

# The Economist

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**THE FUTURE  
OF UKRAINE**





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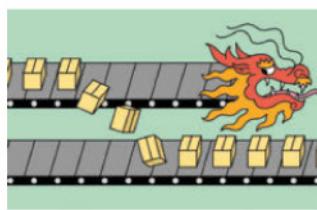
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to take part in "a severe contest between  
intelligence, which presses forward,  
and an unworthy, timid ignorance  
obstructing our progress."

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Joe Biden gave a speech in Warsaw ahead of the one-year anniversary of Russia's invasion of Ukraine. The American president called on the West to continue supporting Ukraine, and tore into Vladimir Putin for committing atrocities in the war. A day earlier Mr Biden visited Kyiv. He pledged more military aid, including radars and anti-armour systems, but not the fighter jets that Ukraine has asked for. Air-raid sirens accompanied his walkabout with Volodymyr Zelensky, though no missiles fell on the city. The Russians were told in advance that Mr Biden would be in Kyiv.

On the day Mr Biden was in Warsaw **Vladimir Putin** gave a rambling speech that predictably blamed the West for Russia's aggression. He also suspended Russia's participation in the New START nuclear-arms control agreement, the last remaining nuclear treaty with America, which Mr Putin had pressed America to renew in 2020. Mr Putin's war has killed tens of thousands of civilians and Ukrainian and Russian troops. More than 8m refugees have fled Ukraine.

Wang Yi, **China's** top diplomat, wrapped up an eight-day tour of Europe with a stop in Moscow. Mr Wang said China wanted to be part of peace efforts in Ukraine. But he spent much of his time criticising America. America warned that China was considering sending arms to Russia. The European Union's foreign-policy chief said that would be a "red line".

The Belarusian dictator, Alexander Lukashenko, announced the creation of a domestic

defence force of 150,000 "volunteers" who will be trained how to handle weapons. This is in case **Belarus** comes under attack, he said, though such a force could easily be used in another brutal crackdown on pro-democracy protesters.

Russia has been trying to gather information that would enable it to sabotage **Dutch energy infrastructure** in the North Sea, according to MIVD, the military intelligence agency of the Netherlands. One Russian ship was escorted out of the region when it tried to survey offshore wind farms.

Another strong **earthquake** hit the Turkey-Syria border, two weeks after a quake of magnitude 7.8 killed 50,000 people. The WHO thinks that 26m people in Turkey and Syria are in need of assistance.

The most senior transport official in **Spain** and the head of the state rail company both resigned, after €258m (\$275m) was spent on designing new commuter trains that could not fit through tunnels in the country's north. One regional leader described it as "an unspeakable botch".



**Britain's** health service braced for more industrial action as junior doctors voted to strike. Nurses were due to strike again at the beginning of March, but have put this on hold amid talks with the government. In December nurses walked out for the first time in over 100 years, joining other unionised workers as high inflation erodes pay. Public opinion is split on the strikes, but a majority of people think the government's handling of them has been poor.

## Please don't come

The Biden administration proposed tough new rules to deter **illegal migrants** from crossing the Mexican border ahead of an anticipated surge in arrivals when Title 42, a pandemic measure that allowed for their swift expulsion, ends in May. To try to gain entry migrants must first make an appointment with a border official using an app.

A court in the United States convicted Genaro García Luna, a former Mexican security minister, of aiding the **Sinaloa drug cartel** in exchange for millions of dollars in bribes. The verdict highlights long-running concerns in the US about corruption within the Mexican state.

**Mexico's** Senate passed a bill that overhauls the country's elections regulator, a long-sought goal of the president, Andrés Manuel López Obrador. Opponents say the reform will undermine democracy. Huge protests against the bill took place last November.

**Israeli** forces killed 11 **Palestinians** in a raid on Nablus, in the occupied West Bank. The Israeli army said it had targeted Palestinian terrorists. The following day Israel carried out air strikes in the Gaza Strip after rockets were fired from the area. Meanwhile Israel announced a temporary pause in building new settlements in the West Bank, though it has also announced the legalisation of nine unauthorised outposts and approved the construction of 10,000 new homes in existing settlements.

Civilians continued to flee fighting between the regional government and local militias in the self-declared republic of **Somaliland**. The UN says as many as 80,000 people may have crossed the border into Ethiopia in the past month.

