always be legal" with "no restrictions". Gallup polls have repeatedly found that most Americans say abortion on demand should be available in the first trimester (the first 12 weeks) but not thereafter.

How might all this affect Democrats' prospects at the polls? Their failure to push a more moderate line on abortion could harm them, for two reasons.

Extreme reaction

First, it gives Republicans an opportunity to cast Democrats as the extremists. "It's all, you know, abortion up to the point of birth," said John Thune, a Republican senator from South Dakota, after the vote on the WHPA, echoing what has become the Republicans' main talking point on abortion.

It would be hard to make such claims if Democrats had not dropped the "safe, legal and rare" language adopted by Bill Clinton during his presidential campaign in 1992 (and echoed by Hillary Clinton in 2008). Joe Biden, a practising Catholic, has avoided speaking about abortion much—or even using the word in public, according to a website, didbidensayabortionyet.org, that is tracking this—with the result that more extreme voices in his party have domin-

ated the debate on the controversial issue.

This leads to the second problem: voters tuning out. Since Donald Trump swore in 2016 that he would appoint conservative justices to overturn *Roe*, the clash of extremes in America's abortion war has intensified. This is most evident in the rash of cruel and extreme abortion laws introduced in conservative states. In Missouri, lawmakers want to prevent women travelling out of the state to have an abortion. In Louisiana, some lawmakers tried (and failed) to classify abortion as homicide so that prosecutors could bring criminal cases against women.

Yet on the left, campaigns like #ShoutYourAbortion, which encourages women to recount their experiences ("Having an abortion made me happy in a totally unqualified way," its co-founder has said), seem unlikely to fire up the many Americans of both parties who think of abortion as sometimes necessary but hardly desirable. Protests outside the homes of Supreme Court justices have elicited criticism from pro-choice as well as pro-life Americans, in part because such action could be counter-productive.

In the longer run, it is progressive states' relaxed abortion laws that may be most damaging to the left. Though abortions in the second and third trimesters are rare, and even in states where they are permitted some doctors set their own gestational limits, they give anti-abortion activists an easy target. Kyleen Wright, the president of Texans for Life, says that if *Roe* is overturned groups like hers will "work to shore up constitutional protections in pro-life states, as the abortion advocates have done in the most pro-abortion states". But they will also home in on pro-abortion states, she says. "Late abortions are abhorrent to voters pretty much across the political spectrum, so that would resonate even in states that protect abortion." ■



A challenge for the body politic

Lexington | The quiet Ukraine consensus

Congress has maintained bipartisan agreement on the war by not talking about it much



VIRTUALLY THE whole world is against us," Mikhail Khodaryonok, a defence expert, told Russian state television this week. And what is more, he noted, even America's political parties are together on this: "The lend-lease programme is about to start functioning and the resistance of a single senator will be overcome quite quickly."

He was exaggerating slightly. Hours later, 11 of the 50 Republican senators voted to block a \$40bn package of military and other aid for Ukraine. Yet with all other senators in favour, the bill was expected to breeze through the Senate shortly after this column is published. Not many policies receive such bipartisan backing these days—especially ones as significant as this. Added to the roughly \$4bn of arms that Joe Biden's administration has already shipped to Ukraine from American arsenals, the new bill represents a staggering haul. It is more, in just three months, than America sent to Iraq or Afghanistan in any given year. A senior Pentagon official describes it, probably accurately, as the fastest supply of military support in history.

This reflects material change in America's risk calibration. Administration officials who used to speak warily of Vladimir Putin's threat to use nuclear weapons now almost shrug it off. Russia, they note, has not overreacted to NATO's support for the Ukrainians, even as that has increased in heft as well as volume. In March the administration prevaricated over, then ruled against providing Polish MiG-29 fighter jets; it has since delivered so many spare MiG parts to help patch up Ukraine's existing planes that it comes to the same thing. As the war has moved from its hit-and-run phase outside Kyiv to trench warfare and artillery duels in the east, meanwhile, the scale of other American-supplied kit has increased hugely.

According to a fact-sheet released by the Pentagon, America has provided 90 howitzer artillery pieces, 72 vehicles to tow them, 16 helicopters and 200 armoured personnel carriers. The Ukrainians are also asking for multiple-launch rocket systems and anti-ship missiles. John Barrasso, a Republican member of the Senate Foreign Relations Committee, predicts that they will get them. "We've given them every weapons system they've asked for so far," he said, after returning from a visit to Kyiv last weekend alongside

Mitch McConnell, the Republican Senate leader. So long as NATO troops are not on the battlefield, it seems almost anything goes.

Considering how momentous it is, the issue is politically low-key. Mr Biden, a relatively inconspicuous president on any issue, has made only a couple of Ukraine-related speeches. The latest arms package looked set to clear Congress with remarkably little debate given its size, most of it occasioned by Rand Paul, the isolationist senator Mr Khodaryonok alluded to. Donald Trump, a lightning-rod for Russia-related controversy, has for the most part sounded ambivalent on the war. It has received scant attention in early campaigning for the mid-terms.

That is less paradoxical than it might seem. The dismal political reality is that any prominent issue is liable to get polarised and stuck. The fact that Mr Biden and his counterparts on Capitol Hill have not been more outspoken on Ukraine represents in part a tacit consensus to prevent that happening.

Such dealmaking is not uncommon. Over the past decade Congress has passed a number of hugely important bills with bipartisan majorities in part by not really talking about them. The list includes a \$305bn infrastructure splurge under Barack Obama, a \$35bn clean-tech investment under Mr Trump and this year a long overdue overhaul of the postal service's finances. Simon Bazelon and Matthew Yglesias, both writers on politics, term this phenomenon "the Secret Congress". And it is good to know that Washington, DC, is a bit less dysfunctional than it often seems. But, when applied to a foreign policy as important and delicate as this one, such elite discretion also looks risky.

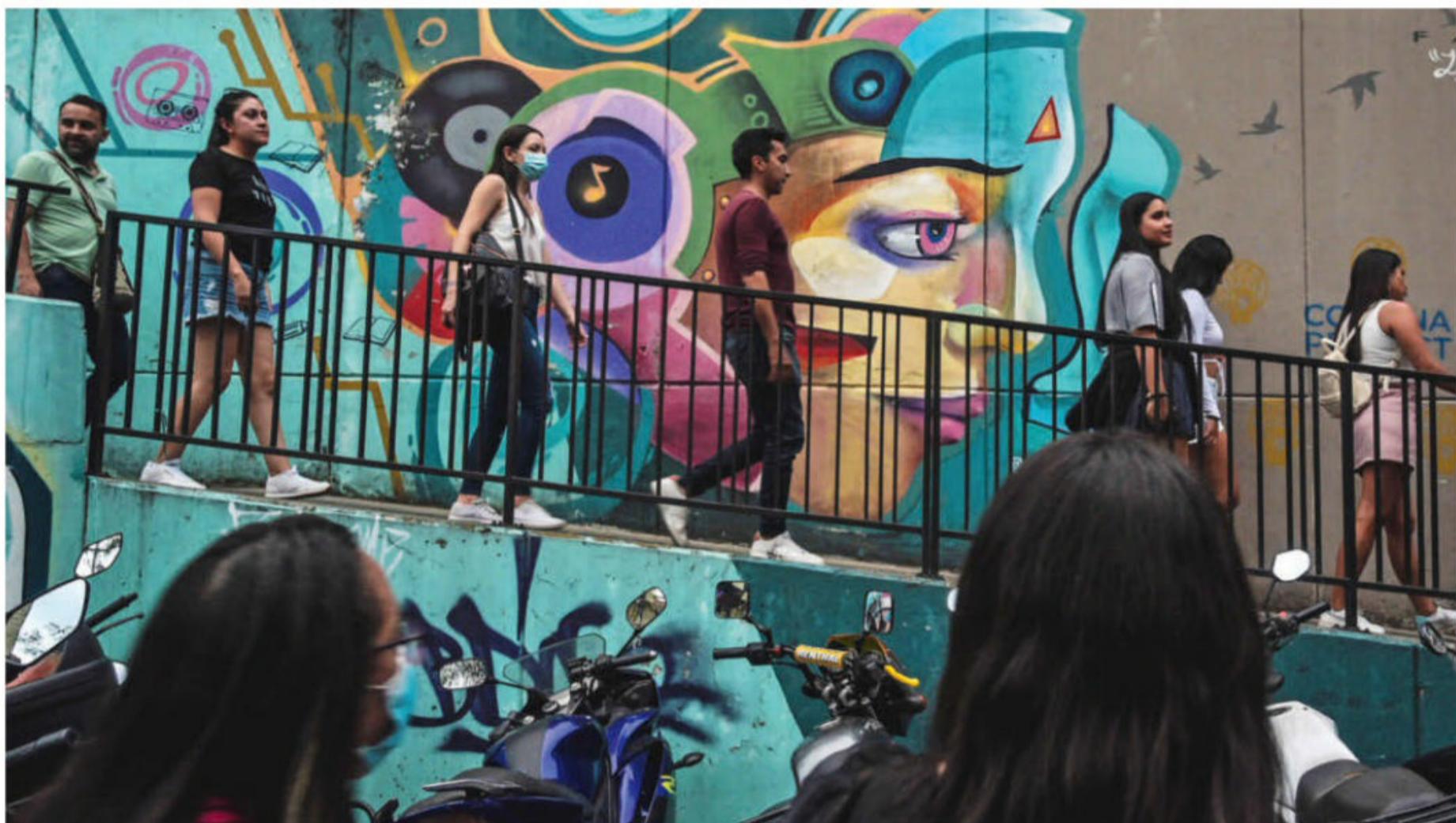
Voters deserve more of a public debate on Ukraine than they are getting, not least on the crucial question of where America's military support is heading. If the war turns into a stalemate, should there be limits to America's aid? Or would the administration escalate further?

As a matter of good democratic practice, presidents also deserve more reward for good policy than Mr Biden has had. His administration has won global acclaim and, in private, even grudging praise from some Republicans for its handling of the crisis. Mr Biden's advantages over Mr Trump have never been more obvious. Yet he remains very nearly as unpopular as Mr Trump was.

Worse, the lack of serious debate leaves space for the unserious to fill—and Republican isolationists have ambitions in that regard. Back in March, only three House Republicans opposed Congress's first response to the Russian invasion, a simple declaration of support for Ukraine. But over the course of 15 subsequent Ukraine-related bills, the number of Republican holdouts has steadily increased. Over a quarter of House Republicans opposed the \$40bn aid package. That encouraged Mr Trump to mischaracterise the bipartisan bill as a case of "Democrats...sending another \$40bn to Ukraine [while] America's parents are struggling to even feed their children."

Dare you to say it, Mitch

Mr McConnell suggested his visit to Volodymyr Zelensky was intended to head off the antis in his party: "What I assured him, as this is an all-Republican delegation, is that support for Ukraine and this war against the Russians is bipartisan." To ensure it remains so, he should put more of his political capital where his mouth is. He should undertake that all future delegations will be bipartisan. And given that Mr McConnell appears to agree with everything Mr Biden has said and done on Ukraine, he should enthusiastically say so. That would be quite something. ■



Colombia

The Medellín model

MEDELLÍN

A presidential election draws attention to Colombia's most successful city

ALICIA RIVAS has lived in Comuna 13, a slum in Medellín, for most of her 84 years. It used to be the most violent city on the planet. "We would hide under the bed when the guerrillas shot at each other, because sometimes a bullet would come into your house and kill you," she says. That's how her grandson died. Today Medellín, Colombia's second city, is safer than Chicago (see chart). Ms Rivas counts noisy tourists among her more serious problems. Thousands traipse in to gawk at graffiti and ride the outdoor escalators that climb hundreds of metres up the *comuna*'s hills.

Two men who served as mayors during that transformation, Sergio Fajardo and Federico Gutiérrez, are among the leading candidates to be Colombia's next president. A coalition of right-wing parties chose Mr Gutiérrez, commonly known as Fico, in primary season in March. The centrists chose Mr Fajardo. (The frontrunner and main left-wing candidate is Gustavo Petro, a former guerrilla and ex-mayor of Bogotá, the capital, who would be the country's first leftist president if elected, although polls have been tightening.) Co-

lombians would do well to understand the legacies of Mr Gutiérrez and Mr Fajardo before casting their vote.

Medellín's fortunes waxed as those of Colombia's drug cartels waned. In 1991, when a notorious kingpin, Pablo Escobar, in effect ran the city, there were 7,000 murders in a single year. Colombia was a global homicide hotspot. Escobar was killed in 1993; subsequent feuds among paramilitary groups had fizzled out by the early 2000s. Medellín flourished. The proportion of people who are extremely poor, defined as earning too little to buy enough food, fell by half between 2008 and 2016. The city expanded public transport, connecting Colombia's only metro system (Bogotá has just started building its own) to a network of cable cars and escalators, and so linking slums on the city's hilly fringes with its posher centre.

→ Also in this section

32 Brazil's shell-throwing mystics

34 Bello: Divided Americas

The seeds of Mr Fajardo's political life were sown in Medellín in the 1990s. César Gaviria, Colombia's president at the time, appointed a council of advisers to stem violence in the city. That council's leader, María Emma Mejía, gathered businessfolk, academics and charity workers to discuss the problem. Those discussions fed into the creation of an organisation called *Compromiso Ciudadano* (Citizen Engagement). Mr Fajardo, a mathematician, became one of its leaders and won a mayoral election in 2003 by a landslide, running as an independent against the established parties that had long governed the city.

Mr Fajardo and his successors ushered in a battery of new policies. They gave the *comunas* control over 5% of the municipality's budget. Investment in primary schools, libraries and health centres boomed. Six cable-car lines opened between 2004 and 2021. Five years after the inauguration of the first, incomes in the newly connected Comuna 1, the poorest slum in Medellín, had grown by 56%. Juliiana, who lives there and works in the city centre as a maid, says her commute was cut from three hours to 40 minutes. "We led a revolution in Medellín," says Mr Fajardo. "We changed the city's history."

But Mr Fajardo's presidential campaign has been lacklustre. His brand of wonkish centrist lacks appeal in an increasingly polarised country. His coalition has been squabbling, and in 2021 Mr Fajardo was indicted for embezzlement, though a court dismissed the charges in January.

► It is Mr Gutiérrez, who was elected as Medellín's mayor in 2015, who is hot on Mr Petro's heels in the presidential race. His rise has been swift. Before the primaries his name was hardly known outside Medellín. Since then the share of people who say they will vote for him has tripled, to around a quarter. He is a more skillful gladhander than Mr Fajardo, seeking and receiving the backing of all of Colombia's established parties (there are no big outfits on the left). He has cut into Mr Fajardo's base by choosing a moderate as his running-mate. Some 42% of people in Medellín say they will vote for Mr Gutiérrez. Thirteen percent plump for Mr Petro, while just 3% like Mr Fajardo.

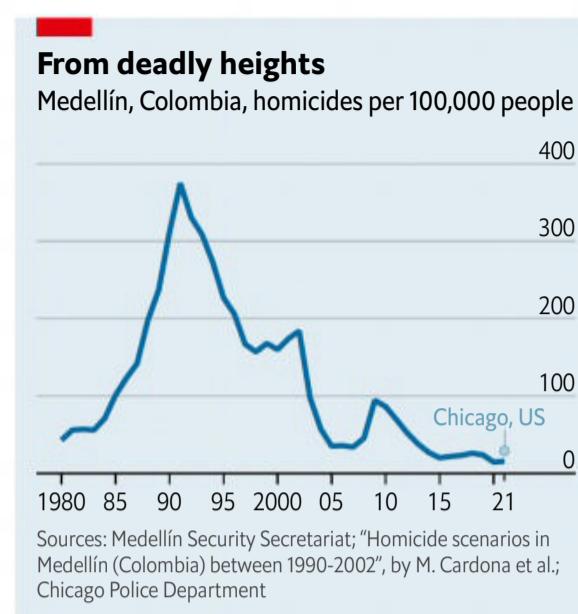
Mr Gutiérrez was the first mayor of Medellín in 12 years to be elected without the backing of *Compromiso Ciudadano*. His four-year term was defined by promises to be tough on crime: less civic engagement, more cracking heads. He trumpets the fact that city police arrested 166 gang bosses during his term. He had Escobar's mansion blown up in front of an audience that included the president, with backing music provided by a symphony orchestra.

These stunts played well on social media, but Medellín's murder rate crept up as gang members fought over the power vacuum left by their jailed leaders. Worse for tough-on-crime Fico, his first security minister was jailed after being accused of having connections with the *Oficina de Envigado*, a criminal organisation that started life collecting debts for Escobar.

Mr Gutiérrez's other focus as mayor was helping business. By 2020 the city was home to 43 businesses for every 1,000 inhabitants, up by 20% from 2016. He cultivated an everyman persona, going by his nickname and posting videos of police chases online. His presidential campaign is much the same. His slogan is "Me Identifico" (I identify with Fico).

Medellín's former mayors have not been solely responsible for its success. Money has helped, too. Much of that has come from the municipal utility, Empresas Públicas de Medellín, which sells electricity, gas, water, sewerage and telecommunications services not just to Medellín but also across Colombia and Latin America. It funnels about a third of its profits to the municipality. Those profits have grown as it has expanded to become Colombia's fifth largest company. In 2020 it generated \$371m for the city, more than a quarter of the municipal budget of \$1.4bn.

The city's status as an emblem of good governance, so useful to Mr Gutiérrez and Mr Fajardo, has lately taken some hits. Daniel Quintero, who became mayor in 2020, was suspended from office by the *Procuraduría*, the national disciplinary office for civil servants and government officials, on May 10th, accused of meddling in



the presidential campaign on Mr Petro's behalf. Some consider the suspension itself to be meddling. A growing proportion of the tourists thronging the city are there to buy sex, not ride escalators and ogle graffiti, according to Daniel Duque, a city councillor. Drug use in public parks has become increasingly conspicuous. The proportion of people in the city who are poor has remained stubbornly high for years, hovering around a quarter.

Small local gangs known as *combos* still control large areas in and around the city. "If you have a problem here you go to a *combo*, not the police," says Juliana, the maid from Comuna 1. Research published by the National Bureau of Economic Research last year showed that Juliana's view is shared by most of Medellín's poorer residents, who have more faith in the *combos* to respond rapidly to their problems than they do in the police or the mayor's office. As well as city taxes, many locals pay a *vacuna* (vaccine) to the *combos* "for security", says Juliana. When a truce among the *combos* broke down in 2009 it led to a spike in homicides. They have since patched up their differences, but that could change.

The election is on May 29th. If no one wins more than 50% of the vote, there will be a run-off between the top two candidates in June. If those are Mr Petro and Mr Gutiérrez, the result could be close. Mr Fajardo has the stronger claim to have made Medellín what it is. But it is Mr Gutiérrez who has the best chance against Mr Petro. Mr Fajardo's competent wonkery was enough to win power in Medellín. Winning over the rest of the country seems to require a little more pizazz. ■

Divination

She sells seer shells

SALVADOR

The mystic art of shell-throwing thrives in a changing Brazil

MÃE CARMEM has long been in conversation with the *orixás*, Afro-Brazilian deities who embody the forces of nature. They dance easily into her thoughts and her dreams. But communing on behalf of others takes work. In a room on the outskirts of Salvador, on Brazil's north-eastern coast, she takes out 16 cowrie shells—shaped like coffee beans, cream-coloured, with a seam of serrated teeth. She shakes them, murmuring incantations in Yoruba, a west African language, then rattles them onto the board. *Oxumarê*, the god of rainbows, rattles rain upon the roof in unison.

Brazilians who want answers often turn to *jogo de búzios*, the throwing of shells. Adverts for shell-based prophecy plaster lampposts; shell-shaking soothsayers set up stalls in malls. Adepts are pressed for predictions ahead of elections or football games—and consulted in private by participants. The 256 ways that the 16 shells can fall, each either open or closed, are read to diagnose and solve any problem.

Some Brazilians lampoon the practice. In February *Globo*, Brazil's biggest broadcaster, was fined for airing a comedy

sketch about "Cãodomblé", a shell-reading golden retriever. *Cãodomblé* is a play on *cão*, or dog, and *Candomblé*, the biggest Afro-Brazilian religion. That hints at the racially tinged distaste for such traditions among some Brazilians, which persists ►



Shake, rattle and read

Trade in Transition 2022

How are companies trading in an inflationary environment?



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One of the clearest trends in international trade during the pandemic has been the shift away from efficiency to resilience, from “just in time” to “just in case”. Amid supply-chain disruptions—from the microchip shortage in the automotive industry to the rise in commodity prices—companies have diversified their supplier base, purchasing buffer inventories from suppliers that may be more expensive.

Some of these costs are being passed on to the consumer in the form of higher prices, contributing to the inflationary environment. Higher transport costs are also expected to be a top challenge in 2022, according to a global survey led by Economist Impact. Given the redundancies this builds into a business, what new sources of supply-chain efficiency can executives turn to?

The second edition of Economist Impact's Trade in Transition programme, supported by DP World, presents views from over 3,000 executives worldwide, revealing their priorities as they seek new customers and suppliers. While 48% of executives say they are diversifying their supplier base regardless of location, only 12% say they are regionalising. Across sectors—from consumer goods to health care—companies are increasing their adoption of 5G technologies, digital solutions at customs and advanced automation to streamline their trade operations. They are also implementing sustainability initiatives, not only to reduce waste but to secure access to key markets.

The agility that companies have demonstrated during the pandemic is likely to prove necessary as they steer into uncharted waters. How can businesses stay agile in an increasingly uncertain trading environment?

Find out more at tradeintransition.economist.com.

► even though 56% claim African descent. In 2021 91% of religious hate crimes reported in Rio de Janeiro were against adherents of Afro-Brazilian religions, who comprise just 2% of the state's population.

Brazil's first shell-throwers arrived among the 5m slaves who survived the horror of being shipped across the Atlantic from west Africa. The practice continued, mixed with Catholicism, among communities of freed Yoruba. Despite centuries of repression, it still dictates the rhythm of life within the *terreiros* or temples of Candomblé. No big decision is taken without

first consulting the shells.

But shell-reading has become "detached from religion", says Augusto Waga, a divination scholar at the Federal University of Rio de Janeiro. Baba King, an Ifá priest who runs a temple in São Paulo, reckons 70% of the 40,000 clients he has seen over the years did not share his faith.

The pandemic has made shell-reading more secular, and digital. As society shut down, the internet offered virtual divination stalls that could compete with the temple. On one website, a fortune teller who specialises in difficult love affairs of-

fers búzios, and other readings, for 100 reais (\$20) a pop. (Her most solicited service is "rival's removal".) For Mãe Carmem, such upstarts insult her training. You can't train to be a doctor for three days and then dish out advice on the internet, she says.

But that does not mean tradition trumps opportunity. On New Year's Eve, a busy time for fortune-tellers, videos of Mãe Carmem's readings appear on YouTube. She takes live radio call-ins. The human connection with the *orixás* endures. The mediums by which their answers are revealed change with the times. ■

Bello Distant neighbours

Latin America is split on the importance of defending democracy

WHEN THE United States hosted the first Summit of the Americas, in Miami in 1994, the occasion had a ring of celebrity. Democracy had spread across Latin America and with it economic liberalisation. At the request of the Latin Americans, the 33 countries present—all except Communist Cuba—agreed to work on a Free Trade Area of the Americas (FTAA). As Joe Biden prepares to host the ninth summit in Los Angeles next month, the picture looks very different. This time the get-together seems certain to highlight Latin America's internal disagreements and its partial retreat from democracy and free trade.

To start with, it is not clear who will be there. Mr Biden's team say that they intend to invite only countries with democratically elected leaders, which excludes the leftist dictatorships in Cuba, Nicaragua and Venezuela. Cuba, which was invited to the past two summits, held in Panama and Lima, is campaigning against its exclusion. In response, Bolivia and Honduras have said they will not attend. So has Mexico's president, Andrés Manuel López Obrador, though he added that his foreign minister would go. For different reasons, Jair Bolsonaro, Brazil's right-wing leader, seems unlikely to attend. A fan of Donald Trump, he has not spoken to Mr Biden. Others, such as Argentina and Chile, say they want all countries to be present but that they will nevertheless turn up.

Since Brazil and Mexico are the second- and third-most-populous countries in the Americas, the absences of Mr Bolsonaro and Mr López Obrador would hurt. The latter especially, since Mr Biden's team wants to forge a deal to manage migration at the summit. The post-covid surge in migrants at Mexico's border with the United States is a night-

mare for the White House. But migration is a headache for many Latin American countries, too: some 6m Venezuelans have left home, as have more than 100,000 Cubans in recent months. That is chiefly a result of their own governments' economic mismanagement, but some Latin Americans blame American sanctions.

American diplomats are quietly countering the prospective boycotts. The English-speaking Caribbean, which has friendly ties to both Cuba and Venezuela, seems likely to reverse a previous decision to stay away. And Mr López Obrador, who received American envoys this week, may also change his mind. On May 16th the Biden administration announced that it would ease some of Mr Trump's restrictions on remittances, travel and flights to Cuba. In March American officials held talks in Caracas with Nicolás Maduro, Venezuela's ruler, in which they offered to soften sanctions if he agreed to a return to democracy. To ease talks between the government and the opposition, this week the administration allowed Chevron, an American oil firm, to renegotiate its oper-

ating licence in Venezuela.

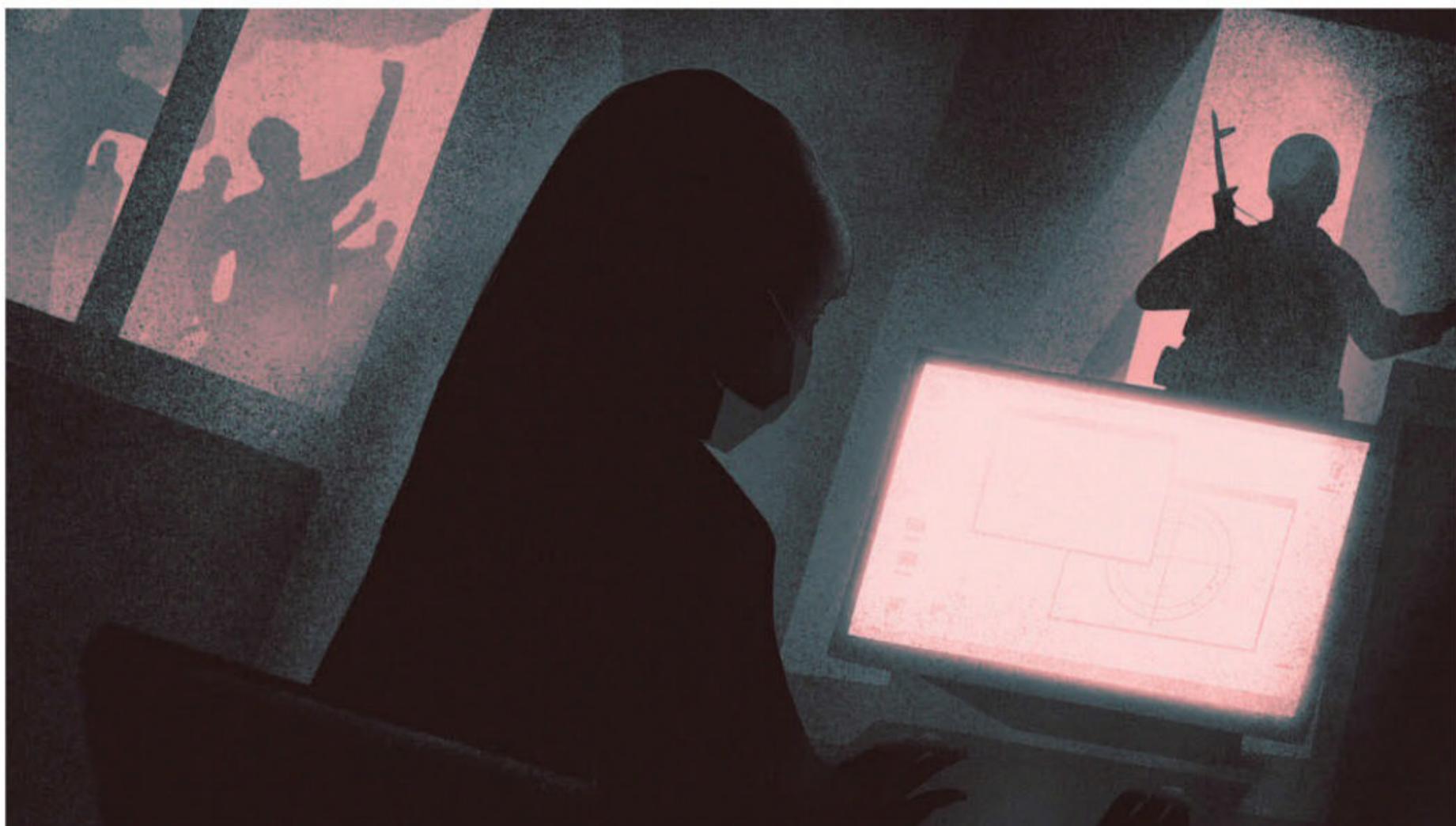
In Los Angeles Mr Biden will say that "the region's democratic self-determination is something we see as fundamental...regardless of countries' ideological preferences," according to an administration official. Yet some leftist governments in the region don't see democracy as a dividing line. "We should focus on economic development and try to reach a new political understanding with the United States," says a Mexican official.

In 2001, on the day of the terrorist attack on the World Trade Centre, foreign ministers from the Americas signed a charter pledging to defend democracy where it is under attack. Yet this kind of evangelising for democracy is a recent development. An older tradition is re-emerging, which invokes non-intervention in domestic affairs.

That is driven, in part, by what some see as the United States' selective support for democracy. Its diminishing influence in Latin America, a function of China's growing presence and its own political dysfunction, does not help. A dozen ambassadorial posts in the region are vacant, with some nominees blocked by Senate Republicans. Moreover Mr Trump's grandstanding against Cuba, Nicaragua and Venezuela failed to weaken, let alone dislodge, their regimes. There are pragmatic reasons to think that talking works better than ostracism.

Staying away from the summit would not just fall into the same trap, and reveal the Latin American left's double standards on democracy. It would also send the message that an economically stagnant region, which scotched the idea of the FTAA years ago, has nothing to discuss with what is still the world's biggest market. That would be a declaration of parochialism and failure.





Myanmar's civil war (1)

These new puritans

SINGAPORE

The righteous fury of the resistance is making life even more miserable for ordinary Burmese civilians

WHEN MOE MOE and hundreds of thousands of public-sector workers just like her went on strike after the Burmese army launched a coup in February 2021, they were promised that the resistance would take care of them. As the movement opposing the putsch became more organised, forming a shadow administration called the National Unity Government (NUG), it raised \$120,000 to support some 360,000 public-sector workers who were shunning their desks. Yet Ms Moe Moe (not her real name), who worked as a teacher at a state school, never saw a kyat.

That did not matter at first. Many ordinary Burmese predicted that the revolutionary movement to oust the army would succeed within a few weeks or months. But as time wore on, economic realities began to sink in. Some strikers found new jobs. Ms Moe Moe, who is 36, began to tire of having to ask her mother for money all the time. Five months after the coup, she started thinking about returning to school.

She did not. "I don't dare to return," she says. She feared she would be attacked on social media for being too weak to endure

the hardships thought necessary to prevail against the army. When a friend of Ms Moe Moe's went back to her job at a state school, because she had exhausted her savings and needed to buy medicine for her ailing father, she received death threats and the address of her school was posted online.

The terror the junta has unleashed in an effort to stamp out the resistance has radicalised Burmese society. The radicalisation is illustrated by the changing tactics of the opposition. At first its members gambled that they could persuade the army to return to the barracks by encouraging civil servants and private-sector bankers to abandon their posts, bringing the economy and the running of the state to a halt.

Instead, the army escalated its violence,

→ Also in this section

36 Wishful thinking in Myanmar

37 Controlling women in Turkmenistan

37 East Asia is turning Japanese

38 Banyan: India's welfare politics

so the resistance shifted its focus. In September Duwa Lashi La, the NUG's acting president, formally declared war on the army, giving his imprimatur to the freshly raised militias which had been battling the armed forces for months. He exhorted all Burmese to join the struggle: "We have to initiate a nationwide uprising in every village, town and city in the entire country."

The shadow government has urged the public to sever all ties with the regime. This instruction applies not just to people who are employed by the state, but also to companies and foreign aid agencies. The NUG has asked students at state schools to stop attending, and ordinary citizens to stop paying tax or utility bills. Even holidays have been politicised. In April the NUG asked citizens to boycott festivities during Thingyan, the Burmese New Year, because it feared that the junta would seize on pictures of people enjoying themselves as a propaganda victory (see next story). "Revolution will become a way of life, that's the rhetoric," says Min Zin of the Institute for Strategy and Policy, a Burmese think-tank.

An inspiring number of Burmese have thrown themselves into this struggle, sacrificing income and risking their lives to express their anger at the army. Those who cannot or will not comply with the new norms of behaviour are named and shamed. When 1 Stop Mart, a retail chain, stayed open during a strike in March 2021, the backlash was so fierce that employees reportedly feared for their lives. More recently, the student union of a public uni-

versity in Mandalay, Myanmar's second city, branded seven students who attended their graduation ceremony as "traitors".

Those who do not abide by the instructions of the resistance may be at risk of reprisals. People's Defence Forces (PDFs), guerrilla outfits that are loyal to the shadow government though not under its command, mostly target government offices and army checkpoints. But they have also hit civilian structures (which violates the NUG's code of conduct). When the junta tried to reopen schools last June, guerrillas planted bombs at scores of them, hoping to kill the soldiers stationed there. Any interaction with the regime is risky, no matter how innocent the reason. "If a PDF sees you talking to a township administrator [a local government official], even if the work is to help communities, they could react in a very negative way," says the local boss of an international agency.

Some expectations held by the resistance and its supporters are unrealistic. Businesses cannot refuse to pay tax. "It's not about political legitimisation, it's about rule of law," says an analyst based in Myanmar. The head of the international agency says that it stopped working with the government after the coup, but does inform it of its activities. Otherwise, he says, it might get thrown out of the country. Still, two big international donors have stopped funding his agency, because sponsoring development projects in Myanmar has become politically unpalatable.

Zeya Thu (not his real name and some details have been changed) works at a microfinance company which lends to poor households. Friends who have left Myanmar since the coup, he says, accuse him of "being a supporter of the military", because his company regularly meets officials at the central bank. "I'm helping poor people here," he says, "but they say helping the poor is helping the military."