**South Africa** began ten days of drills with ships from the Russian and Chinese navies. The exercises coincided with

the first anniversary of Vladimir Putin's invasion of Ukraine. South Africa insisted that the exercises were planned two years ago.

In **Pakistan** Imran Khan secured a court order preventing his arrest for two weeks. The former prime minister has been charged under anti-terrorism laws for allegedly threatening officials in a speech. He launched a campaign this week to "fill the jails" with his protesting supporters. This is a distraction for the government, which is still negotiating with the IMF over an assistance package. Pakistan is already bankrupt, according to the defence minister.

**Sri Lanka's** annual rate of inflation stood at 53% in January, down slightly from the previous month. The government is also trying to secure a bail-out from the IMF. It recently raised electricity prices by 66% to plug a gap in its finances.

## Troubled waters

Russia warned **Bangladesh** that its ban on Russian ships entering Bangladeshi ports "may adversely affect" co-operation between the two countries. Bangladesh says it is merely complying with international sanctions.

**North Korea** fired more missiles from its east coast, including an intercontinental ballistic missile. Kim Yo Jong, sister of the country's dictator, Kim Jong Un, said the army would use the Pacific Ocean as a "firing range" if America stepped up its military presence in the region.

The High Court in Seoul found that the state health insurer must provide insurance to gay couples. It is the most important legal recognition yet of the rights of same-sex partners in **South Korea**, where gay marriages are not recognised. The decision will be challenged in the Supreme Court.

America's Supreme Court heard arguments in two cases that could potentially undermine the business model of **social-media companies**. In *Gonzalez v Google* the parents of a woman who was killed in a terror attack on Paris in 2015 claim that YouTube aided the terrorists by recommending the group's videos to users. The case focuses on the legal protection from liability given to internet companies under Section 230 of the Communications Decency Act of 1996. In *Twitter v Taamneh* the family of a man killed in an attack in Istanbul in 2017 allege that Twitter, Google and Facebook should be held accountable for spreading terrorist propaganda. The court's decisions are expected in June.

#### Pay for your security

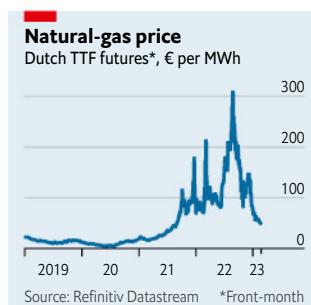
**Meta** launched a subscription service on Facebook and Instagram that verifies the authenticity of accounts and protects users from impersonation. The service, which is being tested in Australia and New Zealand, is similar to Twitter's blue-tick system. Social-media companies are looking for ways to increase revenue to offset smaller returns from advertising.

The disappearance in China of the head of a bank that has invested heavily in the country's big tech firms sent a chill across the industry and the business elite. **Bao Fan** was reported missing by China Renaissance, which he founded in 2005. It is not unusual for businessmen to be suddenly detained by the Chinese authorities when an investigation has begun into a company. Officials have so far kept tight-lipped about Mr Bao's whereabouts.

The **Bank of Israel** lifted its main interest rate by half a percentage point, to 4.25%. It was the eighth consecutive rise, prompting a rebuke from Israel's foreign minister, who called on the government to put a stop to the increases. Binyamin Netanyahu, the

prime minister, said he had no intention of messing with the central bank's independence.

Switzerland's financial regulator is reportedly investigating the chairman of **Credit Suisse** for potentially misleading markets when he said that a run of huge client outflows at the bank had stopped. A subsequent earnings report showed that the outflows had continued. News of the investigation sent Credit Suisse's share price to a new low.



The benchmark price for **natural-gas** futures in Europe fell below €50 (\$53) a megawatt hour for the first time in 18 months. A mild winter and the switch to liquefied natural gas imports have helped offset the shock from Russia withholding its supplies. Storage levels remain high. However, prices could shoot up if power companies turn back to gas to fire

their plants, and away from the current cheaper alternatives, such as coal.

The price of permits on the EU's **carbon-trading market** hit €100 (\$107) a tonne for the first time. The price of the permits, which allow companies to emit pollutants, subject to a cap, has risen by a fifth this year. Traders are betting that cheaper natural gas and a resilient economy will lead to higher industrial output.

**HSBC** reported solid quarterly earnings: pre-tax profit soared as higher interest rates helped push up revenues. The bank increased its shareholder dividend, which may help it fend off a demand by Ping An, a Chinese insurer and its biggest investor, to hive off its Asian business. That business accounted for 78% of HSBC's profit last year.