The resistance believes that working-class people "will voluntarily embrace total deprivation", says Mr Min Zin. Yet this, too, is an impossible ask. The number of strikers has declined by more than half, because many can no longer afford to stay away from work. (Some others were forced to return by the junta.) The zealousness with which activists, who are often middle-class, attack those who give in may end up sapping enthusiasm for their cause.

Ms Moe Moe remains an ardent supporter of the NUG, yet she is now more frightened of her fellow resisters than of the army. That is extraordinary, given that the army routinely slaughters civilians, razes villages, tortures prisoners and rapes women. "I have managed to hide from the military all this time," she explains. "But it is really hard to evade the spotlight of the people, of the community around me." ■

Myanmar's civil war (2)

Pass the Kool-Aid

CHIANG MAI

The resistance movement is at risk of believing its own propaganda

TO SPEND TIME on Burmese social media or online news sites is to think the end is near for Myanmar's military junta, which seized power in a coup last February. Resistance groups, it would appear, are slaughtering the army's men and occupying the countryside. The regime is seemingly struggling to conduct basic administrative tasks or secure any international recognition. The underground National Unity Government (NUG), which leads the resistance, said last month that anti-junta forces control half the country's territory. Defectors talk of a crisis of morale in the armed forces.

But peer past the virtual fog, and a far bleaker picture emerges. Although it can barely keep the lights on in Yangon, the commercial capital, the junta controls Myanmar's cities and most of its natural resources, including mines containing the world's finest jade. China recently hosted its foreign minister. Armed anti-regime groups are fragmented, with up to a dozen in a single district. A paucity of weapons has left them unable to go beyond guerrilla ambushes and assassinations.

Bajar, the *nom de guerre* of a member of an anti-regime militia in the arid central region of Sagaing, says his group can arm



only 20% of its 2,000 men using public donations. He says groups like his command half of his township's rural hinterland, but this holds only so long as the junta's soldiers stay in their urban bases. "If they advance, we have to retreat and come back when they leave," he says.

These advances have been regular and devastating. In Sagaing alone, junta forces have burnt down more than 7,500 houses, according to Data for Myanmar, a monitoring group. More than 230,000 people in the region have been displaced, reckons the UN. A resident of the area says that, although a resistance group now runs her village, it "can't protect the villagers because it has so few weapons".

Despite this brutal toll, Myanmar's rebels maintain an upbeat message that Burmese media are quick to amplify, with headlines such as "Myanmar coup leader reveals his desperation". Many of these outlets reproduce the claims of resistance groups. Their narrative of imminent victory is embraced on social media.

"We're not getting the full story from the local media, who often aren't reporting the defeats," says a Burmese journalist who goes by Cape Diamond, a pseudonym. Media outlets are unable to send reporters to find out facts on the ground. This is partly because journalists risk arrest, or worse, if they try to work openly. "Instead, they rely on citizen journalists and locals who are also revolutionaries," he says. Even professional journalists find it hard to be objective in the face of the junta's violence and oppression. They "want to use their pen for the revolution", says Mr Diamond.

These outlets are also countering the lies and fantasies of the regime. General Min Aung Hlaing, the country's de facto leader, heralded a "year of peace" during Thingyan, Myanmar's traditional new year festival, last month. He then launched peace talks with several long-established ethnic rebel groups based along the Thai and Chinese borders, none of which is actually fighting the regime at the moment.

Junta-controlled state media depict a country of bustling markets, joyful Buddhist festivals and farmers producing bumper crops, disturbed only by a few isolated "terrorist" attacks. In the second week of May, when the armed forces spent each day torching villages and murdering civilians, *Global New Light of Myanmar*, a state-run daily, ran front pages on "virgin islands" ripe for tourism, the annual migration of birds and the cultivation of elephant yams—"a gift of nature".

The difference is that few Burmese accept the junta's otherworldly fake news, while many are eager to believe that the resistance is close to victory. Yet self-deception is a poor military strategy. "If you want to win," says Mr Diamond, "you've got to keep your eyes open." ■

Turkmenistan

Last chance salon

ALMATY

The new president is clamping down on women's freedoms

A TRIP TO the beauty salon for a manicure followed by a lift home does not usually constitute an act of subversion. But for women in Turkmenistan such everyday activities are now against the law, subject to fines of up to half the minimum monthly wage. Beauticians who tend to them can be jailed for 15 days.

The new rules, imposed last month, are the brainchild of Serdar Berdymukhammedov, Turkmenistan's new president, who took over from his long-serving father, Gurbanguly, after a rigged election in March. Serdar's youth—he is only 40 years old—gave rise to tentative hopes among some in the country that he might prove, if not more liberal, at least less repressive than his father. Yet the younger man is turning out to be just as obsessed with micro-managing the lives of his citizens.

It is not only manicures that are beyond the pale. Everything from false eyelashes to Botox injections is now restricted. No explanation has been offered, nor any new rules actually published. Law-enforcement officials simply cite an unofficial ban on introducing "foreign objects" to the female body, according to Turkmen.news, a website based in the Netherlands. Women have also been barred from travelling in private vehicles with men to whom they are not related. They can still take taxis—but only so long as they sit in the back seat.

Police are enforcing the new rules with relish. They have conducted raids in public places and offices, demanding women remove their face-masks so their lips can be inspected for signs of enhancement. Public-sector employees have had to vow not to dye their hair, use cosmetic procedures or wear tight clothes. On May 14th Radio Liberty, an American-funded media outlet, reported that authorities in the city of Mary were detaining couples, including married ones, for such crimes as holding hands.

This is not the Berdymukhammedovs' first assault on women's rights. In 2018 Gurbanguly initiated an unofficial campaign against female drivers in which their vehicles were impounded and their licences confiscated on such flimsy grounds as failing to keep all the required gear in the first-aid kits drivers are supposed to carry.

Though Turkmenistan is 89% Muslim, most of its people are not very observant and the state is officially secular. The impositions on women derive instead from Turkmen tribal customs called *adat*, says

Akja Kepderi, a Turkmen researcher who goes by a pseudonym to protect her family. *Adat* dictates that women must stay at home, "serving as a big womb for giving birth to lots of children", says Ms Kepderi.

Rules published last month restrict abortion to the first five weeks of pregnancy, in effect a total ban. The state, which lavishes rewards on women who have eight or more children, presents females as a "reproductive vessel", says Aynabat Yalyymova of the Progres Foundation, which promotes health literacy. The fertility rate, at 2.7 per woman, has been falling for several decades.

Public protests are rare in Turkmenistan. But when they do break out, they are generally led by women, says Ms Kepderi. The most frequent cause is a shortage of food. The older Berdymukhammedov's prohibition on driving was reportedly eased in 2020 after angry women disrupted the work of driving-licence offices, demanding their applications be accepted. Serdar's initial moves in office suggest he is likely to be even less female-friendly than his father. Yet in imposing harsh restrictions on half the population, he may be storing up trouble for the future. ■

Demography

NIMBYs v babies

SINGAPORE

Asia's advanced economies now have lower birth rates than Japan

THE LIST of things for which Japan enjoys a global reputation includes delicious food, cutting-edge technology, an oversupply of karaoke bars and an undersupply of babies. In 1990 it published a record-low fertility rate for the previous year—the so-called "1.57 shock". For years it has been seen as a harbinger of how rich societies will age and shrink.

Much of Asia has now caught up with or overtaken it. Japan's fertility rate of 1.3 in 2020, the latest year for which comparable figures are available, puts it on a par with mainland China, according to the Population Research Bureau, an American outfit. China's birth rate is likely already to have fallen behind Japan's: there were 10.6m Chinese births last year, down from 12m in 2020, a decline of 11%. The number of births fell only 3% in Japan.

Japanese fertility is still ultra-low compared with almost any society in human history. Yet it is now higher than that of any well-off East Asian or South-East Asian economy. The numbers in Hong Kong, Macau, Singapore, South Korea and Taiwan ranged between 0.8 and 1.1 in 2020 (see

chart). Nor is this a temporary blip caused by the pandemic: Japan's figure was higher than all those countries in 2019, too.

Rich, baby-averse Asian countries in the region have three things in common. First, their people rarely have children outside marriage. Only around 2% of births in Japan and South Korea are to unmarried mothers, the lowest levels in the OECD, a club of rich countries. In wealthy Western countries that figure is typically between 30% and 60%. In China, the few who become pregnant out of wedlock are often denied benefits. The region's decline in births has closely tracked a decline in marriages. The age at which people commit to a lifetime of entanglement has also been rising, further delaying child-bearing.

A second shared factor is expensive schooling. Pricey private tutoring and other wallet-emptying forms of "shadow education", as such extras are known, are common in East Asia. The most frequent reason cited by Japanese couples for having fewer children is the cost of raising and educating them. Lucy Crehan, an education researcher, says that these problems might be even worse in other parts of Asia. Japanese pupils face their first high-stakes exams only at the age of 15. In contrast, children in Shanghai and Singapore must take such tests as early as primary school, piling on the parental pressure to perform and adding to the family's tuition bills.

Yet it is the third factor that might explain why Japan is out-spropping its rich Asian peers. A flurry of research in recent years suggests that high house prices cause young couples to delay having children. One paper found that an increase of \$10,000 in house prices in America led to a 5% increase in fertility rates among homeowners, but a 2.4% decrease among non-owners. Across much of East Asia and especially in urban China, buying a home is an uphill struggle for young people. South Korea, whose fertility rate of 0.8 is the lowest in the region, correspondingly has a house-price-to-income ratio (the number of years of income needed to buy a home) ►►

Baby it's old outside

Fertility rate, births per woman



Source: Population Reference Bureau

► of 16.6, the highest in the OECD after New Zealand. Japan's ratio of 7.5 is among the lowest.

The problem of high house prices keeping young families from settling down is not unique to Asia. But Japan's housing market is different. Unlike most rich countries, it has planning rules that make it relatively easy to build more homes. Housing stock in Tokyo has consistently grown faster than the city's population (which is also still rising). Also, Japanese homes are not built to last, so they are demolished and replaced regularly. Wooden Japanese homes

are deemed by the tax authorities to depreciate in value to zero over 22 years. That means that the secondary market in residential property is more limited, and gives landowners an extra incentive to rip down old buildings and build taller ones.

Economists debate how much of Japan's relatively affordable housing is down to those policies on supply and construction, and how much is down to the country's slow economic growth. But either way, the ease of building in popular areas is likely to keep prices in check.

Many Japanese are glad that their coun-

try seems likely to avoid total demographic collapse. But Japan still has by far the worst old-age dependency ratio, or the number of people over 65 (a lot) relative to the number of working-age people (not enough), among rich Asian countries. That has effects on everything from the affordability of health care for the elderly to the size of the government budget dedicated to pensions. The drop in fertility rates elsewhere presages similar problems to come for the countries following in Japan's footsteps. They may find there are lessons to be learned from Japan. ■

Banyan Attributary state

India's politicians have figured out how to turn welfare into votes

IT IS THE middle of 2021. An Indian woman on her way to London approaches the customer-service desk at Frankfurt airport and presents her vaccination certificate. The airline agent looks at the document, at the woman, at the document again, and frowns. Something is fishy. An accusation of fraud is hurled at the passenger: the certificate is an obvious fake, the photo on it is clearly of someone else—a bearded man! Ah, the passenger explains: that is Narendra Modi, our prime minister. He is on every one of the billion-odd vaccine certificates issued by the Indian government. Hilarity ensues.

The story, probably apocryphal, went viral on Indian social media last year because it gets at a truth known to all Indians: that the prime minister is inescapable. He peers out from newspaper advertisements extolling his achievements. He adorns the homepages of government websites. He beams down from billboards across the country.

But for the vast majority of Indians who do not read the papers or access government websites, it is in the provision of welfare that the prime minister's stamp is most clearly visible. The names of most new schemes bear the prefix *pradhan mantri*, or prime minister. Bags of government-sponsored grain delivered to poor villagers during the pandemic came emblazoned with his smiling face. A housing programme named after Indira Gandhi, a former prime minister, was expanded and relaunched under Mr Modi as the "Prime Minister's Housing Scheme".

For those who liked and shared the Frankfurt airport story, the prime minister's tendency to put his name on everything is a sign of megalomania, or a sinister attempt to build a personality

cult. The reality is more sophisticated: Mr Modi's Bharatiya Janata Party (BJP) has worked out how to claim credit for things people like.

In 2014, as the BJP took power after years in opposition, Lokniti-CSDS, a polling group, asked Indians whom they credited for welfare programmes. Just over a fifth pointed to the federal government in Delhi for a housing scheme, and a little more than a quarter did so for a rural jobs guarantee. By the time of the 2019 election, after Mr Modi's first term, more than half of all respondents attributed both to the central government. For newer schemes, such as to provide cooking gas or bank accounts, 70% correctly credited Delhi.

Opposition parties running state governments are learning from Mr Modi that they should associate themselves with their handouts. In newspaper ads Uddhav Thackeray, the chief minister of Maharashtra, highlights cash payments to families of covid-19 victims. The head of Rajasthan points to his state's "model of health care". It is "clearly copycatting what they did on the national level", says Nee-

Ilanjan Sircar of the Centre for Policy Research, a think-tank in Delhi.

For poor Indians, the benefits are clear. Not only does the central government have a bigger incentive to improve their lives; states also feel the need to compete with it in munificence. It is better, too, for Indian democracy for politicians to pitch for votes based on the services they provide rather than on the grievances they stoke. Despite the BJP's constant drumbeat of Hindu majoritarianism, it is the party's record of providing basic goods that appeals to many more voters, including Muslims.

But there are pitfalls, too, notes Milan Vaishnav of the Carnegie Endowment for International Peace, an American think-tank. It is easier to run schemes that yield quick, concrete results, such as building toilets or opening bank accounts. Investments in intangible goods, such as education and health, take longer to pay off. And it is hard to withdraw or curb handouts, making them a never-ending, ever-expanding fiscal liability.

A third danger is that funnelling all credit to the top robs local MPs of their connection with voters and centralises power. Party defections are thus common. Indeed, even chief ministers of BJP-run states have to be content with being the supporting act in their own regions: it is Mr Modi's image that looms large. That may not be a huge concern for either voters or senior leaders today. But it means that little thought is given to developing future talent.

Lacking a charismatic leader, the Congress party for years named its welfare schemes after dead luminaries, reaping little reward. Today, the BJP has no star besides Mr Modi. When he is gone, his heir may have to keep relying on that ubiquitous bearded visage.





Human rights in Xinjiang

Nothing to see here

The UN's human-rights chief is about to visit Xinjiang. She will be meticulously shielded from reality

ON THE SURFACE, much has changed in the western region of Xinjiang since Michelle Bachelet, the UN High Commissioner for Human Rights, first proposed a visit there in 2018. Many of the camps where some 1m Uyghurs and other minorities were “re-educated” in 2017-2019 have been dismantled. This does not mean the situation has improved. Some camps have been transformed into forced labour sites, with the barbed wire taken down and new signs declaring that they are factories. Satellite imagery shows that new detention camps have sprung up in remote mountains and deserts, out of sight and hard to reach. Meanwhile, Xinjiang’s formal prison population has grown dramatically.

In cities, the soldiers and security checks that conveyed a sense of crisis in 2018 are largely gone. Visiting foreign reporters are still followed and harassed, especially if they try to see demolished religious sites or former camps. But in places like Kashgar the minders keep a light touch. They want foreigners to stroll through the restored old city, visit the night market and watch videos of young

Uyghurs singing upbeat Mandarin songs.

That controlled version of Xinjiang is what Ms Bachelet is likely to see when she finally visits China this month, as her office and the Chinese foreign ministry say she will, the first human-rights chief to do so since 2005. Chinese officials say that she is welcome, but only on a “friendly” visit aimed at “exchange and co-operation”, not an investigation. That is not the kind of fact-finding mission many had hoped for. Critics recall a visit by World Health Organisation experts to Wuhan in early 2020. It was meant to investigate the origins of the new virus, but China shifted the focus to its pandemic response, and the WHO went along with it. Some fear Ms Bachelet may be similarly browbeaten.

→ Also in this section

40 Cardinal Zen’s cardinal sin

41 Beijing lockdown?

41 Challenging ultra-nationalism

42 Chaguan: A very political pandemic

Last June more than 40 countries in the UN Human Rights Council called for “unfettered access” to Xinjiang. Activists say that should include free access to detention centres and relevant government documents, freedom of movement, and unsupervised interviews. Since China will not grant any of these things, more than 200 activist groups are now calling for the trip to be postponed. That is unlikely. An advance team has already quarantined for several weeks in Guangzhou.

In Beijing, Western diplomats expect that Ms Bachelet will be given the “Olympic bubble” treatment, with covid used as an excuse to isolate her from any uncontrolled engagement. Radio Free Asia, an American government-funded agency, has reported that officials in Xinjiang are warning Uyghurs not to speak with foreigners. In Kashgar, police are reportedly holding weekly political study sessions to prepare for the UN visit. If asked about “re-education”, one police officer told RFA, they should only say positive things about how it leads to a “good and normal life”.

Western ambassadors have largely resisted invitations to visit Xinjiang, because they do not want to be used for propaganda. Some have said they would only visit if they could meet with Ilham Tohti, perhaps the most prominent imprisoned Uyghur academic. China rejected such requests, and those to meet Chen Quanguo, Xinjiang’s former party secretary and chief architect of the camps. But many diplomats from autocratic or poor countries like Su-

► dan and Zimbabwe have visited and been featured in state media praising China's policies. Such countries also tend to vote with China at the UN. Having persuaded most developing countries to support it or abstain on issues such as Xinjiang and Hong Kong, China argues that only a few jealous, fading Western powers object to its human-rights record.

The negotiations in advance of Ms Bachelet's visit have been fraught. For more than three years, the UN Human Rights Office has been working on a report about atrocities in Xinjiang. Scholars consulted say it includes many interviews with camp survivors. Researchers have collected evidence to support a "very strong condemnation" of the Communist Party's leadership, says Rune Steenberg, an anthropologist who has helped the team translate. When and how that evidence is released, however, is not up to them.

Last December Ms Bachelet's office said the report would be released "in a matter of a few weeks". Then news reports suggested that Chinese leaders had pressed her office to withhold it until after the Winter Olympics in February. Meanwhile, China appointed a Uyghur athlete to carry the Olympic torch at its opening ceremony. Bargaining over the report gave China a "sports-washing opportunity", says Rayhan Asat, a human-rights lawyer who is fighting for her brother's release.

Listening to the people

Governments and UN agencies say they are waiting for the report before taking new actions, says Zumretay Arkin of the World Uyghur Congress. Ms Bachelet's office only met her group this week, she says, after it led a protest in Geneva against the visit. The high commissioner has yet to meet any ordinary Uyghurs or their leaders. It should be Uyghurs, not the Chinese government, "telling her where our families are held", says Ms Asat.

A spokesperson for Ms Bachelet's office said this week that the report would only be released after the trip. The Chinese authorities will see it first and have a chance to share their views. The UN cares less about transparency than about maintaining access to Chinese leaders, and that makes it harder to hold China accountable, frets Andrew Bremberg, America's former ambassador to the UN in Geneva.

If Ms Bachelet's team disclosed the terms they agreed to for the visit, governments could press China to uphold them, he says. But without transparency, they are handicapped. "Now you own it. You have to defend the value of the trip and praise China for [its] openness, knowing full well it's not true," says Mr Bremberg. "This is how these important institutions lose their credibility, by not being truthful or transparent." ■

Religious freedom

Cardinal Zen's cardinal sin

Hong Kong arrests a Catholic priest for siding with democrats

CARDINAL JOSEPH ZEN is no friend of the Chinese Communist Party. Since the return of Hong Kong to Chinese rule in 1997 he has been a thorn in the party's side, criticising its human-rights record and its squeezing of the former British colony's autonomy. On May 11th he was arrested under the new national security law. His alleged crime was raising funds for activists during the pro-democracy protests of 2019. He was released on bail shortly after.

Though it was not unexpected, Cardinal Zen's detention shocked the city, whose autonomy, even for the first 20 years of Chinese rule, meant people enjoyed much more religious freedom than is allowed on the mainland. Catholics and Protestants have played a big role in pro-democracy movements, especially in 2019. But since the security law was passed in 2020, many have retreated from political activity.

In January International Christian Concern, an NGO, warned that mainland bishops had met their counterparts in Hong Kong to urge them to preach "religion with Chinese characteristics". The party has built relationships with senior Catholics in Hong Kong, most of whom now sing from the party's hymn sheet, promoting dialogue and compliance.

John Lee, Hong Kong's chief executive-elect, himself a Catholic, has claimed he will protect religious freedom. But the arrest of Cardinal Zen, coming so soon after Mr Lee was chosen, sends a different message. In 2020 China installed Xia Baolong as head of Hong Kong and Macau affairs.



Turbulent priest

Mr Xia was previously responsible for a campaign against house churches in Zhejiang province.

Christians in Hong Kong are still free to worship publicly. But sermons on social justice are now rare and many priests have purged their social-media accounts. Some tell of strangers photographing those attending their services. Dissent has been "completely silenced", says one cleric. "The arrest of Cardinal Zen is a concrete sign that the process of cracking down on religious freedom has begun."

The moves come amid a much bigger shift in relations between the Vatican and the Communist Party. After decades of animosity, Pope Francis began a process to improve the relationship, culminating in an agreement with the party in 2018. It was a compromise that acknowledged the pope as head of the church and gave the Vatican the final choice of bishops but allowed the party to select the shortlist in China. The agreement was renewed in 2020, and is up for renewal again in October.

Eastern Law of Princeton Theological Seminary says the deal has helped the party in its aim to "sinicise" Catholicism, by discouraging confrontation and persuading Catholics that they can support both party and pope. It has also emboldened some underground Catholics on the mainland to worship more publicly. Still, it has been widely criticised. It gives an avowedly atheist political party an explicit say in the internal workings of a Christian church. Many feel it has made it harder for the Vatican to speak truth to Chinese power. In 2019 Cardinal Zen called the Holy See's approach to China "blatantly evil".

The Vatican theoretically gained more influence over China's 10m-12m Catholics—previously it could not engage with those who worshipped in government-sanctioned churches and had little access to those loyal to the pope in secret. But only six Vatican-approved bishops have been appointed since 2018. Dozens of posts remain vacant, suggesting that the Chinese government is not sticking to its side of the deal. Persecution of Catholics has continued. At least two bishops were detained in 2021 for refusing to toe the party line. Some fear the pope has been outfoxed. "I don't see how the Vatican has benefited from the relationship," says Fenggang Yang of Purdue University in Indiana.

The Vatican said it was "concerned" about Cardinal Zen's arrest. All Catholics realise that Hong Kong is connected to the bigger relationship, says one priest. The Vatican's weak response to Cardinal Zen's arrest was expected, he says, "but still I feel disappointed." Having spent decades as a separate territory, where people were free to believe what they wanted, Hong Kong must now get used to being just another Chinese city. ■

Pandemic measures

All eyes on Beijing

The capital tries to avoid a lockdown

ON MAY 17TH the authorities in Shanghai announced that a milestone had been reached in the city's draconian lockdown that has lasted nearly two months: no new cases for three days outside quarantine areas. But officials say people across China must not let their guard down. Despite growing signs of discontent and severe damage to the economy (see Finance section), the country's health chief, Ma Xiaowei, said on May 16th: "We're a long way off being able to relax."

On social media, complaints swirl about the heavy-handedness of Shanghai's lockdown, which involves mass testing and containing all new outbreaks within quarantine sites. Though painful, it is crudely effective. During the Omicron outbreak, Shanghai has recorded fewer than 600 deaths, roughly one per thousand infections. A recent paper in *Nature Medicine*, a journal, concluded that, if restrictions had not been applied, the Omicron outbreak could have led to 1.6m deaths nationwide within six months. As it and others note, this is largely because China has failed to vaccinate enough elderly people.

All eyes are now on the capital. Cases there are still far lower than in Shanghai, which itself is recording just hundreds a day. But other cities have adopted more sweeping controls than Beijing with even fewer cases. It prefers to focus on buildings where cases have been found and districts with higher numbers of infections. Such areas face the closure of schools and shopping malls, work-from-home orders, the suspension of some public transport and frequent mass testing.

Officials are grappling with tough political decisions in the battle with covid (see Chaguan). This is particularly true in Beijing. It wants to avoid any disruption to the crucial Communist Party congress later this year at which China's president, Xi Jinping, is expected to secure another five-year term as party leader. A large covid outbreak would cast a dark shadow, but so would public anger over a hard lockdown.

Shanghai officials say they will start loosening restrictions from June 1st and that life in the city could be back to normal by the end of June. But other moves suggest the "zero-covid" policy could remain in place well beyond the congress. On May 14th China said it would no longer host the 2023 Asian Cup football competition, due to be held in June and July of next year.

Online censorship

Found in translation

A new Twitter account highlights party support for ultra-nationalism

WAR HAS made the Kremlin try harder to envelop Russians in a parallel information universe, in which Ukraine is run by Nazis and Russian soldiers are liberators (see International section). China's government is doing something similar. Whereas its propaganda for foreign ears stresses China's desire for global harmony, at home it not only allows but even encourages the expression of caustically nationalist views online, especially on topics such as Hong Kong, Taiwan, covid-19 and Ukraine.

A group of anonymous activists is now trying to expose this parallel universe to the wider world. In March they launched a Twitter account that translates for foreign audiences extremist commentary that China's censors allow on social-media platforms. The Great Translation Movement (TGTM) provides the non-Chinese-speaking world with a rare glimpse of how the Communist Party distorts online discourse among its citizens at home and abroad, where many get their news from Chinese social media (Twitter itself is blocked in China).

It typically posts screenshots and English translations of Chinese respons-

es to state media reports regarding, for instance, Russia's bombing of a Ukrainian school on May 7th that killed 60 people. Most dismissed it as a set-up. "Brother Putin will never do such a thing," read one. Another recent post concerned NATO support for Ukraine. Several comments urged nuclear strikes on America or its allies. China's government professes neutrality over Ukraine, but clearly favours the invaders.

In an interview via Twitter, account administrators said the identity of many contributors is unknown, but many are Chinese-born students or professionals. It already has 155,000 followers and hundreds of contributors translating posts into many languages.

It has also touched a nerve in Beijing. Chinese state media and academics have condemned TGTM with unusual vigour, branding it part of a Western-led information-warfare campaign. Wang Qiang of the National Defence University warned that it aimed to stir a popular uprising in China. He accuses it of cherry-picking comments and ignoring extremist views online in the West.

TGTM denies any link to foreign governments. It says it chooses comments that are widely liked or written by opinion leaders with large followings. What makes China different is that Western governments permit multiple views. The party promotes a single narrative on many issues and encourages extremist comments which amplify that, while censoring alternative opinions. What is allowed to remain is what influences millions inside the Great Firewall, says one administrator. "These views get perpetuated within the echo chamber."

TGTM has its Western critics, who question its bleak portrayal of Chinese society. Its impact, though, is clear. "They disrupted the Chinese government's communication machine," says Xiao Qiang of the University of California, Berkeley. "That's why it's so upset."



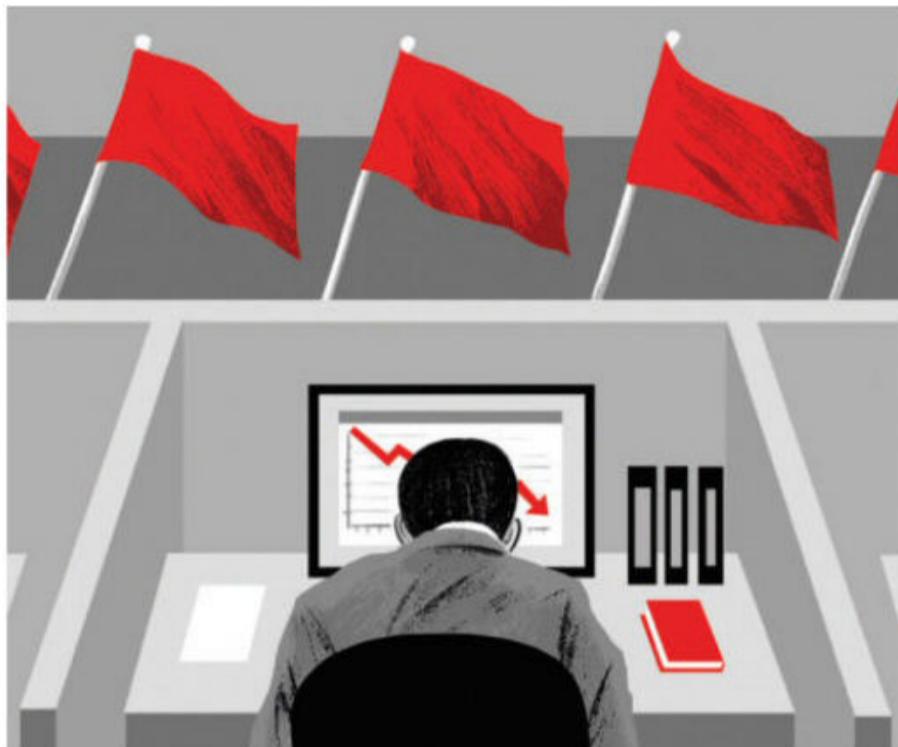
The party's determination to crush covid has elicited criticism abroad. "When we talk about the zero-covid strategy, we don't think that it is sustainable," said Tedros Adhanom Ghebreyesus, the World Health Organisation's boss, on May 10th, prompting a sharp rebuke from China.

On May 15th a rare offline show of discontent will have rung alarm bells at party headquarters: a group of students at Peking

University gathered to complain about covid-related restrictions. Authorities have been sensitive to any hint of student activism on that campus since the 1980s, when it was a hotbed of anti-government unrest. Online, censors have been trying to stifle grumbles about the government's measures, for example by deleting videos of the angry students and posts quoting Dr Tedros. It is proving an uphill battle. ■

Chaguan | It's all political

Admirers call China a pragmatic technocracy. Covid shows that politics comes first



IT IS VERY possible that Wu Lien-teh, the father of China's public health system, saved the world from a pandemic. Sent by the imperial government in 1910 to investigate a disease raging through China's frozen north-east, Dr Wu identified it as the plague. After conducting China's first autopsies, he overcame the disbelief of colleagues to insist that plague was spreading by droplets in human breath, as well as by fleas from marmots and other rodents hunted for fur. He ordered the wearing of face-masks, the isolation of the sick and a ban on outbound travel, enforced by troops. Patriots revere Dr Wu—born in Malaya to Chinese parents and educated at Cambridge University—for using Western learning to prove foreigners wrong. Scorning Dr Wu's advice to wear a mask, Gérard Mesny, a French medic expecting to take control of the epidemic zone, caught the plague within days of arrival and died.

Adaptable, evidence-driven and willing to trample the odd freedom for the greater good, Dr Wu is a symbol of much that China's boosters admire about the country's system of government. For four decades the world has gasped at China's economic rise. Technocrats get much of the credit. The praise began soon after Communist Party bosses began to rebuild state institutions after the death of Mao Zedong in 1976, drawing a line under years of violent purges and ideological campaigns. Senior officials were hailed for their professionalism and openness to foreign know-how. Political scientists wrote fat books about systems of performance review, discipline inspection and merit-based promotions that are supposed to make Chinese officials responsive and accountable, even in the absence of opposition parties or a free press. Recently Chinese leaders have seized on the election of bungling populists in the West as proof of the democratic world's dysfunction. Notably, since the covid-19 pandemic began, they brag of shielding the vast majority of China's people from catching the virus, unlike death-stalked America.

That record leaves outsiders baffled by China's current approach to the pandemic, which is causing unsustainable damage to the economy while inflicting pain on tens of millions of locked-down citizens. For foreigners who thought they understood how the party derives legitimacy from competence and economic success, these are confusing times. Suddenly, officials do not look

adaptable or open to foreign know-how. Instead they are sticking with brute-force strategies that worked to crush outbreaks when the pandemic began in 2020, but which are a dead-end when fighting the vastly more contagious Omicron variant. True, the ability of rich cities like Beijing to isolate single cases, track their contacts and isolate all these unfortunates in quarantine clinics is remarkable. But they are at root a high-tech perfecting of techniques that Dr Wu used in 1910. Since then, science has moved on.

China's highest decision-making body, the Politburo's standing committee, defensively declared on May 5th that relaxing controls would lead to "massive numbers of infections, critical cases and deaths". This is correct, but ignores the extent to which it is the party's fault. Abandoning pandemic controls risks disaster because China has a weak hospital system and old people with lots of chronic ailments. But above all, it is because China has not fully vaccinated 100m citizens over 60. This grave blunder blocks the easing of controls. In semi-autonomous Hong Kong, which follows some but not all of the mainland's covid policies, an Omicron wave led to horribly high mortality rates. In all, 95% of the dead were people over 60 who had not been fully vaccinated.

Yet rather than set China's propaganda juggernaut onto an all-out vaccination drive, leaders have wasted months. Resources have been poured into mass testing sites and what the head of the National Health Commission ominously calls "permanent" quarantine hospitals. China has not approved any mRNA vaccines, the most effective kind, essentially because the only two versions available are Western-made. At first, this hesitancy reflected national pride and caution about a new technology's possible side effects. But national security is now a concern, scientific sources report, with leaders anxious about dependency on a foreign drug.

Self-interest undermines China's "political meritocracy"

As a rule, when outsiders see Chinese officials apparently bent on self-harm, a likely explanation is that they are responding to incentives and priorities that only insiders fully appreciate. That is true of city- or district-level bureaucrats extending lockdowns or imposing more onerous controls than national-level guidance would seem to demand, even as the economy stalls. Such officials are in fact juggling contradictory orders from on high. Professional survival involves weighing which can hurt them personally. If everywhere has low economic growth, officials need not fear bad GDP numbers. As for vaccinating reluctant old people, that may be good for the country overall. But if an official upsets local families by forcing a shot on grandparents (and worse, if the old then die of an unrelated illness) then career-harming protests may follow. The most menacing order of all is the one threatening to sack officials with an outbreak on their watch. So they build more fences.