Revenue and profit rose sharply in 2022 at **Stellantis**, which saw global sales of its electric models rise by 41%. Like others in the industry the maker of Fiat Chrysler and Peugeot cars benefited from higher retail prices for its vehicles. It thinks those prices will now level off. Tesla is busily discounting prices for its cars to shore up demand.

Lower forecasts of annual revenue from **Walmart** and **Home Depot** unsettled stockmarkets. Walmart reported strong sales in its latest quarter as shoppers, including higher-income families, looked for cheaper food options. But non-food goods, such as toys and homeware, struggled. The company warned that economic uncertainties would affect consumer behaviour later in the year. Home Depot told a similar tale, but added that customers are warier of paying the higher prices that sustained its business amid soaring inflation.

#### Marking the days

The results of a six-month trial in Britain that tested the viability of a **four-day working week** showed that employers and staff were happy with it; most firms in the trial said they would continue working four days. Researchers from the University of Cambridge helped conduct the study. They found that 71% of workers reported lower levels of burnout, sick days were reduced by 65% and generated revenue barely changed. Company meetings, which seem to exist merely to fill out a five-day week, were "cut short or ditched completely".



# What victory looks like

## And what it requires

**A**FTER A YEAR there is so much to mourn. The dead, on both sides. The living, scattered across Europe by Russian missiles. The world's poor, struggling to buy bread. But, addressing his nation this week, Vladimir Putin was unrepentant.

Ukraine's allies congratulate themselves that they have done their part to counter Mr Putin's remorseless assault—though, with its courage and resolve, Ukraine itself deserves most credit. They have converged on two principles: that Ukraine must win, and that it is for President Volodymyr Zelensky to define what victory means. When he visited Kyiv on Tuesday, President Joe Biden was living proof of America's commitment.

Yet even the worthiest principles have a way of wearing thin, as Mr Putin well knows. He believes that the West will tire and, with the possibility of a new American president in 2025 and stronger backing from China, he may yet be proved right. His speech this week made clear that he is mobilising Russia for a war that—hot or cold—could last a generation.

In the fighting and in the long years of the heavily armed stand-off that comes afterwards, Ukraine will prevail only when Mr Putin—or, more likely, his successor—concludes that further aggression would gravely weaken him at home. Western leaders need to signal their resolve to Russia and to prepare their own people for the confrontation ahead. That is why they should mark the second year of fighting by going beyond generalities and committing themselves to a credible blueprint for a long struggle.

The first task is to understand what is at stake. Some Europeans still harbour the belief that a peace deal could restore the world to its state on February 23rd 2022 (see next leader). In fact Russia, Ukraine and the West are locked in a contest between rival systems. The West believes that sovereign Ukraine should be free to become a prosperous, democratic nation. Mr Putin denies Ukraine's existence, and says that the Russian civilisation is at war with the West. It is a war that will test the resolve and power of both sides.

The second task is to gain the advantage on the battlefield. Russia's and Ukraine's spring offensives will show whether either side can take territory. Russia's assault has already begun, and does not seem to be making ground (see Europe section). Ukraine's is likely in April or May. The Ukrainian army's stated aim is to restore the borders of 1991 by seizing Crimea and the four provinces Mr Putin annexed in September.

It should take all it can. The strategic reason for this is that a rump Ukraine would be impoverished and hard to defend. The east and south of the country are sources of minerals and crops, and centres of industry. Unhindered access to the Black Sea provides safe passage for Ukrainian exports. The political reason is that the more territory Russian forces surrender, the clearer it is that the war was futile—and the harder it will be for Mr Putin or his successor to justify re-invading Ukraine with a new army.

Should Ukraine's ambitions include Crimea? In principle, yes. It lies within the country's recognised borders. It controls access to Ukraine's coast. It is also the territory that Mr Putin most prizes—and hence whose liberation would best drive

home his defeat. In practice, Crimea will be hard to take. Mr Putin may issue a credible threat to use nuclear weapons. Mr Zelensky had better be sure of success: a failed assault could end up rallying ordinary Russians behind their leader.

The stronger Ukraine's territorial position, the stronger it will be in the cold war after the fighting is exhausted. This could come in a formal peace agreement, but more probably a ceasefire, like the 70-year-old stand-off between North and South Korea. Either way, Mr Putin will not simply give up, so Ukraine will require a credible guarantee of its security.

Ideally that would entail membership of NATO. Mr Putin is hard to deter, because America does not want to begin a war with Russia—and rightly so. NATO membership lowers the risk, by turning the tables on Mr Putin. It commits its members in advance to treat an attack on one country as an attack on all. If Mr Putin invaded, he would be the one choosing a superpower war.

At the recent Munich Security Conference several countries said they were in favour—even France may be open to the idea. However, NATO membership requires consensus. If that is unattainable, Ukraine would need bilateral guarantees and lots of arms, so that it is like a European Israel, too indigestible for another Russian invasion to make sense.

Whatever happens, Ukraine's need for weapons will endure for at least a decade and possibly longer. Just now it is firing roughly as many shells in a month as America can produce in a year. Its spring campaign needs munitions, spare parts, air-defence systems, long-range artillery and, ultimately, aircraft. Post war, it will require an entire arsenal of NATO-quality weaponry.

Politicians insist they have woken up to these needs, but are being slow to act. They need to change their outlook. Western countries have to accept that they can no longer afford peacetime production levels of arms—not just to support Ukraine but also to defend themselves. Threats abound. They need to signal a long-term restocking of munitions, invest in surge capacity and do more procurement alliance-wide so as to create a robust industry.

## The long fight

Western powers can also signal their commitment with multi-year budgets for financial support. That matters because, if the Ukrainian economy does not thrive, then democracy will not thrive either. Gradually, the country's defences would weaken.

Aid is essential, obviously. Given that America has provided the lion's share of the weapons, much of that should come from Europe. But private capital is essential, too, and that will flow into Ukraine only if it is seen to be a good place to invest.

As in Israel and South Korea, which have both thrived despite their neighbours' decades-long hostility, Ukraine's greatest resource is its people. Throughout this war, they have shown that they are enterprising and creative. It is vital that, when the fighting ends, the women and children who fled west do not stay put, but choose to rejoin their partners (see International section).

And Ukraine has to overcome a history of corruption and po-



▶litical capture. Here the promise of membership of the EU can help. The process of accession is a health regime for a country's institutions. So long as Ukraine's candidacy is handled in good faith by EU members, it could be transformative. Formal negotiations on accession should begin during 2023.

As the war enters its second year, some ask whether Ukraine is worth all this effort. Isn't the cost-of-living crisis more urgent? Or climate change? Imagine if the money spent on weapons could finance development instead.

It is right to regret the war, but unwise simply to wish away

Mr Putin's aggression. A Russian victory in Ukraine would frog-march the world down a bleak path where might is right and frontiers are drawn by violence. It may hasten the next, even worse, confrontation in Europe. And it would deepen a widespread sense that Western power, and the universal values it sustains, are in steep decline.

Ukraine's victory, by contrast, would bring hope that a sovereign democracy need not bow to its much larger, dictatorial neighbour. It would be a world that took heart from the resolve and courage of Mr Zelensky and the Ukrainian people. ■

### German security

## Not enough Wende

**A year after he promised a transformation, Olaf Scholz has done too little**

**F**OR DECADES, Germany aimed to engage with Russia. It was a policy that allowed cheap hydrocarbons to flow westward and power Europe's mightiest industrial machine. Luxury cars, manufacturing equipment and consumer goods flowed out around the world—increasingly to autocratic China. The hope was that the benefits of trade would over time transform the hungry Russian bear into a well-fed pussycat, saving Germany hundreds of billions of euros in defence expenditures while filling its corporate coffers. Everyone would win.

That policy looked foolish after Vladimir Putin first attacked Ukraine in 2014, and collapsed altogether a year ago. Three days after Russia's invasion, Chancellor Olaf Scholz announced the *Zeitenwende*, or “epochal change”, to an emergency session of the Bundestag. He identified two giant tasks—to “invest much more in the security of our country” and to “guarantee a secure energy supply”. Twelve months on, how much has changed? The stakes could not be higher for Germany, or for Europe. If the continent is to become militarily effective and able to protect itself from economic coercion, it needs its biggest country to take the lead.

When it comes to energy, Germany has had little choice but to act. Even before Europe got around to discussing a gas embargo, Vladimir Putin turned off the gas taps. But Mr Scholz's government has acted with agility, building LNG terminals, increasing gas reserves, acquiring new suppliers and adapting faster than anyone predicted.