The biggest cause of China's stubbornness on covid is President Xi Jinping, who has made pandemic controls into a political campaign and loyalty test. A new essay on containing the pandemic in *Qiushi*, a leading party journal, mentions Mr Xi 13 times, and the need to vaccinate old people once. At its meeting on May 5th the Politburo's standing committee pledged to fight "any attempt to distort, question or dismiss China's anti-covid policies". Like Dr Wu, Mr Xi has proved sceptical foreigners wrong about pandemic controls. China's lockdowns broke the country's first wave of covid in 2020, despite Western doubts. Mr Xi's wisdom certainly must not be questioned now, since later this year, he is expected to seek and secure a third term as party chief. China's covid-policy paralysis is driven not by science, but by raw politics. ■



The African Development Bank

Too important to fail

DAKAR

Several incidents raise troubling questions for creditors and donors about Africa's most crucial bank

IN THE MIDDLE of July 2020, Roland Michelitsch slipped out of his home in Ivory Coast, taking almost nothing with him. He quietly got into an armoured Land Rover and drove to a boatyard where he abandoned the vehicle. And then he disappeared. Mr Michelitsch was not a spy or criminal mastermind. He was a banker of the least glamorous sort—the independent evaluator general of the African Development Bank (AfDB). Yet he had fled the country fearing for his life.

The AfDB is the most important African development institution in a region with about 70% of the world's extremely poor people. The World Bank is far larger, but the AfDB, with its headquarters in Abidjan, the commercial capital of Ivory Coast, focuses exclusively on the continent. It has a strong record of spending on things that African governments prioritise. It has assets of about \$60bn and before covid-19 committed about \$10bn a year in lending, much of it in line with the ambitious goals set by Akinwumi Adesina, its president

since 2015. Because of its focus, rich countries have given billions to its concessional fund for the poorest countries. They also, in effect, lend their top-notch credit ratings to the bank, which allows it to borrow cheaply and lend at low rates. At its annual meetings next week, the bank's governors and board are expected to discuss plans to ask donors for as much as \$24bn.

This makes it all the more important that the AfDB is run well. Yet a number of incidents over the past two years raise troubling questions about how it is managed and whether its internal watchdogs have sufficient oversight of the AfDB's executives. Importantly, they also throw into

question whether the bank retains the full confidence of the creditors, donors and shareholders who fund it and whose support it needs to prevent African economies from being dragged down by mounting debt, surging international food and energy prices and the lingering effects of the pandemic. The bank says it is well managed, is able to raise funds and is commended by its African members.

Mr Michelitsch's departure is one of these worrisome incidents. The evaluator general's office assesses whether the billions the bank commits are helping poor people. It is bound to report if bank projects are failing. To safeguard its independence, the evaluator reports directly to the board of directors and is supposed to be free from management influence. Yet these safeguards appear to have failed in the case of Mr Michelitsch, who had been appointed just ten months earlier after a long career at the World Bank Group.

The events leading to his flight began with a seemingly trivial disagreement over the bank's policy that staff had to remain in Abidjan, even while working from home during the pandemic. Mr Michelitsch, who strongly disagreed with this, told his team that he would be flexible in cases of hardship or maternity leave. Days later Mr Adesina wrote to the board accusing Mr Michelitsch of "gross misconduct and aggravated disregard, and disrespect for the authority and person of the President" and said that ►

→ Also in this section

46 Media freedom in Ethiopia

46 Lebanon's shock election result

47 The swirl of sandstorms

47 Iran's false messiahs

he would “not accept” Mr Michelitsch continuing in his role.

The bank’s evaluation policies are clear: only the board has the power to fire the evaluator. Yet soon after the letter was written, Mr Michelitsch reported being the target of harassment by senior executives. He also complained to others that he believed his home was being watched and that he had received warnings from several people. This prompted him to flee, according to documents seen by *The Economist*. Two months after he left, the bank fired him without the board’s approval, arguing that he had abandoned his post and that his role was therefore deemed terminated under general staff rules. A delegation of board members went to Mr Adesina to complain. But it gave up the fight after Mr Adesina, who was re-elected in August 2020 to a second term, refused to back down. The bank says the evaluator’s employment was terminated “in accordance with the rules of the Bank, and in consultation with the Board of Directors”.

Outsiders saw this incident as having a chilling effect on accountability. A letter signed by nine independent evaluators of multilateral institutions, including those of the World Bank and IMF, said the firing “cuts directly to a fundamental and long-standing principle of independent evaluation”. Mr Michelitsch, who declined to comment for this story, has since taken his case to a tribunal established by the bank, but which operates independently. The AfDB failed to have it dismissed on a procedural technicality and it is still under way.

Other employees tasked with scrutinising management have also quit after facing pressure, seemingly for doing their jobs. The bank’s integrity and anti-corruption office prevents corruption and investigates allegations of it. Yet in one incident a senior investigator in this office was probing allegations of graft against senior officials. As the investigator was preparing to finalise the case before leaving to take another job, officials in the human-resources department began intimidating the investigator through aggressive questioning. The investigator quit early to avoid an ugly dispute. It is understood that the investigations were never finished. The AfDB says details of investigations are known only by the department responsible, which reports to the board in order to protect investigators and the department from “any form of interference of the type alleged”.

A third case involved the bank’s auditor general (AG), who is meant to check that the bank is not wasting money or exposed to excessive risks. He also keeps an eye out for corruption. The AG is meant to have total independence and the board must be consulted over his appointment and removal. Yet these safeguards also appear to have failed. In mid-2020 Chukwuma



Okonkwo, who had been AG since 2015, surprised the board by saying he would be leaving within a few weeks at the expiry of his five-year term. When asked about this by the board, Mr Adesina said Mr Okonkwo was nearing retirement age and was simply retiring, according to people familiar with the discussions. Yet Mr Okonkwo later told directors that he had been informed by the head of human resources that the president did not intend to renew his contract. In this case the board dug in its heels and kept him on for another 11 months. When he reached his actual retirement age Mr Adesina put in place an acting AG for almost a year. The bank says that it could not renew Mr Okonkwo’s five-year contract because that would have exceeded its mandatory retirement age. It says it offered to allow him to leave with a package and then respected his wish to keep working. “The allegation that the President removed the Auditor General is false,” it said.

Whistle in the wind

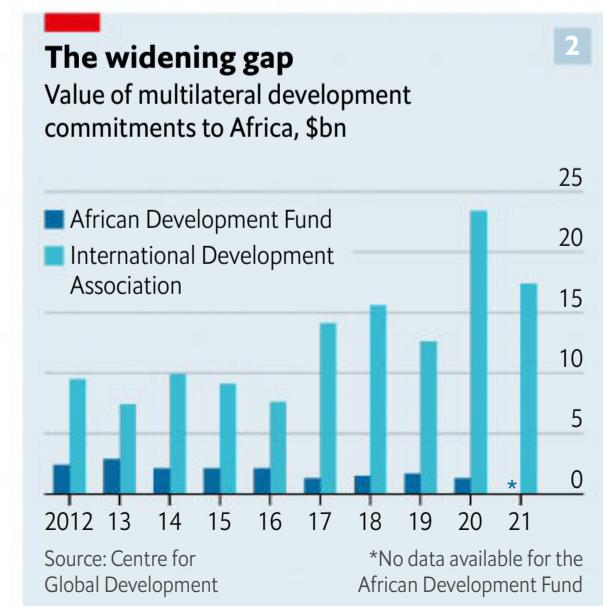
The tussle over the AG came at a tumultuous time: Mr Adesina, a former agriculture minister in Nigeria, was already battling allegations of corruption and embroiled in a spat with America, the bank’s largest non-African shareholder. Just months earlier whistleblowers had accused Mr Adesina of overpaying friends and allies in breach of bank rules and of using the bank’s resources for self-promotion and private gain. He denied any wrongdoing and said the allegations were an attempt to smear him. Mr Adesina was cleared by an internal preliminary examination by the board’s ethics committee, which ruled that the accusations were unsubstantiated. But these findings were challenged by Steven Mnuchin, then America’s treasury secretary, who demanded an independent inquiry. An external panel whose members included Mary Robinson, a former Irish president, was subsequently asked to review the internal probe. The panel approved its findings, though with an unusu-

al caveat that left some board members astonished: it noted that an “absence of evidence is not evidence of absence” and that it “does not necessarily follow from the dismissal of a complaint that there are not matters worthy of investigation”. The panel explicitly said that this comment did not apply to the complaints against Mr Adesina. The AfDB says that Mr Adesina’s re-election was a “clear demonstration of the exceptional level of confidence” in him.

The AG’s replacement highlights two wider issues. The first appears to be a general disregard for the role of the AG. For instance, some 400 recommendations from the bank’s internal auditors were still outstanding last year. The bank says that it “consistently responds to and addresses” recommendations by the AG.

The second is that many of the bank’s key oversight roles have typically been filled by people in acting positions. At several points over the past two years, about a quarter of the bank’s senior management staff were in acting roles or temporarily in charge. Among them were the evaluator general, the head of anti-corruption, the chief risk officer (who safeguards the bank’s creditworthiness), the general counsel (who gives legal advice to the board and management), and the director of human resources (a powerful figure in hiring and firing whose role has not been permanently filled for more than two years). This creates a risk of undermining the independence of the bank’s watchdogs because those leading them may be wary of challenging senior executives who determine their career prospects. It also risks undermining the independence of the AG, who is barred from working for the bank after his or her term ends. Yet Mouhamed Ba, who had been appointed as acting AG last June, returned to his position this month as a manager within the audit team. The bank says that it appoints “capable members of staff, who are fully empowered” when positions become vacant.

Some appointments have raised eyebrows. One member of staff was appointed



► to a senior oversight role requiring integrity and deep trust from staff. Yet a few years earlier the same member of staff signed a statement to the bank's ombudsman admitting to having made a false allegation of sexual harassment. The allegation was withdrawn and the member of staff blamed stress. The bank says that the individual in question did not file a complaint for sexual harassment and it "does not have any record of any such complaint".

Turnover in senior jobs is also high. Mr Adesina is onto his fourth senior vice-president and fourth general counsel since 2015. Not all staff go quietly. Judgments by the bank's independent tribunal have more than tripled since Mr Adesina took office. Among the cases were employment disputes filed against the bank by three vice-presidents. The bank says the increased activity of the tribunal is a clear sign of its "commitment to transparency, equity, and fairness to all, through a recourse mechanism that is fully independent".

Does your watchdog bite?

A weakening of the bank's watchdogs raises questions over the quality of information reaching the board. Reports about financial risks, for instance, do not go directly to the board but are sent via senior executives. In several instances these executives have demanded changes, according to a former senior official. "There is an awful lot of sanitising and massaging information that gets presented formally as board papers," the official says. In one instance this contributed to the board approving a pandemic response fund that could have harmed the bank's credit rating had it been fully implemented. Yet rather than taking the near-miss as a lesson on the need for transparency, the bank's executives are understood to have given themselves greater control over the flow of information, including requiring risk reports to be cleared by the president. The bank says it "does not withhold data or 'massage' information in its formal reports to the Board of Directors" and it "rejects any suggestion of a lack of probity in the conduct of risk management".

The wider consequence of the rumblings within the AfDB has been an erosion of trust in it, and thus of its ability to fund development. After Mr Adesina's appointment lending by the bank shot up, with the value of outstanding loans increasing by 41% between 2015 and 2017. But this was at the cost of eroding the bank's capital cushions. A report to governors in March 2018 warned that the bank had "no protection today against significant shocks". Yet Mr Adesina played down warnings that the bank could face problems caused by a capital squeeze, according to a former official. The bank says this is false and that Mr Adesina and managers had "persistently raised

the need for a timely capital increase with the Bank's shareholders". Yet in 2018 and 2019 the bank was forced to slow disbursements to avoid breaching limits that could have led to a downgrade by Fitch, a rating agency. By mid-2020 its balance-sheet had run out of lending capacity. In 2021 some rich countries rescued it with a temporary pledge to provide "callable capital" to avert the danger of it losing its triple-A credit rating. The bank says the capital was needed because of exogenous factors such as the credit downgrades of its shareholders.

Yet this was against a backdrop of shareholders and donors appearing to cool on the bank. In 2019 they approved a smaller percentage increase in capital than in the previous round (though larger in absolute terms) and a much smaller increase than Mr Adesina had requested, according to a person with knowledge of the talks. Some capital trickled in slowly, in part because some countries seemed to delay their contributions amid the corruption allegations. As a result, when covid-19 hit Africa's economies, the bank had little dry powder. Development banks elsewhere sharply increased lending. Yet the AfDB's new lending fell by 51% between 2019 and 2020, with approvals from its concessional arm, the African Development Fund, slumping by 24%. The bank says some shareholders paid in early and that the drop in new commitments was because it focused on the rapid disbursement of existing loans rather than on new ones.

Donor countries appear to prefer to direct much of their aid through the World Bank. In 2018, before the pandemic, the AfDB distributed about \$1.5bn a year in grants and concessional loans. By contrast the International Development Association (IDA), the World Bank's concessional arm, was distributing about \$15bn a year in the region, in part because shareholders

have enough confidence in it to allow it to borrow in private markets to supplement donor funds. When the pandemic hit, donors pushed money into an early replenishment of the IDA, 70% of which goes to sub-Saharan Africa. The AfDB got no such treatment. "IDA was really the preferred instrument of shareholders," says Clemence Landers of the Centre for Global Development (CGD), a think-tank in Washington and London. The AfDB says this is not the case and that it has strong donor support.

At a recent meeting to discuss the concessional window Mr Adesina demanded an unprecedented increase and told donors six times that no could not be an answer. He then accused the representative of the Italian government of colonialism after it pushed back on the bank's borrowing plans. The AfDB says this should be seen in the context of "unprecedented urgency to avert a catastrophe" and that the exchange happened "on the back of sometimes robust and heated discussions".

At the AfDB's annual meeting next week, governors and the board are expected to discuss an external report into the bank's governance. But it ought to go further, by looking into its own structure. In almost all other development banks a majority of shareholders' votes are wielded by creditor countries. At the AfDB about 60% of the votes belong to borrowing countries. This may make it more responsive to the needs of African governments. But it may also be having an impact on the bank's ability to raise finance cheaply. A paper published in 2018 by Nancy Birdsall, an economist at the CGD, argued that the AfDB's voting structure makes it less competitive than its peers in sustaining donor confidence and raising capital or concessional finance. The bank argues that this view reflects "ignorance of the intrinsic character of the Bank and seems to perpetuate old stereotypes about and against Africa".

When viewed in isolation, some of the failings may not seem too worrying. But when taken as a whole they paint a picture of an organisation in need of reform. Its shareholders may have many reasons for not demanding change. Borrowing countries may worry that speaking up could result in fewer loans. Non-African donors, some of which are former colonial powers, may worry they will be seen as meddlers.

Yet the bank's mission of funding development is much too important for it to be allowed to underperform. The pandemic and the war in Ukraine are inflicting huge shocks on Africa. Absolute poverty is expected to rise sharply, making it all the more essential that the AfDB is able to raise money from donors and markets—and use it well—to support struggling economies. Unless the bank's directors and governors grapple with the bank's problems, they will be failing Africa's poor. ■



Lofty ambitions

Free speech in Ethiopia

Gagged

NAIROBI

A return to repression

DOES REPORTING a crime make you an accomplice to it? If the crime is rebellion in Ethiopia, then the answer is yes. That, at least, appears to have been the logic of Ethiopian officials when they arrested Amir Aman, a journalist working for the Associated Press, an American news agency, last year. Amir had interviewed members of the Oromo Liberation Army. For this he spent 125 days behind bars. State television accused him and his colleagues of "promoting" terrorists. If found guilty they could face 15 years in prison.

Just a few years ago Abiy Ahmed, Ethiopia's prime minister, seemed to be ushering in a more hopeful era for journalists in a country notorious for ill-treating them. In 2019, a year after he took office, Abiy boasted that there were no reporters behind bars for the first time in over a decade. He hosted World Press Freedom Day and declared an "unwavering commitment" to free expression. He lifted blocks on hundreds of websites and television channels. A blossoming of new media outlets followed. Yet last year Ethiopia was ranked among the worst jailers of journalists in Africa, trumped only by Egypt and Eritrea, the gulag state next door.

Since the start of a civil war 19 months ago, at least 44 Ethiopian journalists have been arrested or detained. The most recent was Gobez Sisay, who was abducted from his home on May 1st. Others, such as Lucy Kassa, who was beaten by security agents last year, have been hounded out of the country. Foreign journalists have been expelled. Among these is Tom Gardner, *The Economist's* correspondent, who was also beaten by police while covering the war last year. Ethiopian authorities, accusing him of following a "mistaken approach" to reporting, withdrew his media accreditation on May 13th and soon after gave him 48 hours to leave the country. His "mistake" appears to be that he reported accurately on the war, and on atrocities by both sides.

Local reporters describe a climate of fear. "For weeks I couldn't even trust my shadow," says an Ethiopian freelance journalist who was arrested and beaten by police. These days he mostly writes anonymously and avoids going out in public. "The government has its own definition of a journalist," he explains. "Whoever goes against it is not one."

Lebanon

Shake-up and stasis

DUBAI

A shock election result may not bring the change voters desperately want

THREE WAS something for everyone in the outcome of Lebanon's general election—except for a clear outcome. The ruling elite lost some symbolic races but kept its grip on power. Voters plumped for candidates who ran on a platform of change. One winning candidate proudly declared that he had no platform at all.

Many Lebanese were unenthusiastic about the ballot on May 15th. Just 41% of voters resident in the country bothered to show up, down six points from 2018 (turnout was higher in the diaspora). It was plagued by irregularities, from polling centres that lacked pens and ballot papers to piles of votes that mysteriously disappeared. Even tallying the results is hard, since some of the candidates who ran as independents in fact have close ties to the country's long-standing sectarian parties.

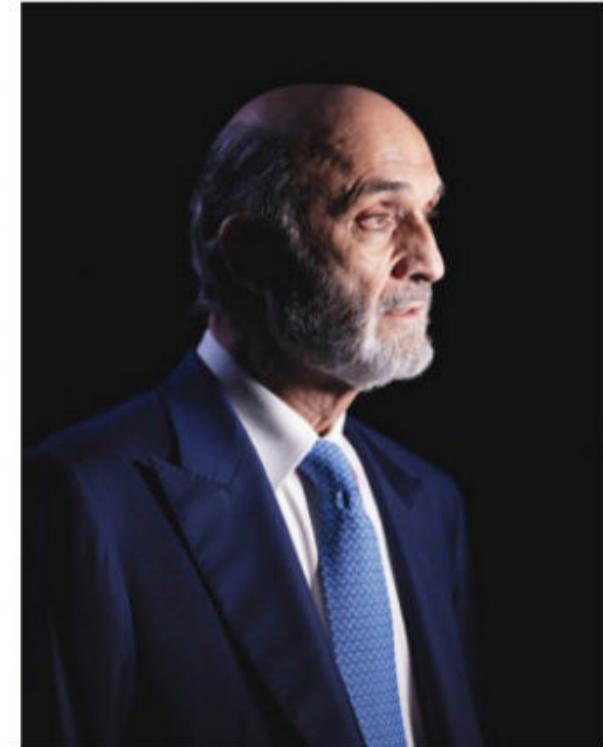
Still, two things are clear. First, the alliance led by Hezbollah, the powerful Shia militia-cum-political party, has lost its majority. Second, an unprecedented number of genuine independents did indeed win seats. Both signal the voters' deep anger directed at the leaders who plunged Lebanon into the worst economic crisis in its history, even including the devastation caused by its civil war from 1975 to 1990. In the short term, however, neither development may mean dramatic change.

Hezbollah won 13 seats, up one from last time, but says its camp in parliament has just 61 seats, four short of a majority. Its main Christian ally, the Free Patriotic Movement (FPM), did poorly compared with last time. The Christian vote instead seems to have tilted toward the Lebanese Forces, led by Samir Geagea, an ex-warlord.

That will please Hezbollah's critics in Lebanon and the wider Arab world. But its opponents do not have a clear majority either—and even if they did, the "Party of God" will not relinquish its weapons simply because voters ask it to. Some treated the poll as a referendum on Hezbollah, yet the hung parliament it produced can do little to rein in a group that assassinates critics and outguns the official army.

Others saw a chance to throw out the whole ruling class. They had much to be angry about. The Lebanese pound, once reliably pegged to the dollar, is all but worthless. GDP has dropped by 58% since 2019. A third of the labour force is jobless.

But the electoral law was rigged in favour of incumbent parties and the opposi-



Geagea emerges from the shadows

tion was divided. Before the vote many activists said they would count four or five extra opposition seats won as a victory. They did far better. True independents won a dozen seats, 10% of the total. That is something to cheer, even if much of parliament is still held by warlords and thieves.

Their most pressing issue is Lebanon's economic collapse. Tens of thousands of people have left, from entrepreneurs decamping for Dubai to the poor boarding rickety boats for Cyprus. Those who remain are barely surviving. Parliament must agree on a deal with the IMF, clean up insolvent banks and restructure public debt estimated at 360% of GDP.

The old guard caused the crisis. They looted billions from the treasury and have dubious ties to banks that took part in a disastrous state-run Ponzi scheme. The newcomers, meanwhile, were vague about their views. Among the opposition blocs, a centre-left party that fielded dozens of candidates had the closest thing to a coherent economic platform. It lost every race.

Even without a hung parliament, it usually takes months to form a government. Lawmakers must also select a new head of state to replace Michel Aoun, the outgoing president and founder of the FPM, whose term ends in October. That may add to the delay. Changing a corrupt, clubby system is not the work of one election. It takes years, if not decades. Lebanon, alas, does not have that much time. ■

Sandstorms

A harrowing haze

DUBAI

Dust from the desert is a growing threat to lives and livelihoods

THE SKY turned orange and the hospitals turned frenetic. Thousands of Iraqis descended on emergency rooms complaining that they could not breathe. Some had to be put on respirators. Businesses told workers to stay at home, schools closed and airports cancelled flights. Life came to a halt amid a swirl of dust.

Such scenes have occurred almost weekly in Iraq since April. In decades past, two or three big sandstorms were expected every year. This spring Iraq has already logged at least eight, including the one on May 16th that put some 4,000 people in hospital. Two people died across the border in Syria. The more frequent storms are causing misery for millions and doing billions of dollars in damage.

Sandstorms have always been a fact of life in the region. The Sahara, the world's largest hot desert, and the Arabian one, which ranks third, are not short of sand. Every year the wind whisks some 60m tonnes of Saharan dust as far away as the Caribbean. In some countries dry, dusty winds are common enough to merit a name. Gulf Arabs have the *shamal*, which sweeps in from the north-west. Towering skyscrapers in cities like Dubai and Manama, Bahrain's capital, vanish behind a curtain of grit. Egyptians call theirs *khamsin*, Arabic for 50, since it tends to blow for about that many days in spring. It can bring enough of the Sahara to blot out the sun.

Scientists say dust storms are complex and poorly understood, but their main causes are natural. In 2015 many people blamed a fierce summer storm in the Levant on Syria's civil war, thinking that armoured cars bouncing through fields



Iranians yearn for a messiah. The ayatollahs are worried

HIS EYES lack the "hidden imam's" blinding radiance. His beard is wispy. His favourite pastime is pumping iron. And despite a recruitment drive in the mosques he has admitted (on social media) that he has no followers. But it doesn't take much to unnerve Iran's ruling ayatollahs. As soon as the clerical novice from Nishapur in eastern Iran proclaimed himself the mahdi, they had him jailed as a "false messiah". He could be charged with leading people astray, inciting public animosity and spreading corruption on earth. The last of those crimes carries the death penalty.

Of all Iran's many dissidents, few scare the theocrats more than messianic pretenders. Belief in the advent of the "twelfth imam", who mainstream Shias believe went into hiding in the ninth century and will return at the end of time, helped them mobilise people to overthrow the shah in 1979. They are loth to see the same happen to themselves.

But as Iran's domestic malaise deepens, the search for a saviour is growing. "Internally the regime has never struggled more," says Yaser Mirdamadi, an Iranian cleric and scholar in exile. "Sanctions, dictatorship, despair and disunity are perfect conditions for mahdis."

Damagingly for the regime, many ardent millenarians come from its disillusioned inner core. "The feeling of an

end of times is strongest among those who had faith in the regime but now feel it has failed," says an adviser to Mahmoud Ahmadinejad, a former president.

Qom, a shrine city and seat of leading clerics, produces the most pretenders. According to a recent police report, it once had 20 in a month. They included a would-be twelfth imam and several *babs*, or gates, who prophesy his advent. Elsewhere there was a would-be wife of the messiah, who attracted numerous suitors. Young novices continue to gravitate towards Hassan al-Yamani, an Iraqi cleric who disappeared soon after proclaiming himself the mahdi in 2003.

The regime is trying to reassert its monopoly over mahdism, says Saeid Golkar, the author of a report on the phenomenon issued by the Middle East Institute, a Washington-based think-tank. Iran's supreme leader, Ayatollah Ali Khamenei, often invokes the mahdi's name, sometimes in tears. Toadies call Mr Khamenei the *na'ebi bahaq*, or the mahdi's rightful deputy.

Agents responsible for catching pretenders are called "the unknown soldiers of the last imam" (and not, as you might imagine, "mahdi grasses"). Mr Mirdamadi cites a prophetic *hadith*, or saying, that calls clerics "the worst of creatures". "When the imam comes, the clerics will deny him," he chuckles.

kicked up enough dust to blanket the region. Researchers at Princeton University later cited a more prosaic mix of unusual heat and wind—gusts, not gunners.

Still, people plainly contribute to the problem. Demand for water is making an arid region even drier. A World Bank study in 2019 found that human actions, such as over-exploiting rivers and lakes, produce a quarter of the Middle East's dust. Iran has drained wetlands for farming. Saddam Hussein dried out the marshes of southern Iraq to punish their inhabitants. Turkish dams on the Tigris and Euphrates mean drier riverbeds downstream.

All of this means more dust to be swept up by the wind. The shrinking of the region's meagre forests because of fires and logging means there is less vegetation to hold it back. Syria, for example, has lost an estimated 25% of its woodland since 2001, most of it to summer blazes. Climate change will exacerbate the problem.

For those lucky enough to be healthy and indoors, sandstorms are a nuisance.

Newcomers to Cairo who leave a window open to catch the spring breeze soon learn a gritty lesson. For those who work outside, they make life intolerable. Delivery drivers venture forth like extras from a Mad Max film, kitted out in scarves and ski goggles.

Some studies have found that more than 10% of Saudis have asthma, a high prevalence caused at least partly by dust. Sandstorms bring tiny particles that travel deep into the lungs. The World Health Organisation says any more than five micrograms per cubic metre is unhealthy. Qatars breathe in eight times that. The World Bank estimates that air pollution causes 30,000 premature deaths a year in the Middle East—and rising.

Economic costs will mount, too. Workers stay at home. Crops are buried under dust. Airports often cancel flights. The UN puts the direct economic cost in the Middle East at \$13bn a year, with indirect costs many times bigger. Occasional dust storms are an inconvenience; more frequent ones will be a pestilence. ■

Iran

Mahdi mania



The war in Ukraine

Unblocking Odessa

ODESSA

How to get Ukrainian grain to a hungry world?

THE FIASCO of the Gallipoli campaign of 1915 was caused, in part, by a global food crisis. The Ottoman empire's entry into the first world war, on Germany's side, blocked grain exports from the Russian empire, which then encompassed Ukraine. By forcing open the passage between the Black Sea and the Mediterranean, Britain and its allies hoped to knock the Turks out of the war and restore Russian trade. That would help lower soaring food prices, and strengthen Russia's weak finances. But the landings in the Dardanelles turned to disaster and the allies withdrew after a year.

A century on, the West faces a similar conundrum: how to get Ukraine's vast food crop past Russia's blockade to relieve global food shortages. Andrey Stavnitser, the owner of Ukraine's largest private shipping-terminal operator, TIS, says that Ukrainian grain silos are largely full, and there is not enough room for this year's crop. "If we can't store it, it will start rotting," he says. Frustratingly, Russia is able to export its grain, including crops stolen

from occupied land, from the Black Sea while Ukraine's is shut in. "Unblocking Odessa is as important as providing weapons to Ukraine," he says.

The EU is seeking to expand alternative routes by rail and road. But these can take only a fraction of Ukraine's exports. If the bulk of Ukraine's grain is to get out, it must be by sea. But how? Some people are now exploring the idea of naval convoys to escort merchant vessels in and out of Odessa and nearby ports. Mr Stavnitser hopes for a UN convoy led by Turkey. James Stavridis, NATO's former supreme allied commander,

has suggested taking a leaf out of the operation by America and some allies to protect oil tankers in the Persian Gulf during the Iran-Iraq war of the 1980s.

But James Foggo, the ex-commander of NATO forces in the Mediterranean, argues the parallel is misleading. "The difference is: Iran was not a nuclear power. Russia is a nuclear power. Russia is a major power and there is a risk of escalation." The tanker war was fraught; America's warships were struck by Iraq and Iran and one of them mistakenly shot down an Iranian airliner.

Convoys in the Black Sea face military, legal and political constraints. Begin with Russia's "anti-navy"—the thicket of anti-aircraft, anti-shipping and electronic-warfare systems based in Crimea, which Russia annexed in 2014. This allows it to dominate much of the Black Sea from the land. And despite the sinking of the *Moskva*, Russia's flagship in the Black Sea, its naval forces remain powerful—including ships and submarines armed with Kalibr cruise missiles. Even if Russia shrinks from attacking convoys, says Michael Petersen of the US Naval War College, ships in port will be sitting ducks. Odessa is within range of Russia's Bastion-B anti-ship cruise missiles in Crimea, he notes.

Ukraine has heavily mined its waters to prevent a Russian amphibious assault. Odessa's beaches are closed and guarded by soldiers in camouflaged outposts. The port, including its famous Potemkin Stairs, ►

→ Also in this section

49 The relief of Kharkiv

50 A new French PM

50 Another blow for Olaf Scholz

51 Greece and the press

52 Charlemagne: A parliamentary sitcom

► is off-limits. Russia has laid mines, too. About 80 foreign ships are now stuck in Ukrainian waters; some have been sunk.

"Mining is easy; de-mining is complicated," notes a Western diplomat. Ukraine lacks the capacity to clear the necessary sea-lanes. Moreover, says another diplomat, "If things are de-mined for the purposes of letting the wheat out, but then Russians are allowed to sneak in and attack Odessa, that's a problem." As the Russian advance falters, however, President Volodymyr Zelensky has told visiting American congressmen that arming Ukraine with more anti-ship missiles could allow demining to start.

Protecting convoys might require a substantial NATO naval presence. This raises questions related to the Montreux Convention of 1936, which regulates shipping in the Turkish straits. Turkey has invoked Article 19, in effect barring passage to the navies of belligerent states—a move that affects Russia more than others. Turkey has informally told other countries not to deploy warships in the Black Sea. It could take such measures formally under Article 21 if it felt "threatened with imminent danger of war".

The convention anyhow limits war vessels from non-littoral states, and how long they can stay in the Black Sea. A NATO operation would thus require the frequent rotation of ships. Turkey is a NATO member and faces no such limits. But its dealings with Russia are ambiguous: it has sold Ukraine the much-celebrated Bayraktar TB-2 combat drone, but has also declined to impose sanctions on Russia and has allowed oligarchs' superyachts to shelter in its waters.

The debate over convoys has echoes of the earlier one over imposing a no-fly zone over western Ukraine: are NATO allies ready to risk a direct fight with Russia? President Joe Biden said no to a no-fly zone. That would risk "World War III", he said. Without American backing, it is hard to imagine others confronting Russia.

The faint hope is that international pressure, particularly from non-Western countries, may persuade Russia to relent. Some in the UN think—or hope—that Vladimir Putin, its president, will not want to be accused of causing global hunger. António Guterres, the UN secretary-general, has suggested a deal whereby Russia would allow food shipments out of Odessa in exchange for easing of sanctions on fertiliser exports from Belarus and Russia.

Many officials think Mr Putin is, if anything, even more determined to crush Ukraine economically given his failure to conquer it militarily. Western diplomats say reopening Ukrainian ports is not a practical option for at least six months. A Ukrainian one is blunter: "There is no point in escorting merchant ships if nobody is prepared to shoot back at Russia. The

only answer is for us to defeat Russia."

America, which currently holds the presidency of the UN Security Council, is pushing for action on improving food security generally. The effort is intended in part to prove to fence-sitting countries that the war in Ukraine, and the economic disruption it is causing, should be blamed on Russia, not the West.

Western countries may yet put forward a motion calling for the reopening of Odessa, if only to force Russia to use its veto. The UN General Assembly, which includes all members, requires any country casting a veto to explain itself before the assembly within ten days. Russia may not care, says Richard Gowan of the International Crisis Group, a think-tank. "In some ways the greatest risk is that Russia says yes to reopening Odessa but then creates all manner of procedural obstacles." ■

Ukraine

The relief of Kharkiv

And the imminent fall of Mariupol

EIIGHTY YEARS ago the second Battle of Kharkov was raging in what was then the western Soviet Union. The Red Army had heroically driven the Nazi Wehrmacht back from the gates of Moscow. It gathered in a bulge west of Izyum, a town to the south of Kharkov, as Ukraine's second city was then known. The subsequent Soviet offensive, launched on May 12th 1942, was a disaster. Soviet armies were driven back and encircled. Over 170,000 Soviet troops were killed. Nikita Khrushchev later fo-



cused on the battle when denouncing his tyrannical predecessor as Soviet leader. "This is Stalin's military 'genius,'" he sneered, citing the crude tactics of frontal assault. "This is what it cost us."

The Russian army is once again gathered around Izyum. And once more it is in retreat from Kharkiv, as the city is now called, after another overwhelming campaign failed to take it. Ukrainian counter-attacks to the north and east of the city have forced the Russians back tens of kilometres, out of artillery range of the city and, in places, back to the border. It has been over a month since Russia, having abandoned its assault on Kyiv, launched a fresh offensive in the east. The idea was to encircle Ukrainian troops in a large salient stretching from Izyum in the north to the city of Donetsk in the south, in part by driving south from Izyum.

There have been minor successes. Russia has now taken almost all of Luhansk province—it held only the southern part before the war—bar a salient around the well-defended city of Severodonetsk. It has also pushed south of Izyum, taking villages towards Barvinkove, an important rail junction, and the industrial cities of Slovyansk and Kramatorsk. Yet progress has been slow—one or two kilometres a day—and casualties heavy. The war is now dominated by grinding artillery duels, rather than swift mechanised offensives. Much of Donetsk province is still in Ukrainian hands, though its port city of Mariupol has now fallen to the Russians, bar the presence of a small number of fighters still hunkering down in the Azovstal steel works in the east of the city. On May 16th, an initial group of 264 fighters surrendered; others have since followed.

The Russians' generally slow progress is no surprise. Conventional military theory says that attackers need a three-to-one advantage over defenders to break through defensive lines. Russia is far short of that. Its units are operating below their full strength, some severely so, despite efforts to coax ex-servicemen back into action with big pay packets. Even if Russian forces get as far as Severodonetsk, Slovyansk and Kramatorsk, the heavy casualties from urban warfare are likely to sap their capacity to fight yet further.

Ukrainian forces are grimly confident. Their warplanes are active over Donbas, including Izyum itself, despite the proximity to Russian air-defence systems over the border to the east. In the past two weeks, Ukrainian drones and jets have also repeatedly struck Russian helicopters, landing craft and surface-to-air missiles on and around Snake Island, a tiny outcrop in the north-western corner of the Black Sea, near Odessa. And while Russia is struggling to replenish its forces, Western arms—including heavy artillery—are now flowing ►

into Ukraine in useful quantities, with a lot more to come. On May 10th America's House of Representatives approved a \$40bn aid package for Ukraine which, once approved by the Senate where it is still pending, will bring the cumulative total of American support to \$54bn.

Ukrainian forces are capable of "tactical manoeuvres", like the operations around Kharkiv, says a Western official. But scaling this up along a front which stretches hundreds of kilometres in Donbas alone, and 1,300km in total—in other words, turning counter-attacks into a full-blown counter-offensive—will be a challenge. Russia's woes in Ukraine have served as a reminder that war tends to favour the defender. If Ukraine were to attack dug-in Russian positions, it would find it harder going. For exactly that reason, Russian forces in Kherson, Mykolaiv and Zaporizhia provinces in southern Ukraine have been digging trenches and building concrete fortifications, according to the Institute for the Study of War, a think-tank.

"Overall, the battle is finely balanced," says the official. "Ukrainian personnel are highly motivated and highly experienced, and [deployed] in sufficient numbers to hold a defensive line—but perhaps don't have the capabilities they might need." Western weaponry has been abundant, but not decisive, so far at least. Russian forces, despite their heavy losses and tactical shortcomings, still "significantly overmatch the Ukrainians in terms of their overall capability". That assessment was echoed on May 10th by Lieutenant-General Scott Berrier, the head of America's Defence Intelligence Agency. "The Russians aren't winning and the Ukrainians aren't winning," he said. "We're at a bit of a stalemate here." Ukrainians receive such pronouncements with scepticism. They have been underestimated before. ■

France's new prime minister

First Borne

PARIS

Macron nods to the left, sort of

IN 2022 IT ought to be unremarkable for a woman to be appointed to run a European government. Yet the nomination on May 16th of Elisabeth Borne as prime minister of France was anything but. It is the first time in 30 years that a woman has held the post, and only the second time ever. The previous one, Edith Cresson, appointed by François Mitterrand, did not last a year in the job. As Ms Borne took over from Jean Castex on the evening of her nomina-



From the TGV to the top

tion, she dedicated her appointment to "all the little girls" in France, telling them to "follow your dreams".

Such folksy utterances are atypical of Ms Borne. An engineer by training, and a career technocrat, the 61-year-old is better known as a no-nonsense details person who gets on with the job. Ahead of France's parliamentary elections on June 12th and 19th, her immediate task will be to help win another majority for the centrist grouping led by President Emmanuel Macron, and to draw up plans to ease the soaring cost of living. An even trickier challenge will be to negotiate the pension reform that Mr Macron has promised for his second term, including a controversial rise in the pension age from 62 to 64 or 65.

Mr Macron has put her in the job in part because Ms Borne has shown that she can be an efficient negotiator. In a previous post as his transport minister, and as a former head of the Paris metro, she brought in a reform of the SNCF national railways that included opening passenger transport to competition and ending special protected contracts for newly recruited railway workers. She may not have left the unions with warm, fuzzy feelings, but she got the reform through. Employment will also be near the top of her in-tray. Serving as Mr Macron's labour minister, Ms Borne expanded apprenticeships and reformed the rules for unemployment benefits. Having already brought joblessness down from 9.2% to 7.1%, Mr Macron has promised to bring about full employment by the end of his second term.

Ms Borne's nomination also brings a degree of political balance to the top of France's government. Mr Macron was first elected in 2017 to govern "neither on the left nor the right". Yet his two previous prime ministers, Edouard Philippe and Mr Castex, both came from the centre-right. Insofar as Ms Borne hails from the left, it is

as a technocrat, not a politician. Like Georges Pompidou and Raymond Barre when they were appointed in the 1960s and 1970s, she has never held elected office, though she is running for parliament next month in Normandy. She has only the loosest of links to the now-moribund Socialist Party. Indeed, Jean-Luc Mélenchon, the hard-left leader, dismissed the notion that Ms Borne is from the left as "trickery".

Still, under the French system, where ministers pick civil servants to form a *cabinet* of staff, Ms Borne has chosen to build a career on the left. Before joining Mr Macron in 2017 she worked for a succession of Socialist leaders. Her jobs included a spell as chief of staff to Ségolène Royal, a former environment minister, and a stint in charge of urban planning for Bertrand Delanoë, a former mayor of Paris.

Besides pension reform, Ms Borne is also likely to get the job of overseeing "green planning". During the presidential campaign, Mr Macron promised that this concept would underpin all policymaking during his second term. This idea remains vague, but the principle seems to be to appoint a powerful environment minister under Ms Borne to implement France's transition to a greener economy. This may be Julien Denormandie, a close ally of Mr Macron and his outgoing farm minister.

Ms Borne's is a decidedly unshowy appointment, and comes after three weeks of dithering by the re-elected Mr Macron. Nor does she exude the provincial warmth of the south-western Mr Castex. Yet for all their differences in style and temperament, the austere Ms Borne and the rugby-loving Mr Castex share one attribute essential to success under Mr Macron: neither of them steals the limelight from the president. And should the parliamentary election not turn out as planned, she could be gone in a month. ■

Germany

Another blow for Mr Scholz

BERLIN

An upset in North Rhine-Westphalia unsettles the national ruling coalition

THE ELECTION-NIGHT party on May 15th in a tent in the garden of the headquarters of the Christian Democratic Party (CDU) in Düsseldorf, the capital of North Rhine-Westphalia (NRW), got so noisy that the office of public order had to intervene after locals complained. CDU members celebrated their unexpectedly strong showing at the state's election with 500 litres of beer and very loud chanting. Hendrik Wüst, the usually stiff Westphalian who is the in-

More pain, no gain

Germany, North Rhine-Westphalia

State-election results, % of list vote by party



Source: North Rhine-Westphalia state returning officer

cumbent state premier, was dancing and chanting along.

Mr Wüst's landslide surprised everyone. In the last polls before the vote the CDU and the Social Democratic Party (SPD) were neck-and-neck. Yet the CDU ended up fully nine percentage points ahead, with 35.7% compared with 26.7% for the SPD. The other big winners were the Greens, who tripled their share of the vote to 18.2%; the other big loser was the free-market Free Democratic Party (FDP), which saw its share halve, to just under 6%, compared with the election in 2017.

The result is the second painful setback on consecutive weekends for Olaf Scholz, Germany's chancellor, who campaigned hard for Thomas Kutschaty, the SPD candidate for premier in NRW. On May 8th the SPD suffered a humiliating defeat at state elections in Schleswig-Holstein, taking only 16% of the votes, the worst result in its history in the state (the FDP also lost votes, whereas the Greens won big). But the state election in NRW is far more significant than Schleswig-Holstein's because NRW is the state with the biggest economy and the highest number of inhabitants, with a fifth of the entire population of Germany.

"This will unsettle the *Ampel* coalition," says Stefan Marschall of Düsseldorf University, referring to the "traffic-light" alliance Mr Scholz heads at the federal level of the SPD, FDP and Greens. The Greens will be even more self-confident after such success in two state elections. And the FDP is likely to be more prickly, after faring poorly twice in a row. As for Mr Scholz, his authority at the head of his unwieldy coalition is certain to have been dented. Some analysts are already referring to him as a one-term chancellor.

The Greens have been the great beneficiaries of the *Ampel* alliance. Annalena Baerbock, the Green foreign minister, and Robert Habeck, the Green economy minister and vice-chancellor, are more popular than either Mr Scholz or Christian Lindner, the finance minister, who is leader of the FDP. Yet the Greens' jubilation about their success in NRW has been muted. "They understand the explosive power of the election result," says Klaus Schubert of Mün-

Greece

Hemlock for hacks

ATHENS

Rows over press freedom overshadow the government's achievements

GREECE'S CENTRE-RIGHT government has done a fine job of polishing its image with tourists and investors since Kyriakos Mitsotakis took over as prime minister in 2019. The country's ancient heritage, not least the invention of democracy, plays a big role in the messaging. But just as in the fifth century BC, freedom of speech matters too.

Greece tumbled 38 places this year in the World Press Freedom Index published by Reporters Without Borders (RWB), an NGO based in Paris. Ranking 108th (out of 180), the Greeks for the first time lagged behind all other EU countries as well as their Balkan neighbours.

A tweak to the penal code last year making journalists, editors and publishers liable to a prison term for spreading fake news is one reason for the Icarus-like plummet. Another is the unsolved murder of Giorgos Karaivaz, an investigative reporter gunned down more than a year ago outside his home.

The most recent cause for concern is the surveillance in 2020 and 2021 of Thanasis Koukakis, a financial editor probing possible collusion between local bankers accused of wrongdoing and public prosecutors and judges. The Citizen Lab, a Canadian cyber-watchdog, has confirmed that Mr Koukakis's mobile phone was infected last year with Predator, a hacking software made by Cyrox, an Israeli-owned company based in North Macedonia. The software is similar to Pegasus, the Israeli spyware acquired by various repressive governments to eavesdrop on activists and other politicians. The government's spokesman insists that the Greek authorities have not used it, and has also questioned the methodology employed by RWB in compiling its index.

ster University. The coalition needs to benefit all three parties if it is to hold together.

Mr Lindner, who hails from NRW and led the local FDP at state elections there in 2012 and 2017, said the result was a "disastrous defeat" for his party. For a while the FDP even worried that it might not win 5% of the vote, the hurdle that must be crossed to secure any seats in the state parliament at all. The party has been the junior partner in Mr Wüst's governing coalition. But Joachim Stamp, the local FDP leader, failed to excite voters.

The Greens are now the kingmakers in NRW, since the CDU and FDP no longer have

There are other worries. State hand-outs to cash-strapped websites and newspapers are restricted to pro-government media, says RWB; reporters covering "pushbacks" of refugees from Aegean islands by the Greek coastguard are often harassed; journalists complain of being bullied on the phone by aides in the prime minister's office.

The free-speech row is undermining the government's impressive achievements elsewhere. Tourists are now flocking back after a two-year gap owing to covid-19. Greece attracted a record €5bn (\$5.3bn) of foreign investment last year, with Amazon and Microsoft among the big-name firms setting up around the capital. And the cash is starting to flow from Greece's €31bn share of the EU's covid-recovery fund. An unhampered press has a crucial part to play in making sure all that cash is spent fairly and well.



Less than free

enough seats to continue their governing alliance. They could join forces with the SPD and the FDP for a local version of the national *Ampel* coalition; or form a red-green government. Yet most observers expect the Greens will team up with the CDU, again the largest party in the state. Hessen and Baden-Württemberg are both run by CDU-Green coalitions—and Schleswig-Holstein may be about to get one, says Frank Decker of Bonn University. The least likely potential government is a grand coalition of the battered SPD and the CDU. Both parties have signalled little interest in such a combo. ■

Charlemagne | Giving faces to “faceless Eurocrats”

A sitcom mocks the Brussels bubble



ASIDE FROM war, illness and retirement planning, nothing can possibly be less funny than a “trilogue”. This arcane facet of lawmaking in the EU involves shutting elected MEPs, officials representing the bloc’s 27 member states and boffins from the European Commission in a room until a deal is thrashed out, often late at night. The forging of cross-institutional consensus over Article 225(b) is more likely to induce sleep than laughter. So to devise an entire ten-episode sitcom about the way the EU’s laws are crafted—centred on a trilogue on fisheries regulation, no less—is to venture near some of comedy’s outer limits. “Parlement”, a multilingual satirical show whose second season is out this month, takes a crack at turning Brussels into a punchline. For fans of the EU, it is a serious moment.

Politics often makes for good television. The corridors of power are naturally rich in scheming, conflict and comically colossal egos. A fast-talking, starry-eyed version of American politics kept viewers riveted through seven seasons of “The West Wing”. “Borgen” made Danish politics seem more conspiratorial than it probably is. “House of Cards”, a British show later remade in America, dripped with sexy intrigue. But what happens in Brussels has until now stayed in Brussels. Who would watch second-tier politicians fighting over whether a directive needs to be turned into a regulation? Incessant calls for more power to be turned over to European institutions lack a certain dramatic impact. Forget the clashes that bring national politics to life: the EU from the outset has been about taking emotions out of governing. “Less war, more committee meetings” sums it up.

“Parlement”, a joint French, German and Belgian production sadly only available for now in those countries (plus Spain and America), revolves around a young assistant to a Euro-MP who gets caught up in the Heath-Robinson procedures that turn ideas into law. Even a plain, unembellished description of the process would be dismissed by outsiders as implausible. Does the European Parliament really shuffle every month between two fully equipped venues, in Strasbourg and Brussels, with a large secretariat based in Luxembourg? Have amendments penned by lobbyists genuinely ended up copy-pasted into EU law by unwitting parliamentarians? How is it that so many people in Brussels speak

four different European languages, but have a foreign accent in all of them? And surely no institution needs 14 vice-presidents, not to mention five quaestors, whatever they may be?

Satire turns out to be a good prism through which to inspect the Brussels bubble—perhaps because it is so close to the truth. In “Yes Minister”, a British classic from the 1980s, civil servants run rings around hapless ministers, showing the world where power really lies. More recently “The Thick of It” and its American offshoot, “Veep”, have elicited chuckles by depicting politicians who think themselves destined for greatness getting bogged down in day-to-day mishaps. The big idea behind “Parlement” is that the EU is, after all, human. Those faceless Eurocrats are real people who have dragged their families to a charmless district of Belgium’s rain-soaked capital in the hope that Europe will progress beyond nationalism. Who is flirting with whom and which committee chair holds a grudge against which diplomat matters just as much as the findings of all those long-winded impact assessment reports. (Also, a cadre of Germans secretly runs the place.)

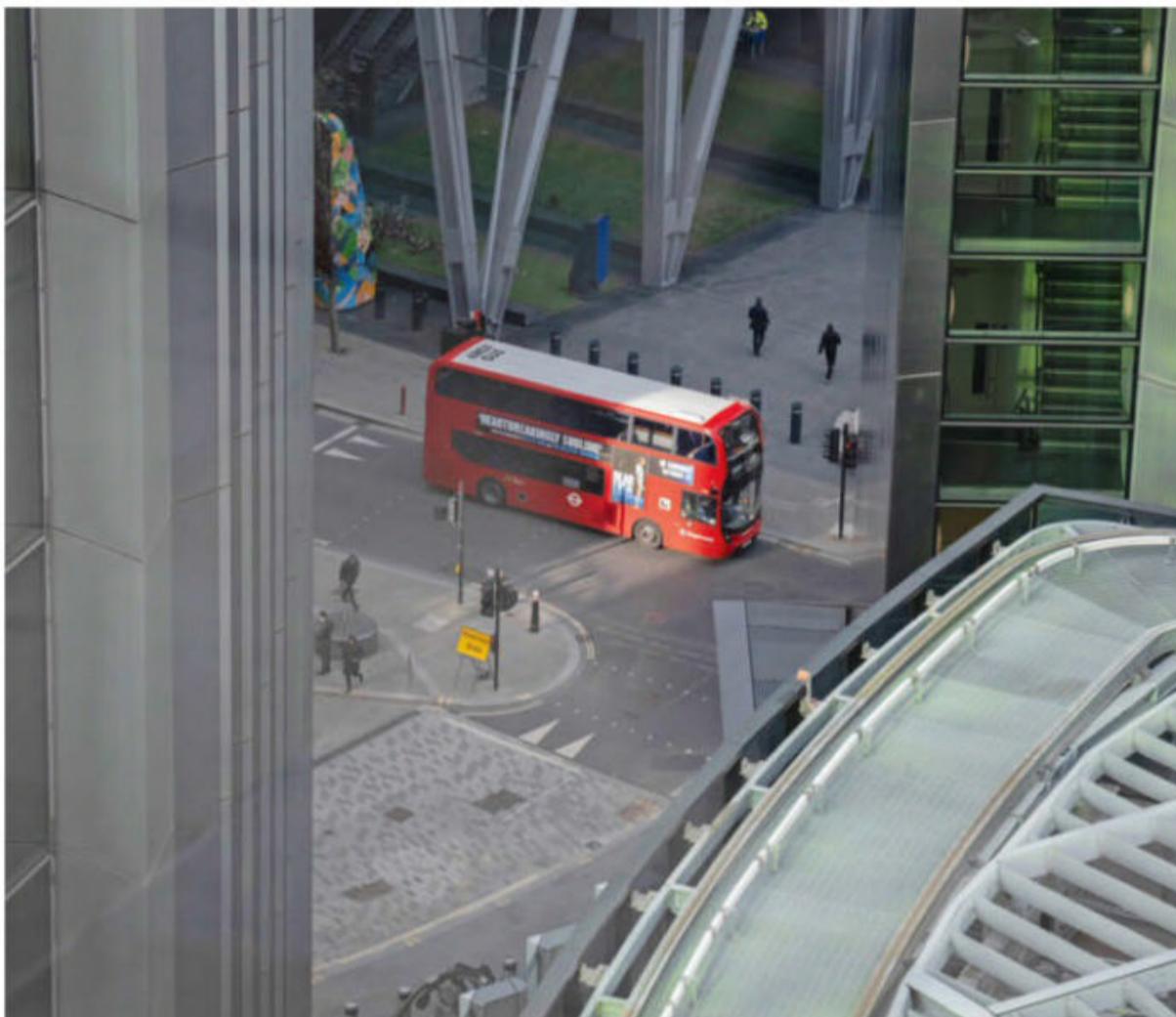
The show is befittingly multilingual, flitting between French, English, German and a smattering of the EU’s other 21 official languages. The texture of the EU is impeccably rendered, unsurprisingly given that a couple of Eurocrats are among the show’s writing team (one of them once honed his wit at *The Economist*). One advantage of the European Parliament’s nomadic ways is that one of its two debating chambers is always empty, and so can be turned over to film crews. Familiar faces spring up as cameos, albeit featuring “stars” recognisable only to EU nerds. The dastardly French minister for European affairs who features in the series is played by Clément Beaune, the outgoing (and not-so-dastardly) French minister for European affairs.

Many of the ways “Parlement” needles EU officialdom ought to infuriate those it depicts. No national stereotype is left unexploited: the few Brits who remain in Brussels are usually sozzled; the Germans are stern; the French turtle-necked and the Italians endlessly dissatisfied with the coffee. MEPs in the show range from the feckless to the careerist by way of the delusionally earnest. Un-elected officials nudge policymaking to suit their own interests. Elected ones dispatched from national capitals are inevitably manoeuvring to further their own government’s agenda—while painting their actions as serving the greater European good.

Even such fictional potshots have irked some in Brussels, a thin-skinned place that too often confuses legitimate criticism of some misguided EU policy with an attack on the entire idea of European integration. Better would be to recognise the show’s welcome irreverence as disguised flattery: only the powerful are worth satirising. Brussels is easily annoyed about being mocked, but its true fear is being ignored.

EU must be joking

Plenty of builders of the European project bemoan the lack of a common culture that ties the continent together. Beyond the odd football tournament, the Eurovision song contest and whatever Netflix is serving up, Europeans rarely tune in to the same television fare. Surely a multilingual television show poking fun at the one thing all Europeans have in common—their 705 MEPs, their dozens of commissioners and the thousands of hangers-on—is the way to forge a unified European *demos*? But steady on. Sometimes it is better just to laugh at a joke than to deconstruct it. “Parlement”, whose third season is currently in the works, earns its laughs precisely because it doesn’t take the EU too seriously. ■



The future of transport

The road not taken

The pandemic seems to have changed travel patterns for good

ON MAY 24th a wonderful new railway will begin operating in London. The Elizabeth line crosses the city and its suburbs in an east-west direction, making stops in the financial district, the West End and Heathrow Airport. The trains running along it will be 205m-long monsters. The project is an engineering feat, and will be admired by Londoners. It also seems extremely lavish, considering how travel patterns have changed.

Since last September the daily number of public-transport trips taken in London has hardly changed, even as pandemic-related restrictions have been lifted. The Tube is about three-quarters as busy as it was before covid-19 hit, buses about four-fifths as busy. Travel behaviour seems to be stabilising around the country. "We're approaching a steady state," says Jonathan Spruce, a trustee of the Institution of Civil Engineers. People have settled into a new pattern, which is drastically different from the pre-pandemic one.

Apart from electric bicycles and scooters, which are hard to measure, Britons have cut back on all kinds of powered

transport (see chart). The London Underground is particularly quiet, the railway network almost as subdued. People are even driving less than they used to, and buying fewer cars. Just 536,727 new cars were registered in the first four months of this year, down from 862,100 in the equivalent period three years earlier.

Weekday travel is down by more than weekend travel, suggesting—astonishingly—that people are more reluctant to go to work than to go shopping or drinking. Rush-hour travel has declined most. The Office of Road and Rail found that sales of peak-time railway tickets between October and December 2021 (when some restrictions were in place) were only 70% of the pre-pandemic level. But off-peak ticket sales were 82% of normal, and advance tickets, which are bought by holidaymakers, were 95% of normal.

A similar thing has occurred on the London Underground. The number of people passing through ticket barriers between 8am and 9am on May 12th was 33% lower than three years earlier, while travel between 3pm and 4pm was down by 21%,

→ Also in this section

54 That bloody protocol

55 Bagehot: UKSA! UKSA!

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— The wrong sort of police

— Government IT systems from hell

— Doctors' fatal mistakes

— A strange drop in gas prices

— Trespassing in the countryside

and travel between 10pm and 11pm just 7% lower. Londoners are making different journeys, too. Trips within the city became shorter in the first year of the pandemic; the average distance fell from 4.4km to 2.8km. People seem to be poolng about suburbia but going into the centre less.

Early in the pandemic it was thought that people might avoid modes of transport that seem claustrophobic and potentially germy. But fear of contagion no longer seems to sway travel behaviour much. Transport Focus, a passenger watchdog which conducts regular surveys, finds that 76% of Britons who did not travel by train in the previous week, and 70% who did not travel by bus, would nonetheless feel safe doing so. Over a third of people claim they will never feel safe using public transport again, but some of them probably felt that way before the pandemic.

Commutatis commutandis

Instead, the differing fortunes of public-transport networks can be explained by who uses them and how. Services designed to carry white-collar workers into city centres, such as the London Underground and commuter railway lines, are quiet because more of those people now toil in spare bedrooms and garden offices. Buses are busier because they are used by students, shoppers and manual workers who cannot avoid travelling. "A lot of people here are still having to go into work," says Martijn Gilbert, the chief executive of Go North East, which runs buses in and around ▶

► Tyneside. Mr Gilbert says that passenger numbers in his patch are down by 15-20%, which is less than the decline nationally.

Like Wile E. Coyote running off a cliff, politicians tend to talk as though nothing has changed. "The government continues to believe that going forward, many firms and individuals will value the benefits of working face to face," it blithely stated in an integrated rail plan for the Midlands and north of England last November. Jacob Rees-Mogg, a government minister, has left notes on civil servants' desks chiding them for being absent, as though home working is a momentary lapse.

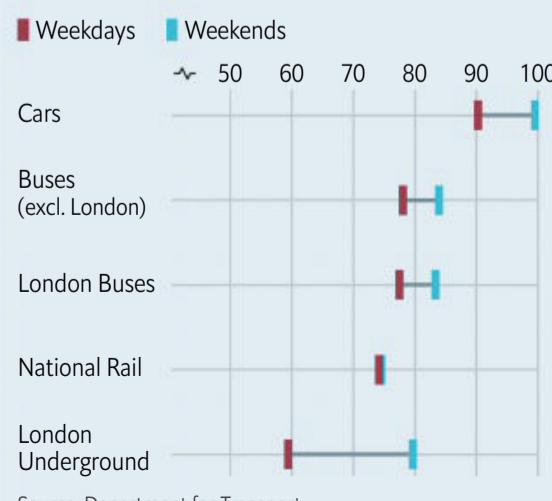
But changes in working habits are likely to endure. A survey by the Office for National Statistics in early April found that 23% of all businesses and 43% of professional-services firms expect a permanent increase in home working. Both those proportions are the highest they have been since the ONS began asking this question in September 2020. Companies are trying to entice workers back by making offices more alluring. But home working will improve, too: Nicholas Bloom at Stanford University notes that patent applications for remote-working technology shot up after the pandemic hit.

Some transport operators have acknowledged as much. Transport Scotland announced last October that it was scrapping a plan to double the number of tracks around East Kilbride railway station, which would have allowed more commuters to reach Glasgow at rush hour. The revised business case explained that rush hour is not what it was, and that the link between job growth and transport use had been broken. It pointed out that even before the pandemic, polling showed that train commuters wanted to work from home a few days a week. Now they can.

Other transport operators are quietly trimming their timetables, sometimes making the excuse that covid-19 has knocked out many of their staff. More cuts

No rush

Britain, journeys relative to pre-pandemic level, %
February 24th-April 10th 2022



are coming. Bus operators have been given emergency operating grants, but these are supposed to end in October. "We've lost quite a few services and will lose more," says Greg Marsden at the Institute for Transport Studies in Leeds.

If public transport worsens, people are likely to work from home more, or jump in their cars. A survey of railway users by London Travelwatch, an official watchdog, found that 64% agreed that a less frequent service would deter them from taking trains. Cuts may also provoke strikes.

The Elizabeth line is a colossal achievement—among other things, it necessitated one of Britain's biggest archaeological digs. Compared with the task of maintaining a decent public-transport service over the next few years, it will seem easy. ■

The Northern Ireland protocol

Here we go again

Another showdown between Britain and the EU looms

THIS WEEK'S announcement by Liz Truss, the foreign secretary, of a proposed bill that would give the government powers to override the Northern Ireland protocol was not a surprise. In order to keep the province in the EU's single market, the protocol imposes customs checks on goods moving across the Irish Sea. Threats to change it unilaterally, if negotiations with the bloc do not yield compromise, were heavily trailed. But it is still shocking that any British government is ready to renege on an international treaty. The claim by Ms Truss that the bill will be legal under international law is unconvincing even to many Tory MPs.

The gambit also looks unlikely to achieve the two goals that she set out for it. The first is to persuade the Democratic Unionist Party (DUP) to return to Northern Ireland's power-sharing executive, which is in limbo until it does. But the DUP, which says it will return only if the protocol is scrapped or fundamentally changed, is unlikely to move quickly; it distrusts the British government and it knows the bill would struggle to get through Parliament.

The second goal is to extract concessions from Brussels. The European Union's response was measured but emphatic: national governments are not prepared to renegotiate the Brexit withdrawal treaty, which includes the protocol and required ratification by all their parliaments. The EU also made plain that it is prepared to deploy retaliatory trade measures, including scrapping the entire post-Brexit trade deal,

if Britain legislates unilaterally.

That still leaves scope for compromise in some areas. It ought to be possible to smooth the application of border and customs checks through negotiation in the joint committee set up to manage the protocol, without having to change the treaty text. The EU's proposals put forward last October, to simplify or scrap some of the checks required to protect its single market, could also be expanded.

It should therefore be possible to establish "green" express lanes for goods that go only to the province and are deemed unlikely to cross into Ireland. The existing scheme for trusted traders that promise not to stray into the republic could be enlarged to cover more firms that are based in Great Britain as well as those in Northern Ireland. And the current grace periods that postpone checks for most supermarket produce, live animals and parcels entering the province could be extended or even made permanent, as has already been done for medicines.

It is trickier to do away with more sensitive food-safety checks. The government wants the EU simply to recognise Britain's food-safety regime, but the bloc frets that Britain could diverge sharply on such things as hormone-treated meat or genetically modified crops. The cleanest way to eliminate these checks would be for Britain to align with the EU's standards. The government is against this on sovereignty grounds and because it would scupper any chance of a trade deal with America. Since no such deal is on the horizon, however, some temporary period of alignment might be politically feasible.

Anything that requires a treaty rewrite is far less plausible. Catherine Barnard, a Cambridge professor who is part of the UK in a Changing Europe think-tank, notes that this category would include altering the presumption that all goods going to Northern Ireland are at risk of entering the single market and getting rid of the EU's customs procedures. Both of these are specified in the treaty. So are clauses applying EU tax and state-aid rules to Northern Ireland and putting the protocol under the European Court of Justice. Britain now wants to change all these, even if not many businesses in the province care that much.

Indeed, despite the DUP's hostility to the protocol, most opinion polls find that a majority in Northern Ireland are in favour of retaining it. It is partly because of the protocol that the economy has been slightly outperforming the national average, says the National Institute of Economic and Social Research, another think-tank. The biggest obstacle to smoothing the protocol is a lack of trust between Britain and the EU. Threats of unilateral action to rewrite a treaty signed barely two years ago serve only to aggravate suspicion. ■

Bagehot | UKSA! UKSA! UKSA!

An obsession with America pollutes British politics



WHEN IN THE home of a Westminster politico, why not play a game of Bookshelf Bingo? Head to their study and tick off what you see. Robert Caro's "The Power Broker", an account of Robert Moses's post-war reshaping of New York, earns a point, as does any volume of Mr Caro's weighty biography of Lyndon Johnson, the former president. Any of "The Big Sort", "Bowling Alone" and "The Coddling of the American Mind" also count. "Team of Rivals", an account of Abraham Lincoln's cabinet, is a must, as are all of Barack Obama's memoirs. A dusty DVD box-set of "The West Wing" completes the set and you win. House!

British politics is obsessed with America. MPs, wonks and journalists gorge on American history and follow its politics in fine detail. They also ape its language. Local elections, when council voters decide who has the privilege of collecting bins and cutting services to pay for social care, are sometimes called "mid-terms". Parts of Britain are occasionally labelled "flyover country", even if 90% of the population lives within a four-hour drive of Northampton. Commentators ape the 1980s political slogan of "Let Reagan be Reagan" (mainly because it was repeated in "The West Wing"). Readers have been treated to "Let Gordon be Gordon", "Let Boris be Boris" and, worst of all, "Let Theresa be Theresa". The obsession leads to dull conversation. But it also leads to bad policy.

Britain's economic debate exists somewhere in the mid-Atlantic. British policymakers sometimes appear to think that inflation emerged from overgenerous government spending, as in America, rather than a supply shock, as their European peers accept. In America, a country the size of a continent, concepts such as "left behind" regions make sense. When economic tides shift, it is possible to be high and dry in the middle of nowhere, hundreds of miles from opportunity. In Britain it is seen as a socio-economic catastrophe that someone in Wigan may have to commute 20-odd miles to a job in Manchester.

Arguments over public policy are complicated by comparisons with America. Debates about the future of the National Health Service are polluted by the extreme and weird example across the ocean. The plethora of publicly funded health-care options in Europe is largely ignored. Liz Truss, now the foreign secretary, once campaigned against occupational licensing. It is a worthy aim, but

the problem barely exists in Britain. In America a hairdresser faces at least 1,000 hours of training before being granted a licence; in Britain a fresh Kurdish arrival can set up shop and shear people for £8 (\$10), communicating only with hand gestures. Worrying about occupational licensing in Britain is akin to an American senator having strident views on fox-hunting with hounds.

The same happens across the political spectrum. British campaigners alighted on a minimum-wage demand of £15 for little reason other than that American ones had demanded a \$15 wage. "Abolish ICE" (the American border force) became a slogan among left-wing Democrats calling for a less cruel immigration system; "Abolish the Home Office" was swiftly adopted in Britain. "Defund the Police" made little sense even in America, where law enforcement can call on enough munitions for a Latin American coup, let alone in Britain, where the police are largely unarmed. Fewer resources are the last thing the service needs.

Even Britain's idiomatic constitution is viewed through an American lens. Michael Gove, the minister responsible for devolution and an American history buff, has suggested calling the heads of new regions "governors". America's complicated separation of powers is invoked without regard for Britain's centralised system of government. This leads to the absurd spectacle of liberal critics demanding that Boris Johnson should be impeached, when the benefit of a parliamentary democracy is that MPs can hoof a prime minister from power whenever they like.

Self-perception is distorted by the mirror of America. When the Archbishop of Canterbury recently criticised the government's asylum policy, one MP complained that Britain separated church and state long ago. Wrong. When it comes to religion Britain, which gives bishops seats in its upper chamber and whose head of state sits atop the established church, is constitutionally closer to Iran. A sturdy right to free speech, à la First Amendment, is taken for granted when Britain is actually one of the few democratic countries where it is possible to be jailed for being "grossly offensive"—in effect, for being rude.

Okay by me in America

It is on social issues that America looms largest. A common language allows American ideas to inject themselves into the British discourse with alarming speed. Twitter, a Silicon Valley service to which Westminster has a chronic addiction, is an intravenous drip for doctrine. "Woke", originally an American term, now regularly crops up in the House of Commons. Concern about ideological excesses on American campuses is reflected onto British ones, where they are less present.

Already delicate debates, such as on race relations, are confused by America's extreme experience. Some of this is harmless. American vernacular, such as "people of colour", is now common in the British debate. Some of it is harmful. Britain's history of race is a tangled tale of empire and voluntary post-war immigration, which is quite different from America's. Yet the stories are often mashed together, blurring an understanding of Britain's past.

Comparisons between countries are healthy, but America is not the only benchmark. British politicians and policymakers can learn from nearer neighbours, too. France, a post-imperial power with the same level of population and wealth, offers an obvious analogue. Yet although the typical inhabitant of sw1 could regale someone with the life story of a 1950s planner from New York, he probably thinks Georges Pompidou was a painter. Bookshelf bingo needs new rules. ■

The propaganda front

Welcome to the Putin show

How the Ukraine war is presented to Russians

WHEN VLADIMIR PUTIN was elected president of Russia in 2000, he changed little in the office he inherited from Boris Yeltsin. Yet in place of a pen on the desk, Mr Putin put a television remote control, one visitor noted. The new president would obsess over the media, spending evenings watching coverage of himself. One of his first moves was to bring under Kremlin control the country's television networks, including NTV, an independent oligarch-owned channel, which had depicted him as a dwarf in a satirical show called "Kukly", or Puppets.