Germany is also busy building clean-energy infrastructure. Renewable power generation hit a record level in 2022, and the new target is for its share of total generation to reach 80% by 2030. Auctions for offshore wind sites in the North Sea and Baltic Sea are under way and, even before the invasion, some 2% of Germany's land was to be reserved for onshore wind farms.

The trouble is that the record on defence is far less good. In January, after months of prevarication, Germany agreed to send tanks to Ukraine, and to allow other countries that had bought German-made Leopards to send theirs. Mr Scholz's pivot was welcome but so far has made little difference: Germany is sending only 14 tanks and other countries are dragging their feet.

A bigger long-term problem is the embarrassing state of Germany's armed forces (see Europe section). Decades of under-investment have left the EU's largest and richest country with tanks that can't drive, planes that can't fly and demoralised sol-

diers housed in filthy barracks. Not for nothing has the job of defence minister been called a graveyard for politicians; Germany is on its fifth in the past decade.

Reforming the Bundeswehr was always going to be a tall order. Even so, in the year since Mr Scholz made the speech his record has been disappointing, perhaps because he spoke at the moment when the danger was at its height; as the threat to Kyiv receded, so did the chancellor's sense of urgency. He wasted the next nine months hanging on to a defence minister who everyone could see was not up to the job.

Great ambiguity surrounds the precise purpose of the “special fund” of €100bn (\$107bn) for the armed forces that Mr Scholz announced. There is little sign of a sustained surge in new military contracts or procurement. The speech also promised Germany would “now, year after year”, spend more than 2% of its GDP on defence, a non-binding target set by NATO back in 2006, but which Germany has never approached. Despite the promise,

the target was missed in 2022 (it spent only about 1.5%), and will be again this year and probably next, too.

It is hard to imagine a noisier wake-up call than Europe's in the past few years. Russia's invasion of Ukraine came only a year after Donald Trump left the White House. Had he defeated Joe Biden in November 2020, Ukraine might well have fallen last February. Poland, an EU and NATO member, might have had Russian armies at its border. Mr Trump's chances in 2024 may look slender, but they are not insignificant. Voices, on the left and right, arguing that America should pull back from Europe may start to make themselves heard, or reappear in a less chaotic form.

### A blast of realism

The dangers posed by autocracies and a dependence on America mean that Europe needs to build up its own defences. But unless Europe's biggest country acts, the effort will be doomed. There are still politicians and industrialists in Germany who hope that, when the war ends, relations with Russia will eventually go back to how they were. The country has yet to confront the risks from its close economic links with China, another autocracy prone to bullying: a government strategy paper on Sino-German relations has repeatedly been delayed. The *Zeitenwende* must not be the turning point at which Germany fails to turn. ■



## Immigration

# Making America greater

**The Biden administration's sensible new border policies irritate both extremes. Good**

**B**ORDER CHAOS!" began as a nativist dog whistle. Under the Biden administration it became reality. Problems in countries south of Mexico, the strength of America's economy and a confused set of federal policies resulted in 2m undocumented people crossing the southern border in 2022 (many others surely crossed undetected). Since Democrats lost their majority in the House of Representatives after the midterms, though, the Biden administration has pivoted. Its new policies, some of which were announced this week, are a step in the right direction.

Both America and aspiring Americans yet to become citizens would benefit from a more generous immigration system. America's labour market is exceptionally tight, which should mean new arrivals are both needed and can be readily absorbed. But support for legal migration is undermined when the government cannot control who comes in. Liberals therefore have an interest in secure borders, too.

One of the difficulties for both parties has been that migrants who cross into America from Mexico can claim asylum once they arrive (as indeed they should if they are fleeing persecution and torture). Instead of trying to sneak across, many people approach a border guard and claim asylum. At which point they are released, and left to deal with a labyrinthine system of overburdened courts, where the average wait for a case to be decided is two years.

During the pandemic it was easier to expel many migrants swiftly, on public-health grounds. But the pandemic is over, and in any case many migrants expelled under this legal authority (known as Title 42) just boomerang back. Forty percent of those removed under Title 42 try to cross again within a month. Something better was needed.

The administration's new policy requires any adult who



wants to claim asylum to try to secure an interview appointment, for which they must apply through a smartphone app before they arrive. If they don't they will almost certainly be turned away. Separately, the administration has increased the number of refugees it will accept from Cuba, Haiti, Nicaragua and Venezuela to 30,000 a month, so long as they have advance authorisation to travel to America, and meet certain conditions, including having a passport, a financial backer and the ability to pay for a flight. For context, the Trump administration settled 15,000 refugees a year, from all countries. The hope is that this combination of toughness and generosity strikes a balance. Predictably, left-leaning pro-immigration groups and right-leaning restrictionists both hate it.