After more than two decades in power, today Mr Putin is the puppet master. The state controls the country's television channels, newspapers and radio stations. The Kremlin gives editors and producers *metodichki*, or guidance on what to cover and how. As young audiences shift online, it seeks to control the conversation there, leaning on social networks and news aggregators, blocking or undermining uncooperative digital media and flooding popular platforms, such as the messaging app Telegram, with state-approved content.

Propaganda has long propped up Mr Putin's regime. Now it fuels his war machine.

Since the president announced a "special military operation" in Ukraine on February 24th, control has become even tighter. Censorship laws bar war reporting that cites unofficial sources. Calling the war a "war" is a crime. Protesters are detained for holding signs that contain eight asterisks, the number of letters in the Russian for "no to war". Many Western social networks and platforms, including Facebook, Twitter and Instagram, have been banned or blocked. The last influential independent media have been pushed off air. Dozhd, an online tv station, has suspended its streams; Novaya Gazeta, a liberal newspaper whose editor recently won the Nobel peace prize, has halted publication; Echo Moskvy, a popular liberal radio station, no longer broadcasts from its long-time Moscow home on 91.2FM.

As Mr Putin's regime shifts from a relatively open authoritarianism towards a more closed dictatorship, its propaganda is changing, too. Early in Mr Putin's reign, Russian television created a world where,

as the author Peter Pomerantsev has described it, "nothing is true and everything is possible." The propaganda made viewers doubt anything they heard was true. Many dropped out of political life.

The new wartime propaganda increasingly serves as a stimulant. Television hosts and guests present the "special military operation" as part of a grander conflict in defence of Russia. State media have long emphasised the West's supposed undermining of Russia and Mr Putin's protection of the motherland. But where propaganda once sought mostly to breed passivity, the goal now is to mobilise support for Mr Putin's war, by convincing people that Russia is under attack. "The old rules of authoritarian life are breaking down, active participation is being demanded," says Greg Yudin, a sociologist and polling expert.

As in any country, the exact picture depends on the media you consume. For Russians with the desire and a bit of tech-savvy, unofficial information is still accessible. But those who follow the official news, as *The Economist* did on May 11th, see a world solely of the Kremlin's making. What follows is a day in the life of a follower of The Putin Show.

8:00am: You wake in your flat in a new high-rise on the outskirts of Moscow. It is a grey day, overcast and chilly. Your ageing mother has left a copy of Izvestia, a popular conservative daily, on the kitchen table. Scanning the front page, you encounter familiar storylines: Ukrainian Nazis, Western machinations, Russian heroism.



1

Выходит с марта 1917 года

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11 мая 2022

Среда

Iz.RU

«Мои предки Родину от нацизма защищали, и я буду защищать»

Владимир Машков — об отставке, уроках Стениславского и выходе в открытый космос

"My ancestors defended the Motherland from Nazism, and I will defend it too." So says Vladimir Mashkov, a famous actor.

2

«Докторы делают». А отчет о самопровозглашенной Донецкой Народной Республике, восточной Украине, о работе российских добровольческих медиков.

Жижесёр

РФ
государством»

05

Врачебный толк

Как российские медики-добровольцы работают в ДНР

► A famous actor vows to defend Russia from Nazism, like his ancestors before him (1). Other stories cover Russian heroism in Ukraine (2) and the strong performance of its economy (3). A report on the Azov Battalion, a Ukrainian military unit with far-right ties, says British troops created and trained it, fostering its Nazi ideology and adherence to neopagan cults (4).

A twisted mirror

State media had initially derided Western warnings of an imminent invasion, and seemed stunned to learn of Russia's attack. "Many thought it would all remain within the bounds of information warfare," says Maria Borzunova, who hosted a programme about official media on Dozhd. Some journalists made dramatic exits, such as Marina Ovsyannikova, a producer from Perviy Kanal ("Channel One"), Russia's main television network, whose on-air protest made headlines in the West. Most kept the machine running, whether out of allegiance to the system, colleagues or loved ones. "I was disgusted," says a journalist at a state-news agency. "I constantly thought, 'I need to leave'...but I have a family, a child and a mortgage."

Stunned or not, most of the initial reporting was triumphalist. Journalists implied the "special operation" would be concluded within days or weeks. Commentators questioned Ukraine's statehood, warned of Western-backed Nazis and insisted the Ukrainians were awaiting liberation. Many repeated one of Mr Putin's first explanations for the invasion: if Russia

→ See online

Experience a day in the life of a Russian media consumer, with translated audio and video clips, by visiting the digital version of this piece at www.economist.com/ThePutinShow



had not made a preventive strike, it would have been attacked.

As the conflict has dragged on, the tone has become increasingly hysterical. While the fighting in Ukraine is still officially a "special military operation", it is portrayed as only one front in a war with the West. Sanctions are proof of the West's intention to bring down Russia. Mr Putin is often referred to as supreme commander-in-chief, rather than his peacetime title of president. "They talk a lot about how they're building the new world order, how this is their moment in history to end us hegemony," says Francis Scarr, who tracks Russian media for the BBC's monitoring service.

Atrocities occur, but as a mirror of what Western audiences see. Civilians in Bucha,

a town north of Kyiv, were not massacred by Russian forces, but by Ukrainian soldiers. (Western security services then arranged the bodies on the roads for journalists to find.) "Sometimes I have the sensation that we live on two different planets with the same objects," says Zhanna Agalakova, a former correspondent for Perviy Kanal who quit in response to the war. Russian media "tell about a Mariupol where Russian tanks are met with flowers". Western media "tell about a destroyed city and about people who walk streets filled with chunks of human bodies".

Audiences are told that Russian troops take extra care to avoid civilian deaths—supposedly one reason the "special operation" is taking so long. If acknowledged at all, casualties are portrayed as heroes. The sinking of the Moskva, the flagship of Russia's Black Sea fleet, was explained as an unfortunate accident. Parallels with the Great Patriotic War tap into memories of an existential struggle against Nazism. Official media speak of cleansing the country, evoking Stalin's terror in the 1930s. The rhetoric is laced with a new religiosity. Hosts evoke a holy war, telling viewers that God is on Russia's side against the evil Western forces that encircle it.

11:30am. You scan your phone while at work. The trending news tab on VK, Russia's most popular social network, points you to a channel on the "situation around Ukraine". One post quotes the vice-premier of Crimea, which Russia regained in 2014. He says people in southern Ukraine are keen to re-join the Russian motherland. (5).

3

Минусы и плюс

Профит бюджета достиг 800 млрд рублей — что к этому?

"Minuses and a plus". Russia's budget surplus has reached 800bn roubles, thanks to rising oil prices. So much for Western sanctions.

4

"What one base of the infamous 'Azov' reveals." The story is about the Ukrainian Azov Battalion, its far-right ties, and the war crimes and murders its members are alleged to have committed.

Номерной фронт

Что скрывает база печально известного «Азова»

Максим Рамм

Отстань

Чем вызван

Наталья Бондаренко

5

RTVI 8 minutes ago

«Россия больше не позволит попирать основополагающие права наших соотечественников, безнаказанно стрелять в русский мир по указке Запада»

Вице-премьер Крыма: юг Украины станет российским

Вице-премьер Крыма: юг Украины станет российским
rtvi.com

Коммерсантъ 10 minutes ago

"The south of Ukraine will become Russian," says the vice-premier of Crimea.

► Another item describes Russia's security services foiling a supposed bomb plot, in which a member of Right Sector, a Ukrainian nationalist organisation, had planned an attack on May 9th—the date that marks Russia's victory over Germany in the second world war (6). How bad would the situation have become if Russia had let Nazism fester for longer in Ukraine?

Truth is a risky business

To some extent, at least, the propaganda works. On February 24th Mikhail Katsurin, a restaurant owner in Kyiv, woke to the sound of explosions. A few days later, he called his father, who lives in a small town in Russia. "I said, 'Dad, they started to bomb us, Russia invaded Ukraine,'" Mr Katsurin remembers. "He said, 'No Misha, that's all Ukrainian propaganda—in fact it's a peaceful operation and Russian heroes are saving you from Nazism.'"

Many Ukrainians (and anti-war Russians) have had similar experiences. Russians are watching more television news since the war began. Before the war, television viewing tended to correlate with support for Mr Putin. Perviy Kanal has replaced entertainment with extra current events. In place of daytime shows come programmes like "Anti-Fake", where panelists dismantle Western "disinformation". Popular state television hosts, such as Vladimir Solovyov, a noxious hawk, preside over mini multimedia empires that extend through social media and radio.

Opinion polls find support for the "special military operation" as high as 80%. But

the numbers are suspect. "Public opinion presupposes the existence of a public sphere, but that has been destroyed in Russia," argues Mr Yudin. Open discussion of the war is all but impossible. "There is the sense that something is happening that we can't talk about, because we need to hang onto our sense of normality," says Mr Yudin. "It's as if a dead man is lying there, but we can't talk about it."

But the propaganda machine is not all-powerful. There have been reports of soldiers refusing to fight. Two teenagers were arrested earlier this month for throwing Molotov cocktails at a military recruitment office. The Kremlin has so far refrained from a full-scale mobilisation and a draft. Officials know it would be unpopular.

Unofficial information can still be found. YouTube remains unbanned. The opposition leader Alexei Navalny's team draws large audiences there; many hosts from Echo Moskvy now broadcast on the site. Telegram has channels of every political stripe. Banned sites can be accessed via virtual private networks (VPNs). Russian downloads of the ten most popular surged to 700,000 a day in the month after the war began, compared with an average of 16,000 a day before, according to Appfigures, a data firm. "Modern people with gadgets have the ability to watch and read anything," says Mr Kolesnikov.

But such people are a minority. Before the war, around 30% of Russians used Instagram each day. That number had fallen to 10% by late April, according to Mediасcope, a research firm. Echo Moskvy used

to have a national audience of 3m. Its reincarnation on YouTube has just 554,000 followers. Many Russians, especially older ones, do not have the means or skills to use VPNs, and Western sanctions have made paying for them tricky, too.

At the same time, many consume official information by choice. Misinformation, and not only Mr Putin's, exploits quirks of the human mind. People tend to believe stories that reinforce their existing beliefs, a process known as 'motivated reasoning'. Mere repetition can also make information seem more believable. In today's Russia, those mechanisms are backed up by repression. "People don't want to watch [unofficial media], and if they watch it, they don't want to believe it," says Mr Kolesnikov. "It is a psychological defence mechanism."

6.00pm. As you drive home, stuck in traffic along the Third Ring Road, you catch the news on the radio. As usual, the special operation in Ukraine dominates. Talk of Western-backed bio-labs and engineered plagues seems like something out of science fiction. But then so does much of life since the pandemic began. Perhaps the Americans really would do such a thing (7).

9:20pm. After dinner, you lounge in front of a television talk show hosted by Vladimir Solovyov. His monologue, delivered from a sleek studio, has a clear set of messages. The West seeks nothing less than Russia's complete destruction, Mr Putin has the trust of the Russian people and it is time for you to show your support (8). You rise, but only to grab a beer from the fridge. ■

6

РБК 10 minutes ago

Сотрудники Федеральной службы безопасности задержали в Калининграде сторонника запрещенной в России экстремистской организации «Правый сектор». По данным Центра общественных связей ФСБ, задержанный является гражданином России. Мужчина готовил теракт ко Дню Победы в отношении российских военных. После этого... Show More

B Kali 3 865 Members of Russia's security services capturing a Ukrainian alleged Nazi sympathiser, who had planned a terrorist attack on Victory Day.

7

"Ukraine was a base for developing components of biological weapons and developing new kinds of specimens... according to the Russian armed forces, [America] already tried to artificially spark an epidemic in the Donbas."

STEPAN GRISHIN, VESTI FM

8



"It's not only about the liberation of the fraternal Ukrainian people from Nazism," says Vladimir Solovyov, a television host. "We are truly fighting for the right to be Russian."

**SoftBank**

Hard landing

The Japanese investment giant's travails are global tech in a nutshell

A YEAR AGO, at the height of the pandemic boom in all things digital, Son Masa-yoshi embodied the futuristic promise of global techdom. The flamboyant founder of SoftBank Group, a telecoms-and-software firm turned investment powerhouse, reported the highest ever annual profit for a Japanese company, driven by soaring valuations of the public and private technology darlings in its vast portfolio.

Twelve months later SoftBank and Masa, as Mr Son is known for short, are once again the face of tech. Now both he and the industry are dealing with rising interest rates, deteriorating balance-sheets, investor disillusionment and, for good measure, China's crackdown on its digital champions and reinvigorated trustbusters in the West. What happens next to the Masa-verse is thus of interest not just to SoftBank's ailing shareholders, who have collectively lost \$140bn or so in stockmarket value since its share price peaked in February 2021, but also to anyone interested in the fate of tech more broadly.

On May 12th SoftBank reported a net loss of ¥1.7trn (\$15bn) for the latest financial year ending in March, caused primarily by a ¥3.7trn write-down in the net value of its flagship tech investments (see chart 1 on next page). Its public holdings, most notably in Alibaba, a Chinese e-commerce giant pummelled by the Communist Party's crackdown on China's big tech, are losing their shine. Northstar, an ill-fated trading unit which funnelled surplus funds from the parent company mainly into American tech stocks, has been all but

wound down after losing ¥670bn last year.

SoftBank's vast private investments, in loss-making startups with unproven business models, are being rapidly repriced as higher interest rates make firms whose profits lie mostly far in the future look less attractive to investors. Competition authorities have halted the \$66bn sale of Arm, a British chipmaker, to Nvidia, a bigger American one. All this is making SoftBank's net debt of \$140bn, the sixth-largest pile for any listed non-financial firm in the world, harder to manage. And there may be more pain to come, for the tech sell-off has accelerated since March, when SoftBank closed the books on its financial year.

SoftBank's first big challenge has to do with its assets—and in particular its ability to monetise them. The pipeline of initial public offerings (IPOS) from its \$100bn Vision Fund and its smaller sister, Vision Fund 2, is drying up. That makes it harder for Mr Son to realise gains on early investments in a string of sexy startups. Oyo, an Indian hotel firm backed by SoftBank, unveiled plans in October to raise \$1.1bn from a listing, but more recent reports suggest that the company could cut the fundraising target or shelve the plan altogether. Other holdings, including ByteDance (TikTok's Chinese parent company), Rappi (a Colombian delivery giant) and Klarna (a Swedish buy-now-pay-later firm) were all rumoured to be plausible IPO candidates for 2022. None has announced that it in-

→ **Also in this section**

60 Does Musk still want Twitter?

61 Adani cements his legacy

61 The great unSPACing

62 Supermarket crash

63 Bartleby: Better brainstorming

64 Schumpeter: Green power v Biden

tends to list and that may not change while market conditions remain rough—which could be for some time.

Arm, which is now expected to launch an IPO, may offer a reprieve. Mr Son wants to list the chipmaker by the middle of next year. But even optimists doubt a flotation can fetch anything like the sum Nvidia was offering before regulators stepped in. At the bullish end, Pierre Ferragu of New Street Research, an investment firm, suggests Arm may be valued at or above \$45bn in the public market—\$13bn more than SoftBank paid for it in 2016 but well shy of Nvidia's bid. More bearishly, Mio Kato of Lightstream Research, a firm of analysts in Tokyo, says he struggles to imagine that the chip firm is worth more than \$8bn.

Mr Son's problems do not end with the asset side of his company's balance-sheet. Its debt, too, looks problematic. In the near term, it appears manageable enough. SoftBank's bond redemptions in the coming 12 months are modest: \$3.3bn-worth will mature in the current financial year, and another \$6.8bn between April 2023 and March 2024. SoftBank's \$21.3bn in cash would be more than adequate to cover those repayments. Mr Son has pointed out that despite the heavy investment losses his company's net debt as a share of the equity value of its holdings has remained largely unchanged, at around 20%.

The price of credit default swaps against SoftBank's debt, which pay out if the company defaults, tell a different story. Across most maturities from one year to ten years, the swaps have only been more expensive once in the past decade—during the market turmoil of March 2020, as countries went into the first pandemic lockdowns (see chart 2). The group possesses other large liabilities: its original Vision Fund, a gigantic vehicle for speculative tech investments, has no short- or medium-term debt of its own but the holders of \$18.5bn in preferred equity tied to it are entitled to a 7% coupon, regardless of the performance of the underlying holdings.

Moreover, SoftBank does not include



margin loans against holdings such as Alibaba in its preferred loan-to-value measure. The full details of such loans are not disclosed. On top of that, as of mid-March a third of Mr Son's \$18bn stake in SoftBank was pledged to a range of banks as collateral for his own borrowing. The detailed agreements that govern such deals aren't public, so it is unclear when or whether margin calls that force sales of those shares could be triggered. That could put downward pressure on SoftBank's share price. All this helps explain why SoftBank shares have consistently traded at a large discount to the net value of its assets (see chart 3).

Mr Son's admirers, a vocal if dwindling bunch, point out that SoftBank still has plenty going in its favour. Its Japanese telecoms business, SoftBank Corp, remains profitable (and helped offset some investment losses). It has survived previous bear markets intact, including the dotcom bust at the turn of the century—not least thanks to Mr Son's early bet on Alibaba. It is not inconceivable that one of SoftBank's current wagers proves equally successful.

As for future gambles, Mr Son struck an uncharacteristically sober note in the latest earnings call. Private firms adjust their valuations a year or two after the public market, he said, so they are still commanding high multiples. "The only cure is time," he mused philosophically. Perhaps. Except that in other ways, time is not working in SoftBank's favour. ■

Elon Musk and Twitter Trick or tweet?

An epic case of buyer's remorse

ELON MUSK recently suggested he might introduce an edit button to Twitter, to let users revise injudicious tweets. He might wish such a thing already existed. Less than a month after tweeting that he looked forward to unlocking the social network's "tremendous potential" as its incoming owner, on May 13th he told his 94m followers that the deal was "on hold".

Mr Musk says he needs time to check Twitter's claim that no more than 5% of its users are bots, robot accounts used for spamming. Without proof of this, he said, the deal "cannot move forward". Twitter's CEO, Parag Agrawal, posted a long explanation of how the firm came up with the estimate. Mr Musk replied with a poo emoji.

Identifying bots is hard. They may well make up more than 5% of Twitter's users. But it sounds like a "dog ate the homework" excuse for cancelling the \$44bn acquisition, in the words of Dan Ives of Wedbush Securities, an investment firm. There are other reasons why Mr Musk may have got cold feet. The value of tech stocks has tumbled since the Twitter deal was announced on April 25th. Mr Musk agreed to pay \$54.20 per share (an apparent reference to cannabis, which is associated with the number 420). This week Twitter's shares have been trading as low as \$37.

Not only may Mr Musk fear overpaying. The acquisition also risks harming his much bigger interests. Tesla, his electric-car company and source of most of his wealth, has lost 29% of its market value—\$305bn—since the Twitter plan was hatched. Investors worry that the social network could prove a distraction for Mr Musk, who has indicated that he may serve as its interim chief executive. It could also harm Tesla's business in China, where Twitter is banned.

Twitter's board says it intends to enforce the acquisition agreement. But it is in a tight spot. Compelling Mr Musk to make good on his offer would mean months in court, with no guarantee of success. There is no obvious alternative buyer. If the deal falls through, Twitter's share price will drop below \$30, thinks Mr Ives, who believes Mr Musk hopes to use this leverage to negotiate a lower price. Unlike with his tweets, the billionaire may yet be able to edit his contract.





Indian business

A new foundation

MUMBAI

Asia's richest man cements his grip on India's heavy industry

GAUTAM ADANI is a man of few words but, as Asia's richest tycoon, plenty of means. On May 15th he agreed to pay \$10.5bn for Ambuja Cement, India's second-biggest cement-maker, controlled by Holcim, a Swiss building-materials behemoth. Mr Adani's terse statement accompanying the deal belies its significance. It will be the largest outright acquisition of an Indian company since Walmart, an American supermarket titan, purchased Flipkart, an Indian e-merchant, in 2018.

Ambuja was founded by Narotam Sekhsaria, a Bombay cotton trader with a degree in chemical engineering but no background in cement. He managed to turn a commodity into a consumer product through a clever slogan ("giant strength") and an eye-catching logo (a giant clutching a building). After courting Ambuja for years, Holcim succeeded only in 2005-07, as Mr Sekhsaria's health began to fail.

Since then the business has flailed. In the past decade, according to Kotak Securities, a broker, capacity at Holcim's Indian holdings expanded by less than 2% a year, compared with a rate of 10% for UltraTech, India's biggest cement-maker, and 13% for Shree Cement, an upstart. Holcim has not disclosed how much it paid for its Indian venture. One analyst puts the figure at around \$2bn. Given that it will receive \$6.4bn for its 63% stake, this would amount to an adequate but unexciting annual return of perhaps 8%. (The other \$4bn

or so Mr Adani is paying will go to Ambuja's minority shareholders.)

The deal is more favourable for Holcim in other ways. It fits in with the firm's broader shift towards a greener, less cement-centric business. In recent years it has sold cement units in Brazil, Indonesia, Malaysia, Russia, Sri Lanka and Vietnam.

Critically, it shouldn't attract antitrust scrutiny, whereas success by one of the two other bidders might well have raised trust-busters' concerns. UltraTech, controlled by the Birla family, is India's biggest cement-maker. The Jindals' JSW Group, a big steel producer, has a growing cement business. The Competition Commission of India has been looking into a possible cement cartel since at least 2010. A case involving Holcim is before the Supreme Court. Another investigation was reportedly launched in 2020. As part of the sale, Holcim will be spared from any judgment, its chief executive, Jan Jenisch, told analysts.

But it was not solely because Mr Adani has no existing cement operations that he prevailed in the fight for Ambuja. What he brought also mattered. The Adani Group owns power utilities, useful in running energy-hungry kilns, and India's biggest network of ports to ship the stuff. Its coal-fired plants provide a by-product, fly-ash, required for cement-making. Most important, the tycoon displays an uncanny ability to raise capital. Paired with vaulting ambition, it is a hard mix to beat. ■

Stockmarket listings

Where did the cash go?

SPACS raised billions for mergers. As deals dry up, we follow the money

AMERICAN CAPITALISM has a special reverence for large numbers. They can frighten as debt or reassure as backstops. The \$260bn raised by special-purpose acquisition companies (SPACs) since the start of 2020 lacks the multitrillion-dollar aura of federal debt or America's pandemic stimulus. It is nevertheless big enough to have become a defining symbol of recent market mania.

SPACs used to be a curious capital-markets sideshow: complex, obscure, hardly novel. A conventional initial public offering underwritten by investment banks was the marker of corporate maturity; merging with a pile of cash and entering the stock-market by the backdoor was not. This changed when stockmarkets rallied from their covid-induced lows: more than 800 SPACs raised capital between May 2020 and December 2021. Underwriting fees were collected; questionable incentives and complexity remained.

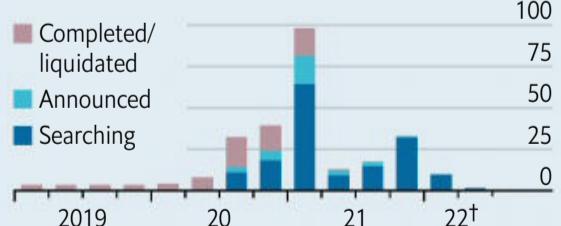
This year investors appear to have remembered why some disliked SPACs in the first place. Few new blank-cheque vehicles are being listed. Rising interest rates are chipping away at the present value of speculative firms' future profits and investment banks are pulling back from this kind of faddish financial engineering in expectation of tough new due-diligence rules.

At the same time, many existing SPACs are having trouble finding merger targets. ►

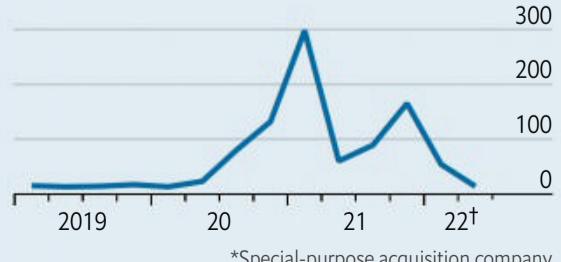
Seeking purpose

United States, SPAC* initial public offerings

Proceeds, \$bn



Number of deals



Source: Bloomberg

*Special-purpose acquisition company

[†]To May 16th



tions. Many are short of cash. Almost half of the companies included in the de-SPAC index are currently burning through cash fast enough to empty their coffers within two years. This month Canoo, an electric-vehicle maker whose investor presentation benchmarked its valuation to Netflix and Tesla, expressed "substantial doubt" about its future as a going concern.

An index tracking 25 large companies which went public through de-SPAC transactions is down by 52% this year, compared with a 27% fall for the tech-heavy NASDAQ (see chart 2). Grab is now worth \$10bn. The dilution caused by free shares designed to compensate a SPAC's sponsor magnifies the sector's losses.

Unsurprisingly, then, SPACs are once again paraded as symbols of market excess, where moonshot assets were pursued at otherworldly valuations. In practice, a stockmarket correction and increased regulatory scrutiny means the majority of SPAC investors will never see their cash put to work. They are the lucky ones. ■

► The big-shots (or "sponsors") who erect the empty shells are typically given 24 months to find a business to acquire (or to de-SPAC, in Wall Street lingo). They are struggling: 27 such transactions were announced in the first three months of 2022, compared with 77 during the same period in 2021. Of the 298 SPACs listed in the go-go first quarter of 2021, raising \$97bn, 196 have yet to announce a de-SPACing. In all, more than 600 American-listed SPACs are still searching for a target. That is a lot of clocks counting down, and a lot of unspent cash. Where is it all now?

Ironically, much of this money, once chasing some of the riskiest tech bets out there, has been parked in finance's dullest quarter. Approximately \$160bn currently sits in trust accounts, invested in risk-free Treasuries. It could be ploughed into the next white-hot tech stocks in early 2023, when the countdowns end and investors' cash is returned. Until then, being locked up in a SPAC without the prospect of a merger resembles investing in a money-market fund. Investors profit from the difference between its trading price and the money returned upon its liquidation. At present, the average yield-to-maturity on these blank cheques is above 3%.

Astute investors know better than to hang around for the blank cheque to blossom into a real business. After a SPAC announces a merger, investors are given the chance to redeem their shares and have their investment returned. Average redemptions are running at more than 50%. Excluding additional funding and deals hanging in limbo between announcement and completion, *The Economist* calculates that less than \$40bn of capital invested in SPACs since 2020 has found its way onto the balance-sheet of an operating company. That is roughly the valuation at which Grab, a South-East Asian super-app, tied up with a SPAC in December 2021.

Investors in de-SPACed firms have fared far worse than those in SPACs wanting for a target. One recent study finds that barely more than a third hit their revenue projec-

appealing than usual. And investors appeared to believe that it had the power to make those prices a bit less low, passing its own rising costs without putting off shoppers or sacrificing margins.

On May 17th economic reality finally caught up with America's supermarket titan. The company reported quarterly earnings that fell short of even the most conservative analysts' estimates, blaming chiefly supply-chain snags and the rising cost of labour and transport. Its share price fell by 11%, a daily drop second only to the one the firm experienced in the trading session before the Black Monday stockmarket crash in 1987. A day later it slid by another 7%. The same day Target, another pandemic retail star, reported similarly disappointing results, wiping out 25% of its market value. The two companies shed a combined \$65bn in market capitalisation in the space of two days.

Historically, inflation has often benefited big supermarkets. Elevated prices boost the nominal value of sales. As for higher unit costs, these could often be passed on to shoppers, who are likelier to keep needing supermarkets staples and less likely to gripe about higher bills if everything else they buy is also dearer. This time, though, the retailers are finding it harder to offset the steep increase in operating expenses. Target's chief executive, Brian Cornell, anticipates an extra \$1bn in transport costs this year as soaring energy prices dent profits. It is already raising prices in response—evidently not fast enough.

Walmart, far bigger of the two, is better placed to absorb some of the higher costs. But even the Beast of Bentonville now expects earnings to decline by 1% this year. In addition to costlier transport, Walmart also reported higher wage costs, not least as a result of a hiring spree to ensure ►

Retailing

Supermarket crash

Rising costs catch up with America's big retailers

WALMART WENT from strength to strength during the covid-19 pandemic. Its years-long investments in online fulfilment finally began to pay off as virus-wary shoppers swapped aisles for apps. As inflation picked up initially, its "everyday low prices" looked even more



Things get messy for Walmart

► enough workers amid the Omicron wave of covid-19. It stocked too many clothes and home furnishings in order to avert a supply crunch, just as appetite for these products waned. And margins suffered as penny-pinching customers switched away from pricier premium brands to the supermarkets' less lucrative own labels.

Neither firm is about to collapse. Target's revenues rose year on year, in nominal terms at least. So did traffic in its stores—something that is “rare to find in retail these days”, according to Morgan Stanley, an investment bank. Walmart's

sales were up by 2.6%, to \$142bn. Founded by a man who prized frugality, the bigger retailer has an established reputation for good value—a particular virtue in shoppers' eyes during a recession, which can no longer be ruled out (see Finance & economics section). Its large grocery business offers a hedge against a downturn. And wealthier shoppers with bigger savings may migrate to Walmart from higher-end retailers, which could help pad margins.

The question now is who will be the next to face a reckoning. The share prices of smaller retailers like Kroger and Dollar

General, which have yet to report their first-quarter results, have been dragged down by association. Consumer-goods giants may be the next in line. Firms like Procter & Gamble (P&G) have been raising the prices of their premium brands to counter their own margin squeeze. Now they may think twice before doing so again, lest they lose sales. Such calculations diminish their pricing power, which markets have tended to reward handsomely. Investors may have taken note. On May 18th P&G's share price fell by 6%, even more than the wobbly stockmarket as a whole. ■

Bartleby Making brainstorming better

Let's pour some thought bubbles into the ideas jacuzzi

THE WORD “brainstorming” conjures up a vision of hell. It is someone saying, “Fire up the brainwaves barbecue.” It is trying desperately to work out where everyone else's cursors have gone on a digital whiteboard. It is hearing the line “there are no bad ideas” and thinking “how did this get scheduled then?”

Yet brainstorming persists, and for decent reasons. Normal routines afford employees precious little time to think. Getting a group of people together is an opportunity to harness disparate viewpoints. Producing, filtering and selecting new ideas in an efficient way is an appealing proposition. So why is brainstorming often so painful?

The problem is that brainstorming must strike a balance between a series of competing imperatives. One tension is between creativity and feasibility. A brainstorm is meant to be freeing, a chance to ask out-of-the-box questions (like, “Wouldn't it be great if people had prosthetic tails?”). But it is also meant to produce suggestions that can actually be translated into reality, which calls for a more pragmatic style of thinking (like, “What are you talking about? We work at a salad chain.”).

Research carried out in 2017 found that different types of ideas emerge at different stages of a brainstorm. The most feasible suggestions were generated at the start of brainstorming sessions, presumably because they were also more obvious, and the most original ones came later. Both types risk producing a “what's the point?” reaction from participants: incrementalism is unexciting, wild schemes are not going anywhere.

A second tension is between managers and non-managers. By its nature brainstorming is insiderish. Someone has to arrange the session, and that

person is often the manager of a team. If decision-makers are not in the room, then the suspicion will grow that time is being wasted. If they are, then hierarchies easily assert themselves: good ideas can wither with a frown from the boss, and bad ones can survive with a nod.

A related issue concerns the presence of outsiders. There is a natural temptation to keep drawing on the same senior people within an organisation to generate ideas: these are the ones who get things done, who understand a company's strategy.

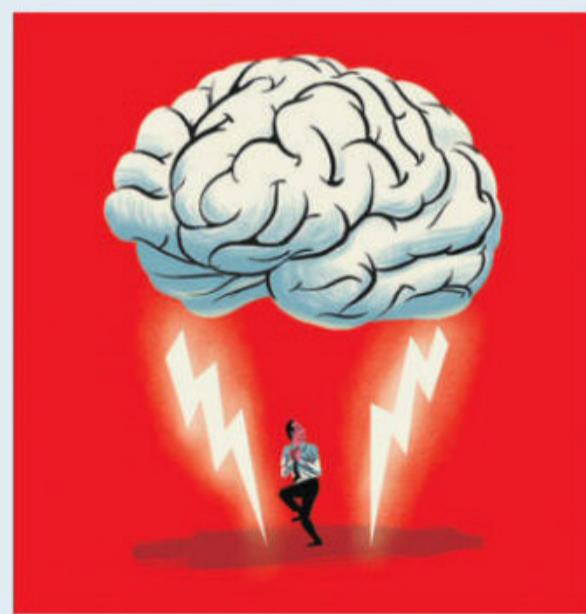
Yet reams of research suggest that outsiders bring a fresh perspective. That might be people from related industries: in an experiment carried out in 2013, carpenters, roofers and rollerbladers were asked how to improve safety gear in all of their fields and the most novel ideas came from people who were not in the area in question. But it might also be middle managers or front-line employees who have direct contact with customers.

A third balance to strike is between different personalities and different styles of thinking. A new paper from researchers

at Columbia Business School and Stanford Graduate School of Business finds that brainstorming on Zoom comes at a cost to creativity: as people's visual focus narrows on the screen in front of them, their cognitive range also seems to become more limited. But if in-person gatherings are better, they also do not work equally well for everyone. Some personalities are immediately comfortable saying what they think; others need to be coaxed to share their opinions.

These are known problems, and there are plenty of ideas out there to solve them. The trouble is that lots of them feel like they are themselves the product of a bad brainstorming session. “Figure-storming” is a way for people to combat groupthink by pretending to be a famous person (“how would the queen improve cloud computing?”). “Step-laddering” involves people joining a brainstorm one by one, for reasons that are not entirely clear. Breaking the ice by throwing a word-association ball at each other is a brilliant idea, if you are throwing a birthday party for ten-year-olds.

Some simpler rules are much more likely to help. Define the parameters of a brainstorming session upfront. Try to make a specific thing work better rather than to shoot for the Moon. Involve people you don't know, as well as those you do. Start by getting people to write their ideas down in silence, so extroverts and bosses have less chance to dominate. And be clear about the next steps after the session is over; the attraction of holding a “design sprint”, a week-long, clear-the-diary way for a team to develop and test product prototypes, is that the thread connecting ideas to outcomes is taut. All of which would make brainstorming a little more thought-provoking and a tad less heart-sinking.



Schumpeter | Slow and unsteady

America's clean-energy industry is stuck. Blame in part its climate-friendly president



AMERICA'S CLEAN-ENERGY bosses thought they would by now have more to celebrate. In the presidential campaign of 2020 Democrats tried to outbid one another on climate plans—Joe Biden offered \$2trn, Bernie Sanders's Green New Deal was \$16trn—as if the nomination would go to the highest bidder. In the three months after Mr Biden defeated Donald Trump, an index of clean-energy firms jumped by about 60%. Goldman Sachs, a bank, forecast "a new era for green infrastructure" in America and beyond.

Though Mr Biden's infrastructure bill offered some help for clean energy, a giant climate bill now seems fantastical. Worse, green power is not just failing to boom. It is going bust. An array of American solar projects have been delayed or cancelled amid a federal probe into tariff evasion by manufacturers of solar panels and modules. The countries in question—Cambodia, Malaysia, Thailand and Vietnam—together produce about 80% of America's solar-panel imports. Politics is stymying makers of wind turbines, builders of wind farms and the utilities that buy power from them.

The results are stark. So far this year the clean-energy sector has lost about 25% of its market value, compared with an 18% drop for the benchmark S&P 500 index of big American firms. Rystad Energy, a research firm, estimates that two-thirds of its forecast solar installations for this year are in doubt. According to BloombergNEF, a data provider, the capacity of new renewables projects in 2022 looks set to be a tenth lower than in 2020, under the wind-mill-hating Mr Trump.

Two years ago clean-energy enthusiasts were right to feel bullish. In the decade to 2020 the levelised cost of electricity—which takes into account investment in equipment, construction, financing and maintenance—had fallen by 69% for onshore wind and 85% for solar projects, according to Lazard, an advisory firm. With renewables technologically mature and economically competitive, utilities and developers planned to pour money into solar and wind. NextEra Energy, a giant utility that in 2020 briefly overtook ExxonMobil to become America's most valuable energy firm, said it would spend up to \$14bn a year on capital projects in 2021 and 2022, calling it "the best renewables development environment in our history". In the arduous effort to decarbonise America's economy, building clean power would be the easy part.

Turns out it isn't. Some problems stem from the pandemic and gummed-up global supply chains. Pricey commodities helped push up the levelised cost of wind and solar in the second half of 2021 (though more slowly than for coal and gas). But many of the current woes are political in nature. Take restrictions on products from Xinjiang. Last year Mr Biden, seeking to limit imports made with forced labour, announced a ban on polysilicon coming from big companies producing in the Chinese region. American importers scrambled to present proof that they weren't violating the ban. As customs officials pored over suppliers' lengthy attestations, in Chinese, solar modules languished in ports. A lack of equipment forced developers to delay construction.

That problem has now been dwarfed by a bigger one. In March the Commerce Department humoured a request by Auxin Solar, an American manufacturer, to check if Chinese companies were circumventing anti-dumping tariffs. Duties had originally been imposed by Barack Obama, then extended by Mr Trump; Auxin claims that firms are dodging tariffs by making parts in China but assembling modules in their South-East Asian factories.

The effect is that a small American firm is obstructing more than 300 projects, according to a tally by the Solar Energy Industries Association, a lobby group. Some developers cannot get their hands on kit. Others find that costlier gear has put their construction deals in the red. NextEra told investors in April that up to 2.8 giga-watts of solar and battery projects planned for this year, equivalent to around a tenth of its intended renewables investments in 2021-24, would be delayed. American assemblers of solar panels, it said, were sold out for the next three years. America's largest solar project, spanning 13,000 acres of Indiana, has been postponed. NiSource, the utility behind it, will instead delay the retirement of two coal-fired power stations to 2025.

The challenges facing the wind industry look less severe only in comparison. Like many capital-intensive industries, the wind sector is grappling with rising costs of steel, copper, resin and other materials needed to craft turbines. Global manufacturers such as Vestas and Siemens Gamesa have seen their margins shrink. In America, rising input costs have unfortunately coincided with declining tax credits. It is possible that Congress could extend those for wind—but improbable given partisan deadlock. In the meantime developers and utilities are delaying new contracts, unwilling to make commitments before knowing the true costs.

Politicians may create problems where things have been going well, as with auctions for seabed leases for offshore wind farms. These have attracted ample bids from oil firms and utilities. The House passed a bill in March with bipartisan support that would require the giant boats used to install turbines off America's coast to replace some foreign crews with Americans. Wind executives note the country lacks enough people with the requisite skills.

A high-voltage situation

Republicans, who look poised to control Congress after the mid-term elections in November, remain more hostile to greenery than Democrats. But the renewables industry's current troubles highlight the contradictions within Mr Biden's coalition. It wants to build green projects quickly. At the same time, it wants Americans to build them with American inputs. The trouble is that you cannot have both. In a letter to Mr Biden on May 17th, 85 members of Congress argued that the tariff inquiry could cost America's solar sector more than 100,000 jobs. That is bad for workers, bad for the renewables industry—and terrible for the climate. ■

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→ Also in this section

- 68 Bleak figures from China
- 69 Baby formula hits bottlenecks
- 69 Unstablecoins
- 70 The struggles of carbon offsets
- 71 Buttonwood: Is China uninvestible?
- 72 India's dodgy stats
- 74 Free exchange: Intangible assets

The world economy

Recession watch

SAN FRANCISCO

Global growth is slowing, but not stopping—yet

SINCE 1900 the global economy has fallen into recession, as defined by a year-on-year decline in GDP per person, about once a decade on average. In 2020 the world experienced the deepest downturn since the end of the second world war. Just two years on, is another recession on the way?

Worries are certainly mounting. The war in Ukraine has triggered higher food and energy prices, which have hammered households' disposable incomes. Lockdowns in China are disrupting supply chains. And central banks are rapidly raising interest rates to tame inflation.

Fears about the state of the world economy have jolted financial markets. In the past month stockmarkets in rich countries have fallen by more than a tenth. Risky assets, including tech stocks and cryptocurrencies, have taken a nasty blow. Economists, meanwhile, are steadily downgrading their forecasts for global growth. To what extent are recession fears already materialising? A look at the data gives grounds

for cautious optimism—for now, at least.

True, in many places people sound as though the recession is already here. Across the OECD, a club mostly of rich countries that accounts for more than 60% of global GDP, consumer confidence is now lower than it was when the coronavirus first struck (see chart on next page, top panel). A gauge of American consumers' sentiment constructed by the University of Michigan this month fell to its lowest level in a decade, according to a preliminary estimate. Respondents were gloomier about their own financial situations; fewer of them thought it a propitious time to buy durable goods, on account of high inflation. If consumers hold back from spending, the economy will slow.

Yet, so far, what people say and what people do seem to be different things. Global restaurant bookings on OpenTable, a reservations website, are still above the pre-pandemic norm. In America retail sales are still increasing, and hotel occu-

pancy continues to improve. A high-frequency measure of Britons' spending habits, constructed by the Office of National Statistics and the Bank of England, shows little sign that people are holding back from social activities, or from purchases that could be deferred.

Consumers are likely to be able to carry on spending for a while, even as inflation cuts into purchasing power. Households across the OECD are still sitting on roughly \$4trn of savings (worth 8% of GDP) accumulated during the pandemic, according to our estimates. And, contrary to what is commonly supposed, not all that money is in the hands of the rich. In America the bank accounts of low-income families were still 65% fatter at the end of last year than in 2019.

Businesses too look resilient for now. Rising costs are hitting the profits of some retailers (see Business section). But the OECD's measure of business confidence remains solid. Data from Indeed, a jobs site, suggest that vacancies in rich countries may have stopped increasing—but they are still plentiful. There remains appetite for investment, too. Analysts at JPMorgan Chase, a bank, reckon that global capital spending rose by 7.6% in the first three months of the year, compared with the same period the year before—twice its rate towards the end of 2021.

Some countries do look weak. Goldman ▶

► Sachs, another bank, produces a “current-activity indicator”, a high-frequency measure of economic growth based on a combination of surveys and official data (see chart, bottom panel). The Russian economy has sharply slowed since Western countries slapped on sanctions in response to the invasion of Ukraine. And in China, where the government’s zero-covid strategy has led to the strictest lockdowns since early 2020, the economy may well be shrinking (see next story).

But most places are stronger. Adapting a weekly GDP series for 45 countries, including India, Indonesia and the G7, produced from internet-search data by Nicolas Wolszko of the OECD, we estimate that global GDP growth has remained steady in recent weeks. Overall, Goldman’s measure of economic activity is lower than it was in early 2021, when economies reopened, but it is still respectable.

The data could yet shift—if Russia turns off the gas taps to Europe, China tightens lockdown restrictions further or central banks are forced to raise interest rates faster than they currently expect. When America’s labour market has been this tight in the past, notes JPMorgan, a recession has tended to follow in “the medium term”. But the 12th global recession since 1900 does not seem to have started just yet. ■

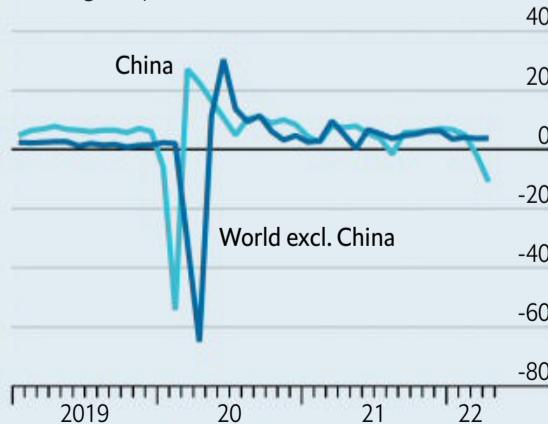
Down in the dumps

Consumer confidence
Long-term average=100



Current-activity indicator*

% change on previous month, annualised



*High-frequency measure of economic growth for 50 countries, accounting for 90% of world GDP

Sources: OECD; Goldman Sachs

China's economy

When bad data are good

HONG KONG

Even China's official economic figures look bleak

WHEN CHINA was locked down during the first wave of the pandemic in early 2020, economic forecasters had to make two predictions: how much would the economy suffer? And how much of this suffering would the official statistics be allowed to reflect? When China reported a historic 13.5% decline in industrial production in January and February 2020, compared with a year earlier, it surprised many forecasters not because it diverged from their bleak view of the economy, but because it challenged their cynical view of the statisticians.

Now that China is squirming under its most stringent lockdowns since early 2020, the same conundrum has returned. How bad will the economy get? And how faithful will the data be? An early answer to both questions arrived this week. The data were worse than expected, and therefore worthier than feared.

On May 16th China reported that industrial production fell by 2.9% in April compared with a year earlier. Compared with the previous month, it fell by over 7%, according to the National Bureau of Statistics. The number was the most consequential surprise since the spring of 2020, according to a measure by Goldman Sachs, which considers both the scale of the forecast error and the significance of the indicator. Retail sales fell by 14% compared with a year earlier, once adjusted for inflation. Catering fell by more than 22% and car sales by over 30% in nominal terms. In locked-down Shanghai, sales of cars were “about zero”, according to the Shanghai Automobile Sales Association.

Some of the most spectacular declines were in the all-important property sector. Sales of new homes fell by 42% and housing starts by over 44%. Even China’s unemployment figures, long mocked for their uncanny stability, were morbidly interesting. In 2018 China rolled out a new unemployment survey in its cities. This superseded an older, spectacularly uninformative measure, which counted the number of people who qualified for, and were able to claim, unemployment benefits. The new survey showed unemployment rising to 6.1% in April, still a little below its peak of 6.2% in February 2020. But in 31 big cities, unemployment is now 6.7%, whereas it reached only 5.7% in 2020. This suggests that Omicron—or the policy response to it—has hurt China’s larger cities dispro-

portionately. The pattern of economic pain is different this time.

It remains to be seen whether these grimly realistic monthly indicators will translate into a similarly unflattering official GDP figure for the second quarter. When the pandemic first struck, China had yet to commit itself to an official growth target for the year. That perhaps gave it more leeway to report a big drop in first-quarter GDP. This year, by contrast, China’s leaders have already set a target of around 5.5%, and promised as recently as April 29th to try to meet their economic goals.

It is just not clear how. On May 15th China’s authorities said the floor on mortgage rates would be cut for first-time buyers. But that will make little difference if people cannot go out to view properties. The government has also placed great emphasis on infrastructure investment. But this increased by only 4.3% in nominal terms in April, compared with a year earlier—far short of the 18% pace that Natixis, a bank, thinks it needs to reach if China is to grow anywhere near 5% this year.

Until the authorities relax their covid controls, their efforts to revive growth are likely to be ineffective. They must therefore be hoping that Omicron recedes fast enough to allow growth to catch up later in the year. Alternatively, if China cannot bring itself to abandon its growth target, it may have to fiddle its GDP figures. That would be a pity. Many of China’s economic indicators may be shrinking dramatically. But their credibility edged up this week. ■



The economy is going nowhere

Inflation in America

Powder keg

WASHINGTON, DC

What a baby-formula shortage reveals about corporate heft and price gouging

SHOPPERS HAVE become all too familiar with the fragility of supply chains. In America the latest product missing from supermarket shelves is infant formula. Whereas previous shortages, affecting everything from cars to couches, presented an inconvenience, a lack of nourishment for babies creates serious health risks. So the administration has swung into action. On May 16th the Food and Drug Administration (FDA) said America would loosen restrictions on imports of formula. Two days later, President Joe Biden invoked the Defence Production Act to boost domestic production.

There are several explanations for the shortage. The biggest problem has been a halt to production at a facility in Michigan since February, when officials began investigating infections in four babies possibly caused by its milk-based powder. A lack of packaging, delays to the import of ingredients and staffing vacancies have also contributed to the headache. As much as 43% of formula products were out of stock across America in early May, according to Datasembly, a data firm.

Some politicians and analysts have also pointed to two deeper problems in the American economy supposedly exposed by the shortages: corporate concentration and price gouging. The former is a valid concern; the latter is a distraction.

Just four companies (Abbott, Gerber, Perrigo and Reckitt Benckiser) make nearly all of America's formula. The production stoppage occurred at a factory owned by Abbott, which controls around 40% of the market. It is an illustration of how reduced competition, seen in about three-quarters of American industries over the past 30 years, can serve the economy poorly.

Concentration in the formula market has been exacerbated by regulation. About 98% of formula consumed in America is made domestically because of the FDA's stringent approval process for foreign factories. And more than half is purchased through a nutrition programme for low-income families, which in turn buys from a single supplier in each state. In 2007 when California switched its contract from Abbott to Mead Johnson (now owned by Reckitt), Abbott's market share there fell from 90% to 5%, while Mead's rose from 5% to 95%. On May 13th a group of Democratic senators called for an antitrust review of the industry. If that were to happen, it



Bottle-feeding bottlenecks

would not solve the shortages at hand, but it could put the market on sounder footing.

More dubious are claims about the severity of price gouging. Mr Biden has asked the Federal Trade Commission to investigate whether "unscrupulous profiteers" were scooping up formula in shops and reselling it for hugely marked-up prices. And there have indeed been instances of such anti-social behaviour.

But for some in the Democratic Party, these allegations about pricing now fit into a broader narrative, that corporate greed lies at the root of high inflation. Elizabeth Warren, a Democratic senator from Massa-

chusetts, and several colleagues introduced a bill on May 12th that would "prohibit...price gouging during all abnormal market disruptions". They cited a study by the Economic Policy Institute, a left-wing think-tank, which argued that fatter profit margins have driven more than half of price rises since 2020. Mr Biden has also seized on greed as an explanation for high prices. On May 13th he tweeted that making the wealthiest companies pay "their fair share" would bring down inflation.

In theory the fiscal drag that would come from higher taxes without any offsetting increase in government spending could reduce inflation (as well as growth). But if corporate greed explains high inflation, why did so many prices only start to soar well after the pandemic began? It is not as if companies just discovered a love of profits. Jeff Bezos, the owner of Amazon, was right to criticise Mr Biden's tweet as "misdirection", accusing him of trying to muddy the water in the debate over prices.

Indeed, something far more basic explains the run-up in inflation: a surge in stimulus-fuelled demand, compounded by disruptions to supply. For individual products the signal sent by higher prices is the most effective way to bring supply and demand back into balance. In the case of baby formula, it encourages domestic companies to make more and foreign producers to run the gauntlet of approvals. Much like formula itself, higher prices can play a part in healthy development. ■

Cryptocurrencies

Unstablecoin

The crypto infrastructure cracks

IT HAS BEEN a vicious year for financial markets, and more punishing still for crypto assets. The market capitalisation of crypto has slumped to just \$1.3trn, from nearly \$3trn in November. On May 18th bitcoin traded at around \$29,000, a mere 40% of its all-time high in November; the price of ether, another cryptocurrency, has collapsed just as spectacularly. Six months ago Coinbase, an exchange and the leading crypto-industry stock, was worth \$79bn. Now it is valued at just \$14bn, and the firm is "reassessing its headcount needs".

The sell-off comes as the Federal Reserve begins raising interest rates. Tech stocks, high-yield bonds and other risky assets have also swooned. But crypto's bruising comedown is interesting for a deeper reason: it has exposed weaknesses in the plumbing of the system.

The problems lie with the market for stablecoins, a type of cryptocurrency that is pegged to another currency, often the dollar. Added together all stablecoins, the largest of which are tether and USD coin (USDC), are worth around \$170bn. These act as a bridge between conventional banks, where people use dollars, and the "on-blockchain" world, where people use crypto. The biggest such coins are also used by exchanges as a base for trading between cryptocurrencies.

From May 9th, terra, then the fourth-largest stablecoin by market capitalisation, began to unravel. The implosion put pressure on tether, which is meant to be pegged one-for-one with the dollar. On May 12th its price dipped to 95 cents. Some \$9.1bn in tether has since been redeemed for cash. The technology (and the jargon) ►



associated with crypto may be newfangled, but to students of financial history, these events look familiar. They resemble the confidence crises that precede bank runs.

Every stablecoin has a mechanism to maintain its peg. The simplest (and safest) method is to hold a dollar in a bank account, or in safe, liquid assets like Treasury bills, for every stablecoin token. The token can be traded freely by buyers and sellers; when a seller wants to offload their stablecoin they either sell it on the open market, or redeem it for its dollar value from the issuer, who then destroys the token. USDC and tether use versions of this method.

Others, like terra, are called “algorithmic stablecoins”, because they use an automated process to support the peg. Their main distinguishing feature, however, is in how they are backed. Terra is backed by luna, a cryptocurrency issued by Terraform Labs, which also runs terra. The idea was that holders of terra could always redeem it for one dollar’s worth of newly minted luna. On May 5th, when luna was trading at \$85 a piece, that meant a terra holder could redeem it for 0.0118 lunas. If for some reason terra was trading at less than \$1, arbitrageurs could swoop in, buy a terra, redeem it for luna and sell that for a profit.

That system worked as long as luna had some market value. But on May 9th the price of luna began to slide. And that in turn put pressure on terra’s peg—causing a rush to redeem. The supply of luna ballooned. On May 10th 350m tokens existed. By May 15th 6.5trn did. As the price of luna collapsed, terra also went into free fall. Its price is now hovering at around 10 cents. Luna is worthless.

Do Kwon, the founder of Terraform, has tried to resuscitate terra. He has turned the blockchain off and on again, “burned” tokens and attempted to split the blockchain. But nothing has worked so far.

Terra’s implosion has had wider and more worrying repercussions: it has prompted flight from tether. Those fleeing may have felt anxious about the lack of detail regarding tether’s backing. The compa-

ny once said it backed its tokens with “us dollars”, a claim New York’s attorney-general said in 2021 was “a lie”. Now the firm says its tokens are “backed 100% by Tether’s reserves”. This appears to be some mix of cash, Treasuries and corporate debt, but the company has refused to disclose the details, claiming that its asset mix is its “secret sauce”.

As with many past bank runs, where depositors fled to safety, holders have sold off terra and tether and rushed to tokens perceived to be of higher quality. One example is USD coin, which holds only cash or Treasuries, and publishes regular audited reports to that effect. Dai, another stablecoin backed by crypto and managed by algorithms, has managed to maintain its peg.

Still, that other stablecoins have survived might be small comfort if tether does not. If tether really is backed by illiquid assets, or perhaps assets that have fallen in value this year, then the more some holders redeem its tokens, the less remains in the pot for others. The implosion of the world’s biggest and oldest stablecoin would be much more catastrophic than was terra’s. Tether is not only a financial bridge between crypto and conventional money—ie, dollars in bank accounts—but also between all kinds of crypto pairs that are traded on exchanges. The three biggest and most liquid cryptocurrency pairs on Binance, the biggest exchange, for instance, are bitcoin and tether; ether and tether; and Binance’s own stablecoin, BUSD, and tether.

Tether redeems only its big users, who are pulling \$100,000 or more from it at a time, and even then at its discretion. Nonetheless, redemptions have continued apace over the past week. The loss of the peg on May 12th was a reflection of the stinginess of that system. Smaller holders who wanted out had to sell the token on the open market. The stablecoin has not fully recovered its peg. For a year it traded at or above \$1; since May 12th, it has traded slightly below it. Crypto’s most important bit of plumbing is still leaking. ■



Climate finance

Carbon sinks

Offset markets struggle in the face of surging commodity prices

THE LOAMY soil and dense jungle of the Sumatran rainforest in Indonesia can store an average of 282 tonnes of carbon dioxide per hectare. If a group of climate-conscious airline passengers were to find a hectare of such forest at risk of being cut down for palm oil and were able to stop that happening, they would offset the amount of greenhouse gases emitted by 175 passengers flying, economy class, from London to New York and back.

Demand for such carbon offsets is forecast to rocket over the next couple of decades, as businesses attempt to make good on their promises to reach net zero carbon emissions. Last year an estimated \$1bn was spent on offsets. McKinsey, a consultancy, predicts that the size of the market could expand by a factor of 15 by 2030 and 100 by 2050. Although a few projects use novel technology to suck carbon dioxide out of the air altogether and store it underground, most offsets promise to subsidise renewables or pay for carbon sinks, such as forests, to be restored or preserved. Such “nature-based” offsets can include protecting wetlands in Colombia, or restoring peatland in Scotland.

But the market is not working. The price of a carbon offset is far too low. The opportunity cost of leaving land uncultivated is rising. A hectare of Sumatran rainforest, for instance, could produce around 2.5 tonnes of palm oil a year, and palm-oil prices have risen to \$1,520 a tonne, from around \$1,000 a year ago. But the price of nature-based offsets has fallen this year, to \$10 per tonne of carbon dioxide, according to contracts traded on the Chicago Mercantile Exchange.

Deforestation remains economically rational. Because a palm-oil plantation still captures around 170 tonnes of carbon dioxide per hectare, leaving the land uncultivated offsets only 112 tonnes. An offset price of \$10 means that, if the accounting is done properly, selling offsets yields revenue of only \$1,120—not enough to compensate for the potential loss of about \$3,800 in annual sales of palm oil. At current prices, says Ariel Perez of Hartree Partners, a trading firm, the only agricultural activity that is less profitable than preserving forests is harvesting rubber in West Africa. For as long as the price of an offset remains below \$20, cattle farming in the Amazon will remain attractive.

Why has the price of offsets fallen? ►

► Some cap-and-trade schemes, in which companies must buy permits for their emissions, allow for a certain amount of emissions to be offset. By and large, however, offsets are not required by regulation. Firms and individuals seeking to reduce their carbon footprints choose to buy them, meaning that the demand for offsets is largely driven by ethical or public-relations imperatives. As the war in Ukraine began and attention turned away from climate change, offset prices declined.

Another problem is that there are few internationally agreed rules for offsets. A

report published earlier this month by Carbon Direct, a consultancy, said that "the voluntary carbon market largely consists of projects of questionable quality." A surplus of older and less reliable offsets hangs over the market, depressing prices.

It is not possible to truly know what would have happened had an offset not been paid for. "Most projects over-report and some don't reduce emissions at all," says Barbara Haya of the University of California, Berkeley. "It's really hard for people to know what is real and what isn't."

Some attempts are being made to bring

clarity. Proposals from the Integrity Council for Voluntary Carbon Markets, an independent committee, are expected later this year. They are likely to emphasise the need for "additionality", meaning that the reduction in emissions claimed must be a direct result of the offset. Paying for green-energy installation, for instance, would not count as a genuine offset if the project were viable without the offset payment. Nor would a forest that was never going to be cut down in the first place. Checking that offsets meet the criterion, though, will remain a daunting task. ■

Buttonwood Is China uninvestable?

Stockpickers grapple with a new geopolitical reality

FEW CHINESE companies have caught the imagination of global investors like its technology firms. But they have suffered a catastrophic spell. At one point in March, they had lost about 70% of their value since their 2021 peak. On March 14th Alex Yao of JPMorgan Chase and his team published a set of gloomy reports on internet firms such as Alibaba, an e-commerce giant, Dingdong, an online grocer, and NetEase, a maker of computer games. Mr Yao fretted about the industry's prospects over the next year, owing to China's economic slowdown, its regulatory crackdown on tech and its souring relations with the West. Some of the reports even described the sector as "uninvestable".

That word caused a bit of a furore. JPMorgan lost its position as the lead underwriter for the listing in Hong Kong of Kingsoft Cloud, a Chinese cloud-computing firm. According to Bloomberg on May 10th, editors at the bank had in fact tried to replace "uninvestable" with the less apocalyptic "unattractive". But some mentions slipped past them.

Using the word was undiplomatic. But was it justifiable? It has been bandied around quite freely in recent years, applied not just to the usual suspects, such as Russian or Iranian assets fenced off by financial sanctions, but also to less obvious candidates. Jim Cramer of CNBC, a TV channel, described oil stocks as uninvestable in January 2020, calling them the new tobacco. Not so long ago, the same was said about big banks and the whole of southern Europe.

The odd thing is that the word has become more common even as the world has become more investible. Thanks to financial innovation and globalisation, far-flung assets are far easier to buy than they used to be. Back in 1988 MSCI's

emerging-markets equity index included only ten countries with a combined market capitalisation of just over \$50bn. The index now includes 24 countries with a market value of \$6.9trn. At the end of last year the value of global investible assets reached a record high of \$179trn, according to State Street, an asset manager. That is equivalent to 186% of world GDP in 2021, up from 116% in 2000.

Even in his unedited report, Mr Yao did not argue that it was impossible to hold Chinese internet stocks. Indeed, he advised global investors to remain "neutral" on 11 of them. So what was on his mind? He worried that the depositary receipts of some internet firms might be delisted from American exchanges, because China has been reluctant to open the books of its auditors to American regulators. This in itself would not make them uninvestable, because the shares of most of these companies can also be bought in Hong Kong, as Mr Yao himself pointed out. But he saw this regulatory row as the latest manifestation of the geopolitical risks faced by China, which became more salient after

Russia invaded Ukraine.

Because of these risks, he said, global investors were likely to shun Chinese internet firms over the next 6 to 12 months, however cheap they became. During this "stage", he argued, these stocks could no longer be valued by simply projecting their earnings and cashflow. Only after foreign investors had departed would his "valuation frameworks" regain relevance, presumably because the remaining investors (locals and China specialists) would be less sensitive to Sino-American relations. He recommended revisiting the sector only when this new stage arrived.

When would that be? The answer, he admitted, depended on "many unpredictable factors outside our forecast capability". It turns out he was right. In a more upbeat report on May 16th he said that the second stage had already arrived, well ahead of schedule. Thanks to some encouraging noises on the delisting dispute, Mr Yao believes that geopolitical risks have receded enough to give his valuation framework some purchase once again. He duly offered new, higher price targets for 18 companies.

His editors were, then, right that "uninvestable" was the wrong word. "Unanalysable" would have been better, if even uglier. It is not that Chinese internet stocks could not be bought, merely that they could not be valued using Mr Yao's preferred framework, which could not accommodate geopolitical risk. Unfortunately, few assets these days are entirely free of such risks. Anyone taking a view on commodity prices (and thus on inflation, and therefore interest rates) is also taking a view on war and peace. If more investible assets are not to become unanalysable, stockpickers may have to invest in a broader view of the world.



Dodgy data

Half-measures

DELHI

India's once-vaunted statistical infrastructure is crumbling

THE MODERN Indian state has a proud statistical heritage. Soon after the country gained independence in 1947, the government resolved to achieve its development through comprehensive five-year plans. The strategy, though economically inadvisable, nonetheless required the creation of a robust data-gathering apparatus. In 1950 PC Mahalanobis, the leading light of Indian statistics, designed the National Sample Survey, which sent staff to the far corners of the vast country to jot down data regarding its mostly illiterate citizens. The survey's complexity and scope seemed "beyond the bounds of possibility", reckoned one American statistician.

Of late, however, admiration has been replaced by alarm. India's statistical services are in a bad way. Across some measures, figures are simply not gathered; for others, the data are often dodgy, unrepresentative, untimely, or just wrong. The country's tracking of covid-19 provides a grim example. As the pandemic raged across India, officials struggled to keep tabs on its toll. Officially, covid has claimed more than half a million lives in India; *The Economist's* excess-deaths tracker puts the figure far higher, between 2m and 9.4m. India's government has also hampered efforts to assess the pandemic's global impact, refusing at first to share data with the World Health Organisation (WHO), and criticising its methods.

The preference for flattering but flawed figures is pervasive. In education, state

governments regularly ignore data showing that Indian children are performing woefully in school and instead cite their own administrative numbers, which are often wrong. In Madhya Pradesh, a state in central India, an official assessment showed that all pupils had scored more than 60% in a maths test; an independent assessment revealed that none of them had. Similarly, in sanitation, the central government says that India is now free of open defecation, meaning that people both have access to a toilet and consistently use it. Anyone who takes a train out of Delhi at dawn and looks out of the window, however, might question the claim.

When it comes to poverty, arguably India's biggest problem, timely figures are not available. Official estimates are based on a poverty line derived from consumption data in 2011-12, despite the fact that more recent but as yet unpublished numbers exist for 2017-18. By contrast, Indonesia calculates its poverty rate twice a year. India's government explains its approach by pointing to discrepancies between recently gathered data and national accounts statistics—but many suspect the true reason is that newer data would probably show an increase in poverty.

In some cases, flawed data seem more a problem of methodology than malign intent. India's GDP estimates, for instance, have been mired in controversy ever since the statistics ministry introduced a new series in 2015 (a change that was in the

works before the current government entered office). Arvind Subramanian, a former government adviser, calculated that the new methodology overestimated average annual growth by as much as three to four percentage points between 2011-12 and 2016-17. Although current advisers insist that the official methodology is in line with global standards, other studies have also found problems with the calculations.

The erosion of India's statistical infrastructure predates the current government, but seems to have grown worse in recent years. Narendra Modi, the prime minister, has previously bristled at technocratic expertise and number-crunching. ("Hard work is more powerful than Harvard," he said in 2017.)

India's data woes are also troubling for what they suggest about the ability of the state to provide the essential public services needed to foster long-run growth. The statistics ministry, short of staff and resources, is emblematic of the civil service. Data-gathering has become excessively centralised and over-politicised. A National Statistical Commission was set up in 2005 and tasked with fixing India's data infrastructure. But its work has been complicated by turf wars and internal politics; it is widely considered toothless, including by former members.

Who's counting

The situation is not hopeless, perhaps because of statisticians' past efforts. According to the World Bank, the quality of Indian data is still in line with that of other developing countries, even after years of neglect. India's new goods-and-services tax and digital-welfare infrastructure are yielding troves of data. Leading Indian statisticians argue that an empowered regulator could fix existing problems.

State governments and departments are also doing their bit. Telangana, a southern state, is investing in its own household surveys, for example. India's rural-development ministry recently released a dataset covering 770,000 rural public facilities, such as schools and hospitals, inviting data whizzes to peruse the figures and suggest improvements. Civil society is also responding. During the pandemic, dozens of volunteers co-operated to produce granular, timely estimates of covid cases. New technologies could help gather data quickly and cheaply, over phones and tablets.

Yet in a modern economy there is no substitute for high-quality national data-gathering. The sunlight provided by accurate figures is often unwelcome for an increasingly autocratic government: transparency invites accountability. But neglect of the statistical services also leaves Indian policymakers flailing in the dark, unable to quickly spot and respond to brewing economic and social problems. ■



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How to unleash more investment in intangible assets



WHEN RUSSIA invaded Ukraine, tangible things at first seemed all too important. Bombs and bullets were what mattered; commodity markets were roiled; supply chains were upturned. As the war has gone on, however, intangible factors have asserted their importance, too. The managerial and logistical know-how of the armed forces on either side, as well as technological advantages, like Ukraine's deployment of Bayraktar drones, have altered the course of the war. So too has the goodwill that Ukraine has attracted from people around the world, which has in turn led foreign governments to lend the country more support.

The idea that intangible assets, though hard to see and measure, are critically important to foster, is the main message of a new book by Jonathan Haskel, a Bank of England policymaker, and Stian Westlake of Britain's Royal Statistical Society. "Restarting the Future" is their second book. The first, "Capitalism Without Capital", published in 2017, argued that the economics of intangible assets helped explain stagnating economic growth and rising inequality. The new book goes a step further, asking how the bottlenecks holding investment in intangibles back might be loosened—thereby fostering a more efficient and faster-growing economy. Their work is part of a wave of writing on the future pace of growth, which includes Dietrich Vollrath's "Fully Grown" and Robert Gordon's "The Rise and Fall of American Growth".

Intangible investment includes the research and development conducted by firms, as well as things like marketing, design and branding. In the late 1990s, by some measures, spending on intangibles in America overtook investment in tangible plant and equipment. But the pace of spending has slowed since the financial crisis. The authors note that annual growth in intangible capital in rich countries tended to be around 3-7% between 1995 and 2008. Over the subsequent decade, however, it barely surpassed 3% in any single year. That did not just reflect slower economic growth. Intangible investment also stopped rising as a share of GDP, which poses something of a conundrum, considering that corporate profits were strong. Although the burst of overall investment in the past year or so has been impressive, cross-country data on intangibles are not yet available. Nor is it clear that the investment surge has done enough to alter the sluggish trend.