There are reasons to be sceptical of how much will change under the new policies. Plans are easier to announce than implement. Extra border-patrol officers and asylum officers will be needed. Legal challenges are expected. Mexico's co-operation would help but is far from guaranteed (see Americas section). The attractiveness of the United States compared with countries south of the border, and the number of people seeking to flee dysfunctional governments (there are 6m displaced Venezuelans alone in Latin America), creates a weight of numbers that is hard for any administration to manage humanely.

Yet if liberals conclude that this is all too difficult, nativists will come up with their own solutions to border chaos. As well as accepting genuine asylum-seekers, America needs more economic migrants. It also needs to regularise the status of the 10m undocumented people living within its borders, many of whom have been there for decades. Controlling the flows of migrants at the southern border is politically necessary for increasing the number of Americans—making America greater, if you will. ■

## South Africa's foreign policy

# Irrational interest

**By cosying up to Russia and China, South Africa is harming itself and the world**

**L**AST AUGUST, as Russian missiles were pounding cities in Ukraine, South Africa's foreign minister, Naledi Pandor, delivered a key foreign-policy speech. For a country that was once a symbol of universal rights, this might have been the ideal time to speak out against Russia's slaughter of civilians. Instead, Ms Pandor unveiled a new policy, making national interest the lodestone of South Africa's foreign policy. This overtly overturned its former principle that human rights should guide international relations. As if to emphasise this shift, she lashed out at some of South Africa's closest friends, accusing America of bullying African countries, the EU of being underhand in its trade relations, and the West in general of being duplicitous when talking about its shared values with poor countries.

Last month South Africa welcomed Sergei Lavrov, Russia's foreign minister, and this week it is hosting naval exercises with Russia and China. Ms Pandor's comments reflect not just the ditching of a worthy principle. They also signal an acceleration of South Africa's shift away from the Western democracies that are its main trading partners, investors and donors and into the orbit of China and Russia (see Middle East & Africa section). That will weaken universal rights, undermine Africa's efforts to become more democratic and, most importantly for South Africa, harm its economy and diminish its diplomatic heft.

If the art of diplomacy is the balancing of principles and the national interest, South Africa seemed to have found a happy medium in the years after the end of apartheid in 1994. Nelson ►

► Mandela, its first black president, promised that human rights would be “the light that guides our foreign affairs”. Although he and his successor, Thabo Mbeki, did not always act consistently—any more than Western democracies do—they applied the principle often enough that South Africa emerged from international isolation and sanctions to become a diplomatic heavyweight, helping stop wars in Burundi and Congo. As its international stature rose, so did trade and investment.

Yet these principles have since given way to a muddle of competing ideas. Some, such as loyalty to old friends and allies, are understandable enough. But in practice they have led South Africa into backing tyrants and authoritarian regimes such as Russia and Cuba because a generation ago they had provided arms to fight against apartheid (Ukraine helped too, but never mind). A Marxist leaning acquired by many in the ruling African National Congress (ANC) while in the Soviet Union has left the party with a worldview stuck in the 1960s. Many of its leaders believe Western countries want to subjugate Africa again—and that its firmest allies in the struggle are once more Russia and China.

At the same time the national interest has been subordinated

to narrower party and sometimes personal business. The ANC is surely grateful to Russia not just for the support it got from the Soviet Union decades ago, but also for more recent donations to the party from Russian tycoons.

By lining up with Russia, which accounts for less than 0.5% of its international trade in goods, South Africa risks harming relations with its biggest trading partners, the EU (22%) and America (7.5%). Both give it preferential access to their markets—which can easily be withdrawn. There is a case for stronger ties with China (16%), but South Africa is wrong to think that to trade more in Asia it needs to be hostile to the West.