The nub of the problem, say Messrs Haskel and Westlake, is that the economic and financial arrangements that exist to support investment are geared towards spending on capital goods, not intangibles. They point out that bursts of economic growth, such as those in medieval Italian city states and in China between the 10th and 13th centuries, have often faded precisely because institutions failed to generate the right incentives and activity.

Part of the solution this time, say the authors, is to encourage the financing of investment in intangibles. A study by the OECD, which looks at 29 developed economies from 1995 to 2015, suggests that intangible-heavy sectors are more productive in places with more developed financial systems, where they can access finance more easily. Differences in financial development, as measured by a combination of equity-market capitalisation and total credit to GDP, can explain why annual labour-productivity growth in a sector like computer equipment (where two-thirds of assets are intangible) has been a percentage point higher in more financially developed countries like Japan than in places like Portugal.

Venture capital (vc) has been a preferred source of equity funding for firms conducting the most intangible activity, such as biotechnology and consumer-tech. But that has been disproportionately available to American companies with a plan for extremely rapid growth. In many parts of the world, a lot of business investment is still debt-financed, and more dependent on the use of physical assets as collateral.

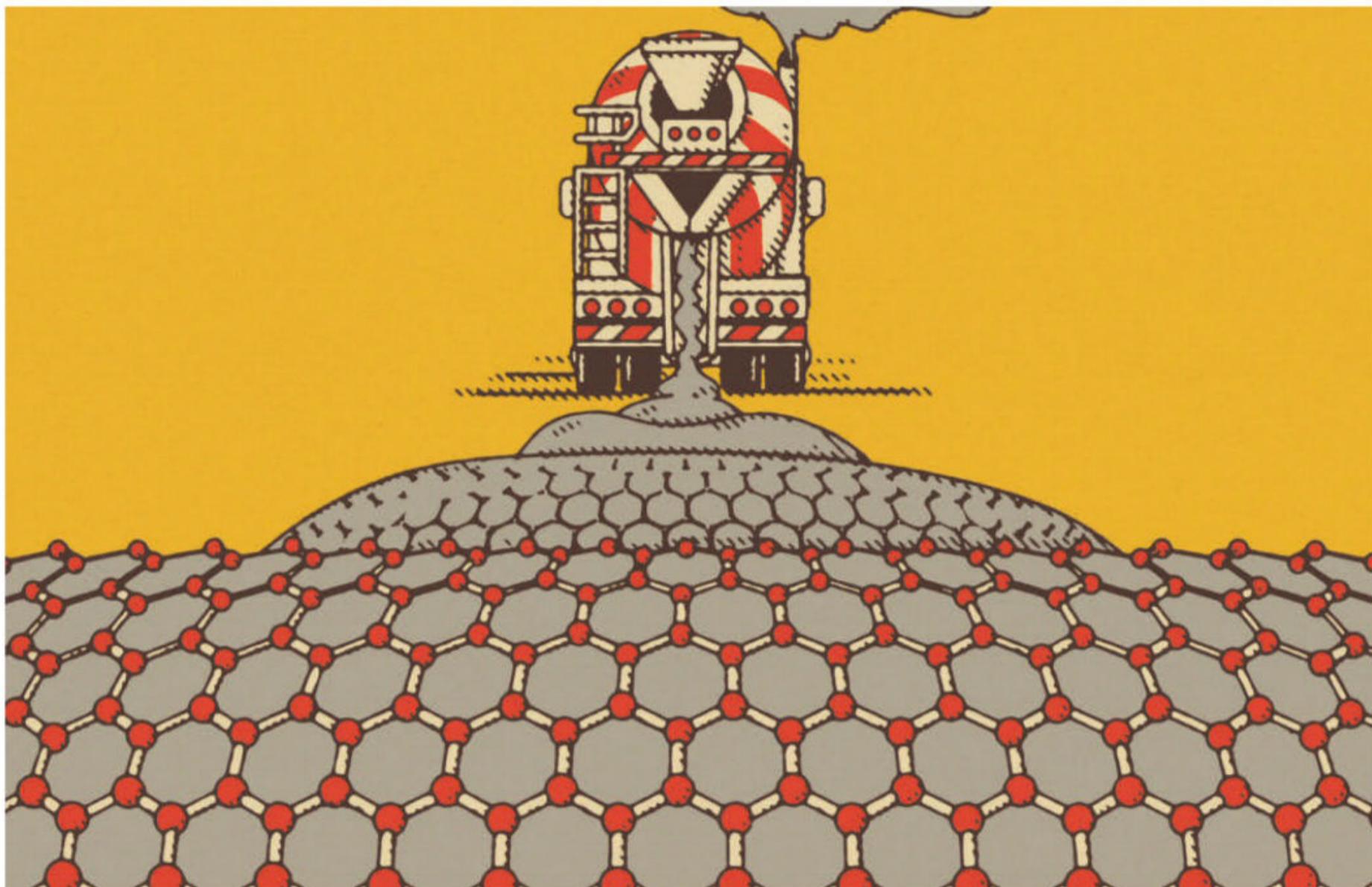
America's vc industry took off after pension funds were allowed to invest in less liquid investments in 1979. That may help explain why business investment in America has held up better than in many other places. The authors therefore advocate for larger investment vehicles that pool risk for individual lenders elsewhere in the world, like the Long-Term Asset Fund launched in Britain last year, which helps pension funds gain exposure to long-term illiquid assets. Ending the tax advantages of debt financing by removing the tax deductibility of interest payments, say, would help level the playing-field between tangible and intangible investment.

Other prescriptions relate to how and where investment occurs. Patent law, for instance, should not prevent the combination of existing ideas. More important still is the role of cities, which, the authors note, are cauldrons of intangible investment: they make it easier to form the relationships that make intangibles happen, encourage new ideas and create a larger pool of beneficiaries when investments spill over. Making cities work, therefore, with better land-use and zoning policies, is vital.

Can't touch this

"Restarting the Future" may be emblematic of a shift in economists' thinking on growth. In the 2010s debates raged over how best to address persistent shortfalls in demand. In the inflationary-looking 2020s, the emphasis is on unleashing the economy's supply potential. But where researchers such as Mr Gordon and Mr Vollrath regarded the bursts of rapid growth in the 20th century as the exception, not the rule, Messrs Haskel and Westlake are more hopeful of a return to headier rates of growth.

Mr Gordon argued that the digital economy was a busted flush when it came to growth; Mr Vollrath saw slower growth as a symptom of economic success, a larger services sector and reduced geographic mobility. By presenting solutions, "Restarting the Future" offers a more optimistic vision—as long, that is, as governments follow its advice. ■

**Carbon nanotechnology**

Pouring graphene's bright future

CAMBRIDGE, ENGLAND

A wonder material that promised much but delivered little may at last have found its killer app

CLOSE TO WHERE the college rowing teams of Britain's second-oldest university practise their strokes along the River Cam, a grey shipping container sits outside a business unit waiting to be dispatched to Abu Dhabi. Inside is a piece of equipment devised by a firm called Levidian Nanosystems. In a deal announced on May 16th with Zero Carbon Ventures, a firm in the United Arab Emirates, Levidian will ship 500 more such units to the region over the next five years. They will take methane emitted from landfill or being flared off at oil-production sites, and turn it into cleaner-burning hydrogen, along with a pile of fluffy black powder called graphene.

Graphene, which consists of monolayers of carbon atoms bonded in a repeating hexagonal pattern, is the thinnest known material. It was isolated in 2004 at the University of Manchester by Andre Geim and Konstantin Novoselov, who went on to win a Nobel prize for their discovery.

At the time, amid much hype, graphene was said to offer astonishing possibilities. It certainly has many interesting properties. For a start, it is 200 times stronger than steel. Yet it is extremely lightweight and flexible. It is also an excellent conductor of heat and electricity, and exhibits interesting light-absorbing abilities. Researchers are still finding ways to tune it to obtain other features. Recently, for example, it has been shown that by arranging several sheets of graphene at particular angles, a superconducting version of the material (that is, one which lets electricity pass without resistance) can be created.

Putting carbon to work

Yet despite this promise, apart from a few niche uses in electronics, water filtration and some specialist sports equipment, graphene remains largely unemployed. Certainly, no killer application of the sort predicted when the stuff was discovered has

emerged. But that could be about to change. Concrete is as far from superconductivity on the technological sexiness spectrum as it is possible to get. Yet it is an important material and of great concern to those attempting to slow down global warming, because the process of making it inevitably releases carbon dioxide. And graphene may hold the key to reducing that contribution considerably.

Concrete is made by mixing sand, gravel, water and cement. And cement is made by roasting limestone, a rock composed of calcium carbonate, to drive off carbon dioxide and leave behind calcium oxide. The 5bn tonnes of cement produced each year thus account for some 8% of the world's anthropogenic CO₂, and generate abnormally high emissions per dollar of revenue earned compared even with other polluting industries (see chart on next page). Yet if less than 0.1% by weight of graphene is added to the mixture, concrete ends up 30% stronger. And stronger concrete means less of it is needed, with a consequent reduction in CO₂.

That does, indeed, sound like a killer app. There is, though, some way to go. As with most new materials it can take years for commercial production to scale up to the point of mass-market adoption. Petroleum-based carbon-fibre composites were invented in the 1950s, but it took more than ►

► 30 years before they began to be used in significant quantities in aircraft and cars. Graphene is now moving in that direction. According to estimates by IDTechEx, a firm of analysts based in Cambridge, the world's annual production capacity of the material was less than 3,000 tonnes in the first quarter of 2019. By the first quarter of this year, that figure had more than quadrupled, to 12,700 tonnes.

Novel production methods, such as Levidian Nanosystems' and others being developed around the world, are assisting this growth. Besides methane, graphene is being made from an increasing range of materials, including waste and discarded mixed plastics, which otherwise might end up in landfill. This avoids "exfoliating" mined graphite, which at present is the dominant manufacturing process.

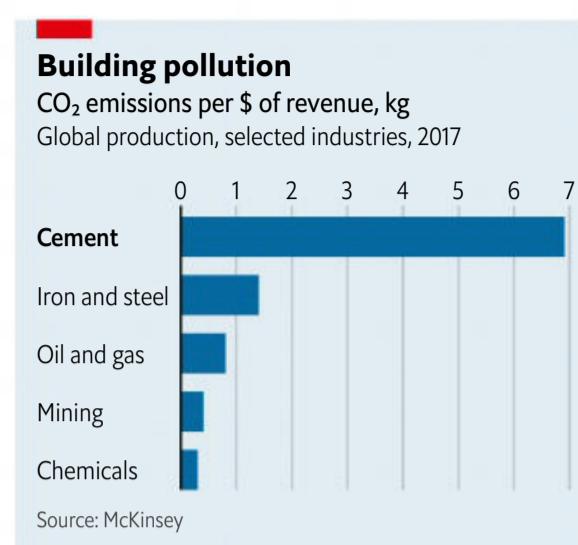
Graphite, the common form of crystalline carbon (the rarer one being diamond) is, in essence, a lot of layers of graphene piled on top of one another. Indeed, to make their discovery, Dr Geim and Dr Novoselov simply used sticky tape to peel individual layers away from a graphite block. As that is a bit too tedious for industrial use, various chemical and mechanical methods have been developed to speed things up.

Two of the world's biggest suppliers, for example, use proprietary water-based processes to do the exfoliation. NanoXplore, in Montreal, Canada, recently upped its capacity to 4,000 tonnes a year, and Sixth Element Materials Technology, a firm based in Changzhou, China, plans to expand its 1,000-tonne annual capacity.

Out of the mine

The various grades of graphene produced by exfoliation are not necessarily green, though. Graphite is not a renewable resource and it has to be mined, which can be environmentally damaging. As an alternative some producers obtain their feedstock elsewhere. This can be as organic compounds in gaseous form, such as methane, or as liquids like ethanol, an alcohol that can be made from plant matter. These are used in chemical vapour deposition (CVD), a long established industrial process. CVD relies on a chemical reaction, sometimes in combination with heat and a catalyst, to deposit carbon atoms turned into a vapour onto a substrate, such as copper or nickel. The substrate can then be removed, if desired, and the graphene recovered.

Levidian Nanosystems employs yet another approach, which it calls LOOP. This process uses microwaves to turn methane (a molecule composed of a carbon atom and four hydrogens) into a plasma by stripping electrons from its molecules. This causes the chemical bonds holding the molecule together to break, thus creating hydrogen (which is extracted from the top



of the reaction chamber) and high-quality graphene (which collects at the bottom). The process does not rely on any catalysts.

The idea is that LOOP can be used to strip carbon from methane gas flows, such as those found in various industrial processes, water-treatment plants and biogas reactors, as well as oil wells and landfill sites. That gets rid of methane, a potent pollutant, without generating CO₂—which would be an inevitable outcome if the methane were, instead, burned. The hydrogen that is made can then be burned as fuel without producing any greenhouse gases and the graphene sold for other applications, such as an additive to toughen anti-corrosion paint—in exactly the same way that the grey paint used to protect Levidian's shipping container from the elements has been treated.

Although Levidian began as a graphene producer, it now sees its role as providing a decarbonisation service. The LOOP system is being tested by Britain's National Grid, which is responsible for the distribution of the country's gas and electricity, to boost the amount of hydrogen in the gas supply. The main ingredient of natural gas is methane, and decarbonising it in this way can produce up to a 40% reduction in CO₂ emissions when the gas is subsequently burnt, according to John Hartley, Levidian's boss. As for the graphene, National Grid plans to use that to reinforce its pipelines so that they can carry more hydrogen.

Depending on the source of the methane, Levidian claims the LOOP process has both a lower cost and a lower environmental impact than other means of making hydrogen—in particular, steam reformation, which generates a lot of CO₂. In fact, at current market prices, the sale of the graphene produced means the hydrogen comes free. In time, the company hopes the LOOP process can be scaled up to become a big producer of the gas.

James Tour and his colleagues at Rice University in Houston, Texas, have cast their net even wider in the search for alternative feedstocks to make graphene. So far, they have successfully tried coal, petroleum coke (a by-product of oil-refining),

discarded food, old tyres and mixed-plastic waste.

To carry out the conversion, Dr Tour uses a method called the "flash" process that his team have developed. This employs a specially designed reaction chamber in which a carbon-containing material is sandwiched between a pair of electrodes. High-energy pulses of electricity are then used to create a rapid rise in temperature to 2,700°C. In only a second or so, this results in a sudden flash of light (hence the name) caused by the release of energy as molecules in the material disintegrate.

Any substances that are not carbon are vaporised into a gas, which can be collected, cleaned and used in other processes. What remains is a form of graphene called turbostratic. This consists of a number of layers misaligned with one another. That misalignment, however, is a useful feature because it allows the layers to be more easily separated when the stuff is mixed into other materials. With graphene, the fewer the layers the more powerful are the benefits bestowed.

Fixing concrete cracks

One mixture in which Dr Tour is particularly interested in is concrete, some 30bn tonnes of which are poured every year. The addition of a small amount of graphene to concrete provides an anchor for the cement in it to grab onto, resulting in a more powerful interaction as the concrete cures. This means not only that less concrete is needed to achieve the same level of strength, but also that structures made of it are likely to last longer. Graphene-enhancement would also protect rebar, the steel rods used to reinforce concrete, from moisture. If water creeps into tiny cracks in concrete it can cause rebar to rust and expand, which results in concrete crumbling and sometimes in buildings collapsing.

In certain cases, indeed, the use of rebar in construction might be avoided altogether, saving costs and the emissions involved in producing the steel from which it is made. Last year, a team from the University of Manchester, working with Nationwide Engineering, a British construction company, used graphene to enhance the concrete floor of a new gymnasium in Amesbury, in southern England, avoiding the need for rebar. This reduced the amount of material that would otherwise be required by nearly a third, resulting in a similar saving in CO₂ emissions.

Another hazard to concrete is chlorine, which is found in seawater and is particularly corrosive. Sixth Element says it has found the addition of just 0.005% of graphene to marine cement enhances its resistance to chlorine by 40%.

It might even be possible to build without concrete by adding graphene to composite materials made from wood and po-

▶ lymers. This would be particularly green if the graphene involved were produced from waste or recycled materials, including graphene itself. Dr Tour has already successfully flashed composites made with graphene in order to recover the material so that it can be used again. The use of stronger, lighter composites that are easily recyclable might tempt many manufacturers to move away from energy-intensive materials such as steel and aluminium. Ford, for one, has started using graphene to enhance the durability and reduce the weight of some of the composites used in its cars.

A complicating factor is that not all graphene is technically graphene. Most commercial graphene has more than one layer of atoms. Generally, anything under ten layers is accepted as graphene by most in the industry, although some products have more than that. Graphene also varies in form, from films to powders, to nanoplatelets, to graphene oxides and more. On top of that there are different quality levels, particularly as some of the carbon structures of which it is made contain defects. This does not necessarily mean that high quality, so-called "few layer", graphene is the most useful. All types have some value, hence pricing is dependent on the application the material is used for. This huge variation in what is labelled graphene results in prices ranging from tens of dollars a kilogram to more than \$1,000.

"We aim to be at the lower end of that spectrum," says Jon Van Leeuwen, chief executive of Universal Matter, a Canadian company based in Burlington, Ontario, which has licensed the flash process from Rice University. It is building a demonstration plant, which by early next year should be making a tonne of flash graphene a day.

Greening cement is seen as the biggest market. "We all know it works in cement and concrete," says Mr Van Leeuwen. "But to go big you need a certain cost point that

has been unachievable until now." Other potential markets include adding small amounts of graphene to the bitumen used to make asphalt roads. This would greatly prolong their life, preventing creeping and rutting in hot weather and cracking during cold spells, which leads to potholes. Graphene can also increase the abrasion-resistance of car tyres, making them last longer.

No pixie dust

But using graphene is not as simple as "sprinkling a bit of magic pixie dust into your end product," cautions Adrian Potts, chief executive of Applied Graphene Materials, a British company based in Redcar. The firm makes its own graphene from ethanol using a CVD process, and also buys in the material. Its particular expertise is in what is called "dispersion" technologies, which means putting few-layer graphene into a range of different substances so that it is easier to mix into products.

On its own, graphene has a tendency to restack itself into graphite, which can diminish its usefulness. The idea, says Dr Potts, is to make "graphene stay as graphene" when it is mixed into things such as anticorrosion treatments, composites and even the car wax used to polish and protect vehicle bodywork.

There remain, however, some concerns about the health implications of the growing use of engineered nanomaterials such as graphene. Researchers are trying to get a better understanding of how they might enter the body and what the effects of their doing so might be. Hence, adds Dr Potts, it is going to be important for the industry as it scales up for ways to be found that not only allow graphene to be used in bulk applications, but also to be used safely.

Not everyone is convinced graphene is on the cusp of great success as an environmental fix. Richard Collins, the North American research director of IDTechEx,

follows the business closely. He agrees that graphene could become an enabling technology for certain decarbonisation processes. "But the feedstock and processes currently used by the main players makes calling it a green material a stretch."

Some of the new production methods, such as the flash process, could change that, especially if they can use waste materials such as discarded food as a feedstock, says Dr Collins. But he cautions that these methods are at an early stage and have yet to prove themselves at scale.

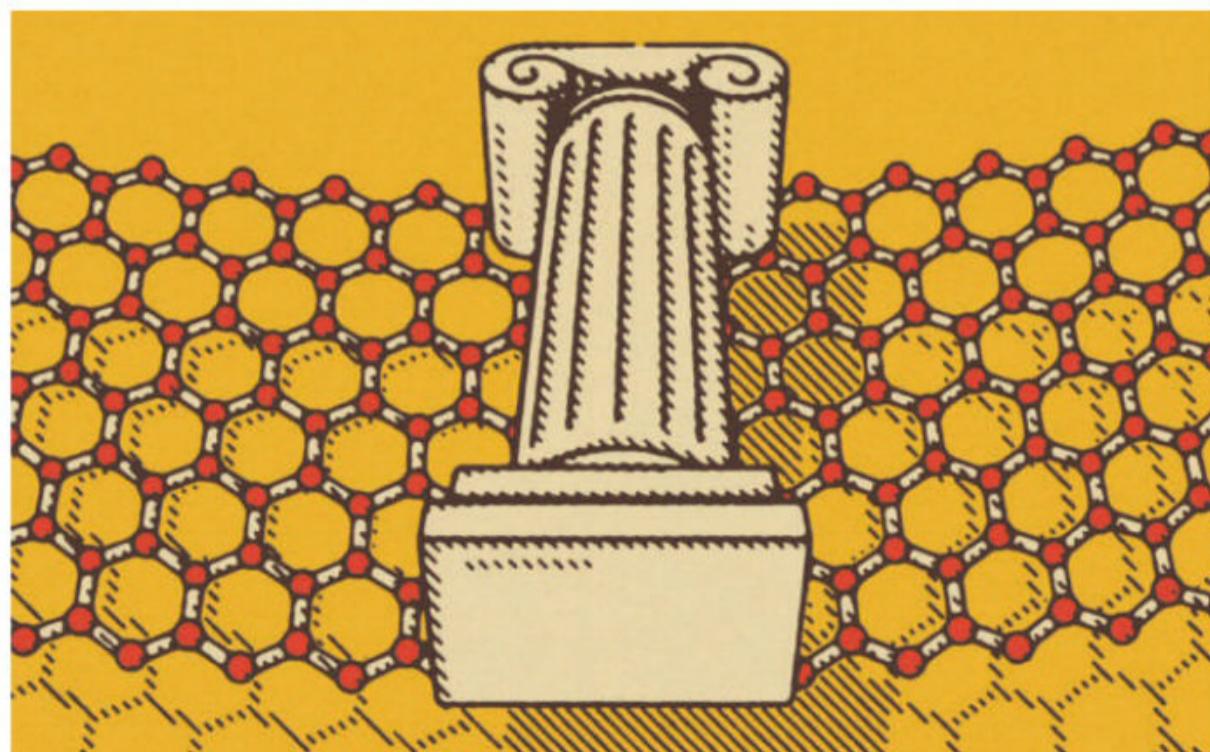
Nevertheless, there is, he adds, precedent to be found with graphene's older and less glamorous siblings, carbon nanotubes. These are essentially rolled up sheets of graphene and can also be made with CVD. Carbon nanotubes have been in development for a decade or so longer than graphene, with annual production hovering around a few thousand tonnes. But demand is starting to soar, and may reach more than 70,000 tonnes by 2032. The reason? Carbon nanotubes have found their killer app: making cathodes for the lithium-ion batteries used by electric cars (EVs). With battery gigafactories springing up all over the world, this has become a booming business.

Researchers are looking at ways of using graphene itself to enhance the performance of batteries. Graphite is already widely used in battery-making. Graphene could allow EV batteries to be lighter, longer-lasting and faster-charging. If any of that pays off, graphene will have found itself another important market.

The big bet

Green concrete, though, remains the big bet for graphene—not least because the volumes of material involved are so huge. However, it faces competition in that field. Other ways to reduce concrete emissions are being explored. One promising method is to inject captured CO₂ into concrete at the point when the water and cement are being mixed in. This not only locks the gas up as calcium carbonate, but also makes the concrete stronger. Even so, there is nothing to stop anyone adding a bit of graphene as well, if the price is right.

Many of the other potential uses of graphene besides concrete and batteries could also turn into big markets. Simply making things last longer with anti-corrosion coatings and producing sturdier composite structures would be good for the environment, not least because they will need less maintenance and will not need replacing so often. And when, eventually, these things do reach the ends of their lives, if the graphene can be recovered and used again it would be a welcome boost to building a circular economy. Nothing is certain with new technologies, but the wonder material's time just might be coming. ■





Therapeutic art

Comic relief

Doctors and therapists are using comic books to spread awareness of conditions and help patients express themselves

THE CLASS begins with the following assignment: draw a four-panel comic strip about your day. In five minutes the pupils—among them writers, artists, stay-at-home mothers, a graduate student and a cinema manager—produce lighthearted yet touching sketches about play dates, tedious chores and a quizzical chicken.

By the end of the session, however, the drawings they submit express raw emotions: regret at failing to say goodbye to a loved one, feelings of inadequacy in motherhood and memories too painful to articulate in other ways. For four years Kaye Shaddock, an art therapist, has guided these informal workshops in a studio in Massachusetts or online—together with Anna Moriarty Lev, a cartoonist whose subjects have included her mother's experience of breast cancer (see picture). Their aim is to demonstrate how comics can serve as a tool for reflection. “Putting words and pictures down on paper clarifies things that, otherwise, I'm alone with in my head,” says one participant.

Exactly when the therapeutic virtues of comic books were recognised is unclear. Justin Green, an American cartoonist, gave clinicians a nudge with “Binky Brown Meets the Holy Virgin Mary”, a bawdy autobiographical account of growing up tortured by religious guilt and compulsive neurosis, published in 1972. Green, who died last month, was eventually diagnosed with obsessive-compulsive disorder (OCD). (He is also credited with pioneering autobiographical comics and as an inspiration to Art Spiegelman, creator of “Maus”.)

Anecdotally, comics have been used in

→ Also in this section

79 The interspecies age

80 Casanova's crimes

81 Home Entertainment: Rural tales

81 England's civil war

82 Johnson: Enter the dragon app

treatments since the late 1980s. But in recent years they have increasingly caught the attention of doctors, therapists and even government agencies. In 2017 the NHS authorities in Manchester, England, funded the publishing of comic-type workbooks on panic attacks and insomnia. America's agency for defence-technology innovation, DARPA, has considered comic-design software as an emotional tool for veterans of the war in Afghanistan.

Katharine Houpt, an art therapist in Chicago, explains that the drawing of comics gives people agency in their stories. The imagery and malleable conventions—such as thought bubbles, perspective shifts and the personification of inanimate concepts—can help convey thorny ideas and experiences. Getting patients to draw a daily six-panel strip, and other such exercises, can reveal cognitive patterns and potential triggers for distress.

Draughtsmen can dissociate themselves from their ailments by portraying them as separate characters. Take insomnia: Ms Shaddock encouraged a child to draw a comic about why she had trouble sleeping. The child conceived of “Wor-night”, a monster that filled her head with worries at night. “It shifted the problem away from her and put it onto something that was external,” Ms Shaddock recounts.

Engaging with comic-book characters can also prod patients to go easier on themselves. John Pollard, who researched ►

► the use of comics in psychotherapy as part of his training as a counsellor in Britain, notes that readers develop empathy with, say, superheroes as they endure and overcome trials. So why, patients can gently be asked, “can’t you experience that same level of compassion for yourself?” In a similar way, “pathographies”, usually autobiographical accounts of illnesses such as bipolar disorder or depression, can coax people to be kinder to themselves.

In cases of trauma, such as sexual assault or post-traumatic stress disorder, drawing offers a sense of control when revisiting painful memories. The panel-by-panel format allows patients to regulate the pace at which they reconstruct the events in question. They can identify gaps in the story and present the episode and those involved from their perspective.

Doctors can benefit from comics, too. A study of clinicians who read “My Degeneration”, Peter Dunlap-Shohl’s account of life with Parkinson’s disease, found the graphic novel enhanced their empathy for sufferers. Crafting one can be a self-help tool for medical professionals as well as patients. After trying writing and painting as ways to deal with the stress of her work as an HIV/AIDS nurse in Chicago in the 1990s, M.K. Czerwiec turned to comics. “This little combination of image and text in sequential fashion”, she says, “was really, really helpful for me.” She published her drawings as a graphic novel in 2017, and now teaches medical students how to use art to cope with strains.

Heal thyself

The roles of comics are multiplying. They can simplify medical information, making arcane concepts more accessible to children and people with learning disabilities or language barriers. Examples include helping patients to grasp the notion of informed consent, understand how electronic health records work or negotiate handovers between carers. Government health agencies are harnessing the medium for public education. In 2020 Stark County, Ohio, commissioned Cara Bean, an artist, and the Centre for Cartoon Studies in Vermont to produce a comic to introduce pupils to mental health.

Behind this burst of activity is a group of enthusiastic medical professionals and artists. Some have been fans of the medium since childhood; others, such as Ms Czerwiec, stumbled upon it as adults. In 2007 Ian Williams, a Welsh doctor-turned-artist, made a website to gather those interested in what he called “graphic medicine”. The name stuck.

It is still a young field. Mr Williams—who in 2014 published “The Bad Doctor”, a semi-autobiographical graphic novel about a doctor with OCD—recalls being invited to speak at conferences as comic

relief rather than a practitioner. But a growing body of evidence attests to the art form’s uses, and new textbooks are codifying its applications. “The idea of graphic medicine is getting into the medical mainstream now in a way which would have been unimaginable ten years ago,” says Michael Green, who teaches the subject at Penn State University and guest-edits the digital-comics section of *Annals of Internal Medicine*, a respected journal.

Comics are not for everyone, notes Mr Pollard, the researcher, and using them in therapy requires tact and expertise. But he can vouch for their potential from his personal experience. Reading them helped him overcome dyslexia. “If I hadn’t had any kind of contact with comics,” he reflects, “I have my doubts that I would have gone to university.” ■

Mankind and other animals

Arrival of the interspecies

Artificial intelligence is set to change the way people relate to other beings

Ways of Being. By James Bridle. *Farrar, Straus and Giroux*; 384 pages; \$30. *Allen Lane*; £20

INTERSPECIES WAS once a technical term used in science to describe how one species got along with another. Now it is a word of more consequence: it evokes the new connections between humans and non-humans that are being made possible by technology. Whether it is satellite footage tracking geese at continental scale, or a smartphone video of squirrels in a park, people are seeing the 8.7m other species on the planet in new lights. In “Ways of Being”, James Bridle, a British artist and technology writer, explores what this means for understanding the many non-human intelligences on Earth.

Mr Bridle makes clear that three kinds of minds are now interacting: human, non-human and machine. Using artificial intelligence (AI), machines will in future

have the capability to interpose themselves as translators between human and other biological life forms. The strength of machine intelligence is its rapidity, repetition and accuracy over time.

The author spots an immediate hitch: IBM, Microsoft, Amazon, Google, Facebook and other big technology firms are, he alleges, “the number one driver of climate change” and so of “global extinction”. That is overcooking it, given that the same companies build climate solutions and disseminate knowledge, and that other industries are much dirtier. What is true is that profit is the main motive for advances in AI; as yet nature does not get much of a look in, and non-human intelligences go unexplored outside zoology departments. Computing is as focused on humans as ever, even as climate change and biodiversity-loss suggest it should devote much greater attention to other species.

The first step towards an interspecies future, Mr Bridle argues, is showing more ►



An eye for an eye

► appreciation for other forms of intelligence (the “ways of being” of his title). To some extent, this is already happening, starting with cephalopods. Through films and other initiatives many people now know that octopuses have an advanced and strange intelligence. Human beings’ last common ancestor with the octopus lived 600m years ago, compared with 16m years for the chimpanzee. Yet the octopus eye resembles the human kind. If similar eyes can evolve through separate routes, so might intelligences.

The next step, Mr Bridle asserts, is recognising that people live in an “entangled” and “more than human” world. Everything is messier than it seems. Other intelligences have developed from a common evolutionary base, and they overlap in ways that science is just beginning to discern. Mortal intelligence is not only limited by its capacity, but by its type: people are bipedal primates who see and hear better than they smell and touch.

Metamorphoses revisited

To see the world like this is in some ways a return to the animism of bygone centuries, an outlook reminiscent of Ovid. Yet the territory ahead is uncharted. Science may soon crack the Rosetta Stone of animal languages. That would mean the preferences of other species are made explicit, and so may intrude into law and politics.

Because technology has helped to wreck nature, Mr Bridle finds himself surprised that the answer for drawing closer to the living world is “sticking tiny digital sensors on everything”. In time AI might move beyond translation to engage with other species. It could help in providing them with security and veterinary care, for instance, and eventually more sophisticated services; should a system be developed to ascribe value to plants and animals, a form of digital money could even circulate across species barriers.

Teaching AI about life on Earth will require not just humans and hard drives, but the scanning and input of all the “actual intelligences” of animals, trees, fungi and brain-sized microbial colonies. Machines themselves may come to resemble natural beings, subject to the same evolutionary pressures as biological life forms, and with their own capacity for contemplative reflection.

“Ways of Being” would have benefited from sharper editing. There are many Wikipedia digressions in a book that could have been half the length. Yet like the randomness in nature he celebrates, Mr Bridle’s meandering is part of the effect. In making clear the patience, imagination and humility required to better know and protect other forms of intelligence on Earth, he has made an admirable contribution to the dawning interspecies age. ■

Scoundrels of yore

Pleasure without principle

Adventurer: The Life and Times of Giacomo Casanova. By Leo Damrosch. Yale University Press; 432 pages; \$35 and £25

TO HIS MANY admirers over the centuries, Giacomo Casanova, who lived from 1725 to 1798, embodied a certain kind of freedom. He was an unapologetic hedonist, indulging his urges in defiance of social conventions and moral hypocrisy. A self-professed libertine, he lived by the philosophy that pleasure was “a gift of God”, and that it was monstrous to think God enjoyed “the pains, sorrows and abstinence that people offer in sacrifice to him”.

As Leo Damrosch chronicles in “Adventurer”, his new biography, this approach took Casanova into some pretty grim territory. In addition to being a serial seducer, by 21st-century standards he was a rapist, a murderer, a child-abuser, a crook and an all-round scoundrel. He was also an engaging storyteller, whose “*Histoire de ma vie*” not only established him as the archetypal ladies’ man, but also provides one of the most vivid and perceptive accounts of life and manners in 18th-century Europe.

Casanova was born in Venice, an independent republic that had long since transformed itself from a maritime power to a tourist destination, in large part by guaranteeing a degree of anonymity to seekers of illicit pleasure. A child of actors in this city of masks, Casanova was naturally inclined to play fast and loose with his identity. From a young age, the intelligent and ambitious boy realised that he would have to enact many different roles to satisfy his voracious appetites—and to enjoy a life in keeping with his sense of himself as a member of the aristocracy of talent, if not that of birth. He variously passed himself off as a nobleman, soldier, magnate, expert in finance and even a hydraulic engineer.

He is, of course, most famous for his amorous escapades. In his telling he was simply irresistible to women. Invariably his partner comes to enjoy the experience as much as he does—even when that experience would today be considered criminal, or at least exploitative. In Casanova’s world, women are as sexually adventurous as he is, and just as willing to defy norms in pursuit of carnal gratification. In this, if nowhere else, Casanova can be seen as a proto-feminist, acknowledging and even celebrating women’s sexuality.