### Lose-lose

South Africa’s diplomatic descent causes harm. By backing strongmen and condoning rigged elections, such as those in Angola or Zimbabwe, it is smothering African democracy. By refusing to condemn Russia’s invasion of Ukraine under the guise of neutrality, it is emboldening warmongers everywhere. By snubbing its liberal friends for autocrats, South Africa is wrong in principle. It is also acting against its own interests. ■

## Debt in poor countries

# Tighter belt, shorter road

**China has not resolved its past lending mistakes. But it is learning from them**

**C**HINA EMERGED as a big overseas lender with astonishing speed. In the early 2000s it lent paltry amounts to poor countries. Today it is a larger creditor than either the IMF or the World Bank. This largesse was a boon for poorer places seeking to finance infrastructure projects. But as borrowers have hit trouble, it has become a complication. China is not a member of the Paris Club, an informal group of mostly rich-country creditors, and has been slow to work with other lenders to relieve the debts of governments that cannot now repay them. Zambia and Sri Lanka are mired in debt-restructuring talks with Chinese and other creditors. They may soon be joined by Pakistan.

Finance ministers from the G20 group of economies will meet this week in Bangalore to try to hurry things along. The picture is not all gloomy. Although China has not yet resolved its past lending mistakes, it is learning from them.

As we report this week, China is now lending with greater caution (see Finance & economics section). The construction firms that used to pick up overseas contracts at little risk to themselves now have more skin in the game. Regulators have imposed more explicit limits on external lending.

Xi Jinping, China’s president, has urged investors to recognise that “small is beautiful”. Loans have accordingly shrunk in value. In 2016 new commitments to sovereigns and state-backed entities made by China’s two big “policy banks” were twice as large as those of the World Bank, reckon researchers at Boston University. In 2021 China’s two banks promised less than a tenth as much. The average length of China-financed roads, railways, pipelines and the like has also diminished, from 238km in 2013–17 to 157km in 2018–21. The belts are tighter and the roads shorter.

This caution should be good for Chinese balance-sheets. Yet new prudence will be a mixed blessing for many poor countries,

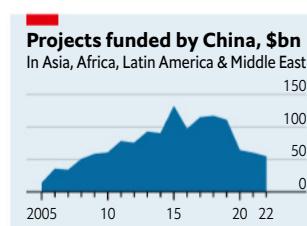
which may have to abandon their hopes that China will be incautious enough to continue to finance their vital, but unbankable, infrastructure.

Moreover, China’s existing stock of loans could also still hit trouble. The fear of losing access to Chinese finance is one reason why poor countries have been slow to ask for forgiveness on their debts. But if future Chinese finance is no longer on offer, requests for debt restructuring may rise, because borrowers know that they have less to lose.

If more countries do ask for debt relief, how can the talks be accelerated? There have been various sticking points. China sees the World Bank as the West’s policy bank, and wonders why its loans are exempt from restructuring when China’s banks must take part. It is reluctant to reduce the face value of its claims, preferring other forms of relief. And it doubts that private lenders will bear their share of the burden.

Bailing in the World Bank is a non-starter. But China’s other concerns can be allayed. If it refuses to cut principal, it should be possible for it to make an equivalent contribution by lengthening maturities and reducing interest rates instead. The role of private creditors can also be clarified. Lazard, a firm that has represented many borrowers, has proposed a simple formula that would give each lender, public and private, a better idea of how every creditor’s share of the effort will be calculated.

None of this will be easy; nor does it represent the ideal solution. Reductions in the stock of debt, for example, tend to be more effective at restoring growth in borrowing countries than longer maturities. But just as China has become stricter in its lending, so it should be possible to streamline its debt negotiations, too. The future of its overseas finance should be tighter belts, shorter roads and quicker talks. ■



**South Korea and Ukraine**

Your article on why South Korea is reluctant to provide ammunition directly to Ukraine omitted the most influential factor: public opinion ("Arms and the Man", February 4th). There is no strong public support for such action. The vast majority of South Koreans strongly condemn Russia's invasion of Ukraine and feel empathy for Ukrainians. They do back supplying Ukraine with humanitarian aid.

The fear is that by sending ammunition directly to Ukraine we are just one stepping stone from military involvement. South Korea's participation in the Vietnam war began by sending aid. That was followed by dispatching non-combat soldiers, and then the deployment of at least 200,000 fully fighting troops. And unlike Vietnam, South Koreans do not see the incentive in engaging in a war in a distant land. Nor does the Ukraine war create a security anxiety for South Koreans. Ukraine's political and economic interactions with South Korea are almost non-existent. Trade between both countries is a smidgen of South Korea's overall international trade.

If NATO wants South Korea to take on more responsibilities it needs to give a more concrete and appealing reason than the abstract cause of maintaining the rules-based world order. I'm sure South Koreans would respond positively to such persuasion, as they did in the Vietnam war.