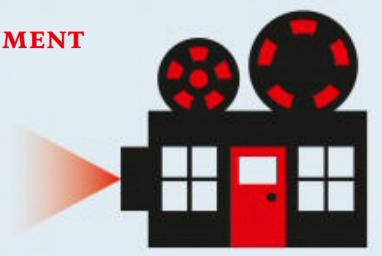
But, as Mr Damrosch points out, not only is Casanova an unreliable narrator of his libidinous career: the nature of his conquests usually discounts any notion of mutuality or consent. “Casanova”, Mr Damrosch writes, “aspired to a life of freedom from restraints—but freedom at whose expense?” The answer is painfully obvious in the scores of deceived, swindled, abandoned and abused victims who populate these pages. The author is clear-eyed about Casanova’s faults. To cite a typical example, in a case involving the purchase of a 13-year-old girl for sex, he observes that his subject “seems oblivious to the darker implications of his actions”.

Ultimately, however, the indignation seems inadequate. Why should modern readers care about a man whose pursuit of pleasure now seems much more sinister than liberating, and whose idea of freedom is merely the freedom to trample the feelings of others? “Adventurer” doesn’t excuse Casanova’s selfishness or hide his cruelty, yet it fails to offer a coherent critique of the inequalities that he exploited. As colourful and entertaining as it often is, the book knocks Casanova off his pedestal without making a compelling case for why readers should follow Mr Damrosch into the mud.



The villain of his story

HOME
ENTERTAINMENT



Ecofiction

Back to earth

Wendell Berry's rural tales offer salutary lessons for modern life

WENDELL BERRY was almost 30 when he packed up his life as a New York intellectual and decamped to Port Royal, a tiny community in Kentucky where generations of his forebears had farmed the land. His friends thought him mad. Mr Berry said it was "not an altogether pleasant fate". But he felt obliged—destined, even—to record the history of the place.

Since moving to Port Royal in 1964 he has lived as if he were in the 19th century, writing by hand and ploughing his fields with horses. His eight novels and more than 50 short stories are usually set in Port William, a stand-in for Port Royal. Yet his appeal transcends his backwater milieu. The feminist bell hooks was a fan. Nick Offerman, an actor, wanted to adapt his work for the screen. Mr Berry refused, for the "TV cord is a vacuum line, pumping life and meaning out of the household".

His Luddism also belies the prescience of his encompassing theme: that humans must nurture the earth that grants them life. "The soil is the greatest connector of lives," he has written; "without proper care for it we can have no community." This philosophy dominates his novels and polemics. In "The Unsettling of America",

published in 1977, Mr Berry critiqued the natural destruction caused by giant agribusinesses. He thinks capitalism has divorced farming from culture, severing people from nature.

Mr Berry's fiction explores the deterioration of convivial values by following Port William's interwoven clans as their pastoral outpost enters the modern age. In "Dismemberment", a short story, Andy Catlett loses a hand to a harvesting machine and becomes a recluse. He sees his withdrawal is mistaken and reconnects with the town, finding "the wealth of an intimate history" in belonging to "his ancestral place".

Port William's inhabitants often come to such realisations. In "Hannah Coulter", Mr Berry's seventh novel, the titular character grows old after a tragic life and anticipates loneliness when her children leave to find work in the city. Instead, her hope is restored when an estranged grandson returns to run the farm. Mr Berry paints the community in atmospheric hues, each brushstroke deepening the reader's understanding of how the link between soil and people sustains the town.

The author's rural world is not always melancholic. "Watch With Me", a series of short stories, traces the loving marriage of Ptolemy and Minnie Proudfoot. In one tale set in 1932, Ptolemy, an expert horseman, struggles to drive a motor car. Here the clash of old and new is humorous, as the couple go "easy into the modern world, never really getting the hang of it".

These stories may be conservative fables about cherishing soil and rustic communities, but they offer profound advice for readers living through ecological disaster. Though few can return to agrarian basics, Mr Berry's messages of building communities, being a good neighbour and resisting the destructive temptations of modern life are still valuable. Besides, his mission to find the "peace of wild things" is easily accomplished by spending a few hours in Port William. ■



Royalists and Roundheads

The dogs of war

The Siege of Loyalty House. By Jessie Childs. Bodley Head; 318 pages; £25

"**T**HREE IS NOTHING that doth more advance and sour a man's misery", the eulogist said at the funeral of Sir Marmaduke Rawdon in April 1646, "than this one thought and apprehension: that he was once happy." Before the outbreak of the English civil war, Rawdon had been a highly successful merchant in London; his unofficial motto, "win gold and wear gold", hints at his style. But history knows him as a leading royalist officer in the defence of Basing House.

The siege of that house is the immediate subject of Jessie Childs's riveting new book. The mansion, part of which was a castle, was reputed to be the largest private residence in England. The estate was the Hampshire seat of John Paulet, Marquess of Winchester, a Catholic royalist. The nickname Loyalty House derived from "Aimez Loyauté", the Paulet family motto.

When the parliamentary army first attempted to take it in July 1643, the house had strategic value: it was deep in the Roundheads' own territory. Royalist troops emerged from it to harry the roads west of London. Later its resistance made it a symbol—of the stubbornness of hope for one side, of papist pride and error for the other. Never mind that most of its garrison were, like Rawdon, Protestants.

The house would not fall until October 1645, when Oliver Cromwell, basking in the proof of God's favour after victory at the battle of Naseby, arrived with 7,000 men. His artillery included a cannon so big that 40 horses were required to move it. Cromwell needed only three days of bombardment to achieve what had eluded other parliamentary forces for over two years.

Weighing 63lbs (29kg), the balls from Cromwell's great cannon were only the latest projectile to batter Basing House. Among the most feared were granadoes, large shells packed with gunpowder, nails and stones, which descended from an immense height and bounced and rolled unpredictably before exploding. An early form of chemical warfare involved brimstone and arsenic. All this was God's work, the besiegers told themselves.

Inside the house were several hundred soldiers and numerous women and children. Ms Childs reconstructs their suffering—near-starvation, filthy water, a smallpox outbreak—with startling imme-

► diacy using first-hand accounts, letters, memoirs and reports in the viciously partisan press. The book is raucous with opinion, as a civil-war history should be. One heroic royal sortie from Oxford, accomplished with dazzling courage and cunning, brought respite. But it proved brief.

The waves of hope and despair are well-caught and moving. A parliamentary soldier, his leg shattered in an early assault on the house, slit his own throat as royalists goaded him. Honora, the marchioness, and her maids frantically stripped lead from the turrets to recast as shot as scaling

ladders reached the walls. When the house was finally breached, a clergyman's daughter was killed by a single sword-blow to the head as she tried to protect her father.

A contingent of Rawdon's troops who came from Snow Hill in the City of London lend the narrative an extra dimension. Ms Childs focuses on Thomas Johnson, a Yorkshire-born apothecary and herbalist, who had once hoped to locate and label every indigenous plant in England and Wales. The breaking of such lives and communities makes poignant reading. Forced to take sides amid their era's

tyrannical certainties, Johnson and others fled parliamentary London, itself expecting to be besieged, only to end up immured in Basing House. "Let cursed neutrality go to hell," a preacher urged Cromwell's men before the final attack.

Ms Childs's wider subject, then, is what happens to people during civil war: how quickly and imperceptibly order becomes chaos, and decency cruelty, even among friends and neighbours. In other words, how close to inhumanity humanity always is. Her focus is local and English, but the story is human and timeless. ■

Johnson Enter the dragon app

Technology is making it easier to write and learn Chinese

FEW LANGUAGES are so associated with their written form as is Chinese. The mere mention of the language calls to mind an elaborate, beautiful and—to outsiders—mysterious script. The Chinese themselves are extraordinarily proud of it.

Without doubt, though, it is hard. Opinions vary on how many characters a user must know, but around 1,000 are needed for minimal function; 6,000–8,000 is a common estimate for an educated person. Characters are usually assembled from smaller pieces, one of which might give a clue to the meaning and the other to its pronunciation. But that is not always so, and in any case, which piece goes where is not fixed.

Learning to write Chinese has always been tough. As if that were not enough, for centuries the few people who could relied on its literary, classical form, equivalent to the use of Latin in medieval Europe. In the guise of poetry and proverbs, it is still in use today.

Bringing Chinese into the modern, international and digital world is the subject of "Kingdom of Characters", a fascinating book by Jing Tsu of Yale University. First, the modernisers had to replace classical Chinese. This involved choosing one of the many mutually unintelligible spoken varieties at a heated conference in 1913. Wang Zhao, one of the key figures there, chased another delegate from the room for having called him a "son of a bitch"—or so Wang thought. The poor man had actually said "rickshaw" in his southern dialect. Wang and his allies overcame the southerners, and the Mandarin of Beijing became *putonghua*, the "common tongue". The written standard was based on it.

Ms Tsu goes on to detail the creativity, false starts, rivalries and eventual tri-

umphs that dragged Chinese into the 20th century: the first typewriters, telegraph codes and computer-input methods are at the heart of her story. A digressive chapter on the frenzied competition to create an indexing method—for a language without alphabetical order—gives a sense of the challenge the modernisers faced.

At each step, China was inevitably chasing other countries, borrowing ideas and technology. This nearly led Mao Zedong to adopt romanisation of the Chinese language, which would have simplified the task but disadvantaged speakers of non-Mandarin dialects and discarded millennia of heritage. Instead, he introduced two initiatives. A committee created a new roman-letter transcription of Chinese—called *pinyin*—but largely as an aid to learning characters. And thousands of characters were simplified.

Regular use of *pinyin* was once a rarity for most Chinese, but these days it is common: it is all but essential for day-to-day interaction with computers. People use it to write on keyboards and smartphones, entering the spelling and choos-

ing the right character from a menu of homophones. Other systems employ the keys to combine the pieces of a Chinese character. For the skilled, this method is faster, but it is much trickier to learn.

International use of Chinese has not grown at anything like the pace of China's economy and global clout. The difficulty of learning the written language is undoubtedly one reason why. The difficulties of using it on a computer are another. It is hard to imagine two foreigners writing to each other in Chinese as many do in English.

That might one day change, as technology finally becomes more of a help than a hindrance. Today, artificial intelligence has made inputting characters easier. Like those familiar from autocorrect and predictive text in other languages, new systems can guess which Chinese character a user wants, not just from overall frequency but from surrounding words. People who hand-write on their touchscreens have seen much-improved recognition of their intentions. And speech-to-text software has advanced for every language, meaning that fewer users even need to touch a keyboard to "write" Chinese.

More and more Chinese struggle to hand-write rare characters from memory, a "character amnesia" that worries traditionalists. But in every other way, technology, long an obstacle, is at last a boon. Learning how to read and write Chinese will still be hard. Yet with a tutor and memory-aid in every pocket, you no longer need the work ethic and prodigious memory of a scholar boning up for the imperial civil-service exam—a blessing for foreign learners as well as natives. Though unlikely to displace English, Chinese may begin to have a global role more commensurate with China's own.



GOVERNMENT OF INDIA (भारत सरकार)
MINISTRY OF RAILWAYS (रेल मंत्रालय)
RAILWAY BOARD (रेलवे बोर्ड)

CORRIGENDUM NOTICE
to the
Request for Proposal for Manufacturing and Maintenance of 9000 hp Electric Locomotive at Dahod

Request for Proposal for Manufacturing and Maintenance of 1200 (twelve hundred) 9000 hp Electric Locomotives uploaded on IREPS website on 27.04.2022. **Corrigendum No.1** regarding the same is uploaded on **Official Website** <https://ireps.gov.in> on **10.05.2022**. The interested bidders are advised to go through the **Corrigendum No. 1**.

1101/2022

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MINISTRY OF RAILWAYS (रेल मंत्रालय)
RAILWAY BOARD (रेलवे बोर्ड)

NOTICE INVITING BID

Notice No.:2022/Elect/Dev./440/5 Date 04.05.2022

Project: Manufacturing and Maintenance of 800 (eight hundred) 12000 hp Electric Locomotives.

The President of India, represented by Ministry of Railways, Director Electrical Engineering (Development), Railway Board (the "Authority"), having its principal office at Rail Bhavan, Raisina Road, New Delhi-110001, India is engaged in the development of Railways and related infrastructure, and as part of this endeavour, the Authority has decided to undertake Manufacture and Maintenance of 800 (eight hundred) 12000 hp Electric Locomotives, through single stage two packet bidding system and has to carry out the Bidding process for selection of a Bidder to whom the Project may be awarded. A brief description of the Project may be seen in the Information Memorandum of the Project at the Authority's website (www.indianrailways.gov.in) Brief particulars of the Project are as follows:

"Manufacture and supply of 800 Electric Locomotive of 12000 horse power, twin Bo-Bo configuration (the "Locomotive") spread over a period of 10 (ten) years at **Banaras Locomotive Works, Varanasi** by the selected bidder and Maintenance at nominated Government Depots over Indian Railways on the basis of a long term manufacture and maintenance contract (the "Project")."

The Bidding Documents can be viewed/downloaded from official portal of the Railway website <https://ireps.gov.in> from 09.05.2022. Bidder must submit its Technical Bid and Financial Bid at <https://ireps.gov.in> on or before upto 10.08.2022 at 11:00 hours IST. Bids received online shall be opened on 10.08.2022 at 11:30 hours IST.

Bid submitted through any other mode shall not be entertained. Power of Attorney and Joint Bidding Agreement etc. shall be submitted physically by the Bidder on or before 10.08.2022 at 11:00 hours IST. Please note that the Authority reserves the right to accept or reject all or any of the Bids without assigning any reason whatsoever.

For further details please contact:
Dr. Ram Niwas,
Director Electrical Engineering (Development),
Ministry of Railways (Railway Board),
Room No. 109, Rail Bhavan, Raisina Road,
New Delhi-110001.
Contact No. : +91-8595526735
Email : deedev@rb.railnet.gov.in
Website : indianrailways.gov.in

1042/22



Economic data

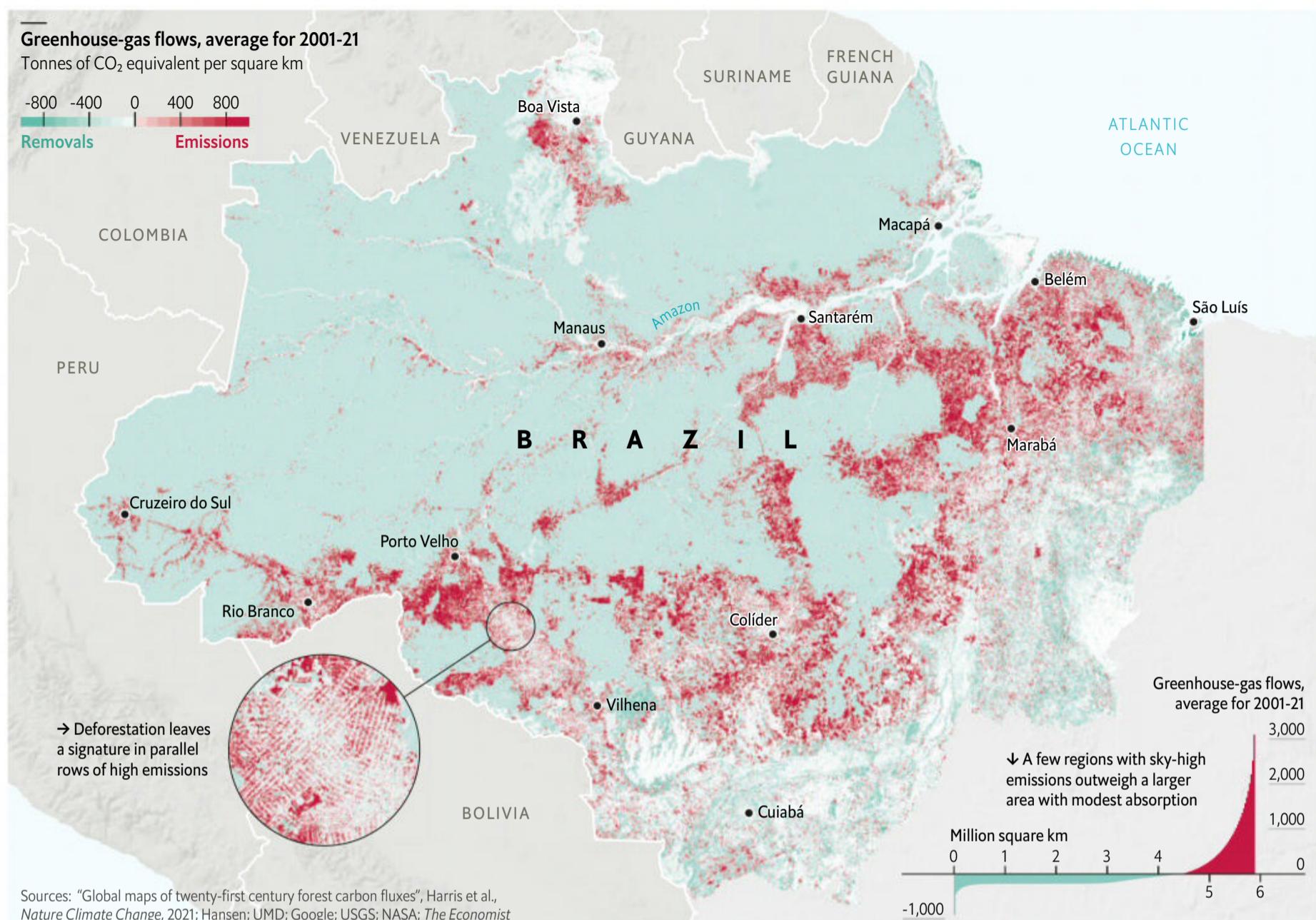
	Gross domestic product			Consumer prices		Unemployment rate		Current-account balance		Budget balance		Interest rates		Currency units	
	% change on year ago latest	quarter*	2022†	% change on year ago latest	2022†	%		% of GDP, 2022†		% of GDP, 2022†		10-yr gov't bonds latest,%	change on year ago, bp	per \$ May 17th	% change on year ago
United States	3.6	Q1	-1.4	3.0	8.3	Apr	7.2	3.6	Apr	-3.9	-6.6	3.0	134	-	-
China	4.8	Q1	5.3	5.0	2.1	Apr	2.2	6.1	Apr‡\$	2.3	-6.2	2.6	§§	-37.0	6.75
Japan	0.2	Q1	-1.0	2.8	1.2	Mar	1.8	2.6	Mar	1.3	-6.1	nil	-8.0	129	-15.5
Britain	8.7	Q1	3.0	3.9	9.0	Apr	6.7	3.7	Feb††	-1.9	-5.3	1.7	79.0	0.80	-11.2
Canada	3.3	Q4	6.7	3.8	6.8	Apr	5.7	5.2	Apr	1.2	-3.6	3.0	145	1.28	-5.5
Euro area	5.1	Q1	1.1	3.2	7.4	Apr	5.2	6.8	Mar	2.4	-4.1	1.1	116	0.95	-13.7
Austria	5.5	Q4	-2.0	2.6	7.2	Apr	6.5	4.2	Mar	-1.3	-4.4	1.6	141	0.95	-13.7
Belgium	4.6	Q1	1.2	2.8	8.3	Apr	8.6	5.6	Mar	-0.8	-4.9	1.6	136	0.95	-13.7
France	5.3	Q1	-0.2	3.2	4.8	Apr	4.1	7.4	Mar	-1.3	-5.5	1.4	118	0.95	-13.7
Germany	3.7	Q1	0.8	1.6	7.4	Apr	6.8	2.9	Mar	5.9	-2.9	1.1	116	0.95	-13.7
Greece	7.4	Q4	1.7	3.0	10.2	Apr	6.6	12.9	Mar	-5.1	-4.9	3.6	248	0.95	-13.7
Italy	5.8	Q1	-0.7	2.0	6.0	Apr	6.3	8.3	Mar	1.5	-5.9	3.0	186	0.95	-13.7
Netherlands	7.0	Q1	0.1	2.5	9.6	Apr	9.6	3.3	Mar	5.9	-3.0	1.3	128	0.95	-13.7
Spain	5.5	Q4	1.3	5.4	8.3	Apr	4.5	13.5	Mar	1.4	-5.7	2.0	143	0.95	-13.7
Czech Republic	3.7	Q4	2.8	2.2	14.2	Apr	11.9	2.4	Mar‡	-2.4	-4.8	5.0	324	23.5	-10.7
Denmark	6.8	Q4	-0.4	2.1	6.7	Apr	6.9	2.5	Mar	8.2	1.0	1.4	123	7.06	-13.3
Norway	4.8	Q1	-3.8	3.3	5.4	Apr	3.6	3.1	Feb‡‡	9.2	2.6	1.4	76.0	9.70	-14.6
Poland	8.0	Q4	6.6	4.2	12.4	Apr	9.0	5.3	Apr§	-1.4	-4.4	6.6	463	4.42	-15.6
Russia	5.0	Q4	na	-10.0	17.8	Apr	18.0	4.1	Mar§	5.6	-4.5	10.4	320	65.5	12.9
Sweden	3.5	Q1	-1.6	2.8	6.4	Apr	4.1	8.2	Mar§	3.4	-0.4	1.9	139	9.93	-16.0
Switzerland	3.7	Q4	1.1	2.6	2.5	Apr	2.1	2.2	Apr	6.1	0.5	0.8	87.0	0.99	-9.1
Turkey	9.1	Q4	6.2	3.0	70.0	Apr	50.5	11.4	Mar§	-3.8	-3.7	23.4	597	15.8	-47.1
Australia	4.2	Q4	14.4	3.2	5.1	Q1	4.3	4.0	Mar	2.0	-3.0	3.4	177	1.43	-9.8
Hong Kong	-4.0	Q1	-11.4	0.9	1.8	Mar	4.2	5.0	Mar‡‡	0.1	-6.8	2.9	171	7.85	-1.0
India	5.4	Q4	13.6	7.2	7.8	Apr	6.0	7.8	Apr	-1.4	-6.4	7.4	140	77.6	-5.6
Indonesia	5.0	Q1	na	5.2	3.5	Apr	4.2	5.8	Q1§	0.3	-4.8	7.3	87.0	14,648	-2.5
Malaysia	5.0	Q1	na	4.0	2.2	Mar	2.9	4.1	Mar§	2.8	-6.2	4.5	133	4.39	-5.9
Pakistan	6.0	2021**	na	2.7	13.4	Apr	13.0	6.3	2021	-5.3	-7.0	12.9	†††	334	196
Philippines	8.3	Q1	7.8	6.0	4.9	Apr	4.6	6.4	Q1§	-3.0	-7.7	6.2	227	52.4	-8.7
Singapore	3.4	Q1	1.4	3.6	5.4	Mar	4.9	2.2	Q1	17.4	-0.9	2.8	125	1.39	-3.6
South Korea	3.1	Q1	3.0	2.7	4.8	Apr	4.0	3.0	Apr§	3.3	-2.0	3.3	117	1,275	-11.0
Taiwan	3.1	Q1	6.4	4.5	3.4	Apr	3.8	3.7	Mar	13.1	-1.2	1.4	96.0	29.7	-5.7
Thailand	2.2	Q1	4.7	2.9	4.6	Apr	5.0	1.5	Dec§	0.1	-4.8	3.2	156	34.5	-8.9
Argentina	8.6	Q4	6.3	4.2	58.0	Apr	60.1	7.0	Q4§	0.8	-4.3	na	na	118	-20.2
Brazil	1.6	Q4	2.2	0.8	12.1	Apr	10.2	11.1	Mar§‡‡	-0.5	-7.1	12.5	313	4.98	5.6
Chile	7.2	Q1	-3.0	2.7	10.5	Apr	10.2	7.8	Mar§‡‡	-4.1	-3.4	6.7	310	850	-16.0
Colombia	8.2	Q1	4.0	4.2	9.2	Apr	9.8	12.1	Mar§	-3.6	-4.8	11.8	457	4,040	-8.8
Mexico	1.6	Q1	3.6	1.9	7.7	Apr	7.5	3.5	Mar	-0.9	-3.5	8.9	204	20.0	-0.9
Peru	3.2	Q4	-12.9	2.7	8.0	Apr	7.1	7.4	Apr§	-3.0	-2.5	8.2	328	3.77	-1.9
Egypt	9.8	Q3	na	5.1	13.1	Apr	9.7	7.2	Q1§	-6.3	-7.0	na	na	18.3	-14.2
Israel	9.6	Q1	-1.6	4.1	4.0	Apr	4.0	3.8	Mar	3.0	-2.0	2.6	134	3.35	-2.1
Saudi Arabia	3.2	2021	na	6.7	2.3	Apr	2.3	6.9	Q4	14.9	10.1	na	na	3.75	nil
South Africa	1.7	Q4	4.7	2.1	6.0	Apr	5.8	35.3	Q4§	-1.1	-6.1	10.0	87.0	16.0	-11.6

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. Source: Haver Analytics

Markets

In local currency	Index	% change on:			index	% change on:			index	% change on:		
		May 18th	one week	Dec 31st 2021		May 18th	one week	Dec 31st 2021		May 18th	one week	Dec 31st 2021
United States S&P 500	3,923.7	-0.3	17.7		43,026.9	0.4	-3.5					
United States NAScomp	11,418.2	0.5	-27.0		3,225.4	nil	3.3					
China Shanghai Comp	3,086.0	0.9	-15.2		2,626.0	1.3	-11.8					
China Shenzhen Comp	1,941.5	1.2	-23.3		16,296.9	1.8	-10.5					
Japan Nikkei 225	26,911.2	2.7	-6.5		1,620.3	0.4	-2.2					
Japan Topix	1,884.7	1.8	-5.4		90,803.4	5.9	8.7					
Britain FTSE 100	7,438.1	1.2	0.7		106,247.1	1.8	1.4					
Canada S&P TSX	20,101.4	1.3	-5.3		50,394.0	2.3	-5.4					
Euro area EURO STOXX 50	3,690.7	1.2	-14.1		10,467.6	-3.6	-12.1					
France CAC 40	6,352.9	1.3	-11.2		1,990.6	1.3	-4.0					
Germany DAX*	14,007.8	1.3	-11.8		12,713.4	-5.0	12.2					
Italy FTSE/MIB												

→ A surge in deforestation has turned the Brazilian Amazon into a net emitter of carbon dioxide



That non-sinking feeling

The Brazilian Amazon has been a net carbon emitter since 2016

IF RAINFORESTS WERE Earth's respiratory system, the Amazon would be a full lung. The region holds half of the tropics' undisturbed forests. Its flora absorb 1.5bn tonnes of carbon dioxide (CO₂) a year, equivalent to 4% of emissions from fossil fuels.

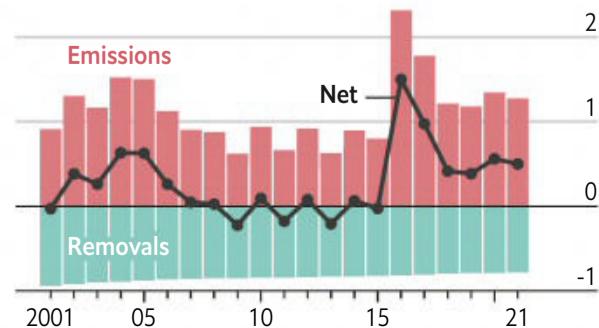
This lung is being deforested at cancerous rates. A chunk nearly the size of Kuwait is felled or burned every year. This both eliminates CO₂-absorbing trees and releases their stored carbon back into the air.

The worst scenarios involve a tipping point of tree loss, beyond which the forest could no longer produce enough moisture to sustain its ecosystem. But even if this disaster can be averted, grave harm has already been done to Earth's best-known carbon sink. Since 2016 the Brazilian Amazon, containing two-thirds of the forest, has spewed out more CO₂ than it has absorbed.

Two analyses from 2021 identified chunks of the Amazon as net emitters. One, in *Nature*, found this pattern in atmospheric samples from south-eastern Amazonia. The other built on a paper in *Nature Climate Change*, which combined satellite images of tree losses with data on soil types; tree densities and ages; and the emissions impact of land-use changes. Based on the resulting estimates of CO₂ flows, authors at MAAP, a conservation group, calculated that in 2001-20 net emissions from the Brazilian Amazon exceeded those of Argentina or Pakistan—although the full Amazon, including neighbouring countries, remained a net carbon sink.

Greenhouse-gas flows in the Brazilian Amazon

Tonnes of CO₂ equivalent, bn



Both of these studies measured emissions over long time periods. Neither reported whether recent region-wide trends were positive or negative. To find out, we matched up the latest data on CO₂ flows with yearly maps of tree cover.

CO₂ capture has deteriorated slowly and steadily. Since 2001 the Brazilian Amazon's absorption rate has fallen by 1.2% a year.

Emissions, in contrast, have oscillated. In the mid-2000s CO₂ output fell, as the central bank cut off credit to firms facing fines for deforestation, and more forest areas gained legal protection. But in 2012 the government granted an amnesty for past deforestation, and in 2014 a recession began, which may have pushed farmers to seek new land. After nine years as a carbon sink, emissions surged in 2016, and the region has been a net emitter ever since.

Brazil has pledged to end illegal deforestation by 2028. However, Jair Bolsonaro, the president, has relaxed enforcement of environmental safeguards. Satellite images suggest that twice as much forest has been lost in 2022 as the average for January to April in 2010-21. The future path of global warming depends in part on whether Mr Bolsonaro is re-elected this year. ■



The forgotten fire

Saotome Katsumoto, ceaseless chronicler of the Great Tokyo Air Raid, died on May 10th, aged 90

IN 1967, THREE years after Japan had shown its new post-war confidence by staging the Olympic games, workmen on the Tozai subway line in Tokyo unearthed the remains of an air-raid shelter. Inside it lay the skeletons of six people huddled together. Two were children; some bones were burned. One adult held Buddhist memorial tablets, from which they could be identified as the wife, daughter and other relatives of Shizuo Tsuzuki, who had left the shelter on an errand and was now a company president. There was the wife he had not seen for 22 years.

Most readers of this news story shuddered and turned the page. Saotome Katsumoto's reaction was quite different. Here, brought into the glare of daylight, was the tragedy that had been his only subject for as long as he had been a writer: the American bombing raid on Tokyo which, on a single night in March 1945, had killed around 100,000 people and left a million homeless. A fleet of 334 B-29s were sent from the Marianas to destroy the Shitamachi district, a poor and densely crowded part of the city, with the aim of not only crippling Japan's war production but, in the words of General Curtis LeMay, to wipe Tokyo off the map.

It was the most deadly single air raid in history, with casualties close to those in Hiroshima and surpassing Nagasaki, where atomic bombs were dropped. But that new-forged horror seared those two cities into public memory, whereas the fire that devastated Tokyo—the worst of dozens of raids since November 1944—was brushed aside and buried, like the skeletons on the Tozai line.

Mr Saotome was determined to break the silence. The Great Raid had to be talked about and described in school textbooks, where it did not rate a mention. Evidence had to be gathered, both from the ground and from survivors. If no one else dared upset the Japanese government, which was unwilling to reopen any questions about the war, he would; because only he, it seemed, still carried the fire inside him.

The inferno had begun with his father yelling at him, sometime in the earliest hours of March 10th 1945. He leapt from bed and pulled on his clothes: his khaki civilian uniform, then a judo robe. He also grabbed his only treasure, a cloth pouch of old coins. The family was poor, his mother a seamstress and his father, when he wasn't drinking, a street-seller. Treasures were scarce.

He was a worker too, though he was only 12 and still a runny-nosed schoolboy. He collected scrap metal for the local ironworks to make into grenades. Proudly, he wore his *hachimaki* headband with the word *kamikaze* on it, divine wind, and the red sun of Japan. In school he was taught that Japan could not lose this war, because they were all the emperor's children and the emperor was a god. He felt doubtful about that, but of course never said so.

He looked outside. The night sky was scorched crimson, and flashes of light seemed to pass behind his eyelids. His mother was fussing and gathering up cooking pots; his father was shouting that they had to evacuate. Fire was already consuming Shitamachi, where they all lived cheek-by-jowl in wooden houses. It took only 12 minutes for one of those houses to burn down.

With their stuff piled on a handcart, they struggled down the street: himself, his parents and his two sisters. People were crowding and shouting everywhere, pushing from every side. But so was the fire, chasing them like a living thing. Alleyways were blocked with blazing futons, and molten glass hung from windows. The heat was so intense that if they passed a water-bucket his father would douse them all, but in moments his judo robe was dry again. The wind, a strong north-wester rather than the *kamikaze* they needed, fiercely fanned the flames.

Afterwards, when they had all miraculously survived, he remembered the dreadful futility of that night. His father carried a bamboo water-gun, a bigger version of a child's toy, with the imperial chrysanthemum crest. A posse of neighbours, outside their shelters, wielded bamboo fire brooms. A paper notice on the gate of the ironworks urged workers: "Don't be put off by such a little thing!" But nothing mattered in the end except water and life.

With the eye of a budding writer, he also noticed incongruous beauties. The flames, reflected in the underbellies of the B-29s, looked like tropical fish swimming in the sky; as he ran, sparks darted round him like swallows. But horror ruled: a man beside him instantly decapitated, bomb-blasts wrenching children from parents, and the sight with the dawn of dozens of charred bodies being dragged, with hooked poles, out of the Sumida river.

That night made him a pacifist, and in the name of pacifism he needed to live and relive, record and teach, how terrible war was. Since 1952, he had written novels and children's books based on the raid. After 1970, when a professor told him that only historical evidence would keep the raid in the public eye, he began systematically, with notebook and pen, to gather the memories of other survivors. Eventually he turned their painful, halting conversations into six published volumes of recollections.

He accepted that, fundamentally, Japan was to blame for what had happened and for the Asia-Pacific war itself. He had no animus against Americans, except for LeMay, who was given the Order of the Rising Sun for rebuilding Japan's air force; and even that he held more against Japan, for being so craven. But the raid of March 10th was, for him, an obvious breach of international law.

He hoped the government would help his cause, but was disappointed. No help was offered to civilian survivors. In 2002 he opened his Centre of the Tokyo Raid and War Damage, filled with relics, maps and manuscripts, but it had to be built on a modest scale, with private funds, on the edge of the city. Clearly he hadn't said, or gathered, or written enough.

As for his chief ambition, to end war, that was also far off. In his last weeks he watched footage of Ukrainians fleeing their country; and saw among them still the figures of men and women fleeing Shitamachi as it burned, pushing their handcarts, screaming after their children, indelible as ever. ■

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Steven Gerrard
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