JEE-KWANG PARK  
Lecturer  
School of International Studies  
Korea University  
Seoul

Seoul is 746km (463 miles) from Vladivostok. It has a valid security reason to avoid aggravating Russia. Demanding that South Korea send weapons to Ukraine is like demanding that European countries totally abandon Russian oil and gas. These are complex matters.

JOSEPH KO  
Seoul

**The search is on**

ChatGPT is indeed impressive, but "The battle for search" (February 11th) is far from over. To understand why, consider that AI depends on network effects. To increase its (artificial) intelligence, an algorithm needs loops of predictions and responses. As you point out, ChatGPT was built on a large but outdated data set. Worse, you can't ring the alarm bell when it provides hallucinatory answers. To increase its nous, OpenAI, the startup behind ChatGPT, is obliged to seek user responses. Hopefully, Microsoft's customers will oblige. The broader lesson is that even the best algorithm depreciates quickly without feedback. Google has both users and their data. So any obituary for its search engine will be premature.

DINKAR JAIN

Meta's former head of artificial intelligence for ads and director of product development  
University of California,  
Los Angeles

PROFESSOR SHEEN S. LEVINE  
University of Texas, Dallas

**Britain's creeping corruption**

Bagehot described well the ways in which a "second economy" of capitalist entrepreneurship can breed corruption (January 28th). The best regular assessment of public perceptions of corruption is Transparency International's index. The latest edition shows Britain sliding to its worst-ever score: 18th out of 180 countries examined. It lost five points on the index: Azerbaijan, Myanmar, Oman and Qatar also dropped by at least that much.

Corruption can start slowly. As it develops it gets its tentacles round institutions and destroys the belief of citizens in public and private services and the people who provide them. But it is ignited from the top, with citizens following the example of leaders. They may start off by believing in their leaders and their promises, but end up despising both. By that time, it may be too late to vote them out.

A decent, democratic culture should not need endless watchdogs and "tsars" to monitor public conduct. It needs to get good people into leadership and respect them for dismissing those whose conduct doesn't measure up.

SIR EDWARD CLAY  
Epsom, Surrey

**Defining Moldova**

"On the edge" (February 18th) referred to Moldova as a "tiny former Soviet republic". It has been 31 years since the collapse of the Soviet Union, and many people, including myself, have no memory of that era. Instead, we are focused on the present and future. So we are best defined as a candidate country to join the European Union, reform-oriented and freedom-loving.

Moldova has made significant progress in recent years in implementing reforms to strengthen the rule of law, fight corruption and improve the business climate. We are proud to be part of the European family and to be working towards deeper integration with the EU. Our history is important, but it is time to put the cliché of Moldova as a former Soviet republic to bed.

OLGA ROSCA  
Chief of staff to the foreign minister of Moldova  
Chisinau, Moldova

**Bolivia's silver trade**

Regarding Potosí in Bolivia, the town produced about half the world's silver in the century following the discovery of the metal there in 1545 and became the largest city in the Americas, with a population close to 150,000 ("Boom or bust?", January 21st). But the mines did not become depleted in the mid-17th century and Potosí did not become a ghost town. Silver production was revived in the 18th century.

Rather than being an illustration of a short-lived boom and bust, Potosí is a great example in the history of economic relations between Latin America and China. By

the 16th century Potosí was exporting silver to China in exchange for silks, porcelain and other luxuries.

DARIUSZ WOJCIK  
Professor of economic geography  
University of Oxford

**Word history**

I enjoyed Johnson's musings on fake and real etymology (February 4th). *Bil*, the standard word for car in Danish, came about as the result of a survey in 1902 in a newspaper, which invited readers to vote on niftier synonyms for *automobil* (automobile). Speakers of American-English have gone with the first half of that word, *bile* not being to their taste, one assumes.

THORKIL KJEMS  
Concord, Massachusetts

The "Barnhart Concise Dictionary of Etymology" is an endlessly fascinating storybook, telling the tales of the journeys certain words have taken to become what they are today. For many it has been a circuitous route. "Gossamer" is a favourite. It is believed to be a combination of "gos" (goose) and "sumer" (summer) that refers to the silken webs insects weave across the sheared stalks of a harvested field in an Indian summer, the time of year when geese are in season.

MARGARET MCGIRR  
Greenwich, Connecticut

I was surprised that Johnson didn't mention "Roger's Profanisaurus". This erudite publication has grown from a supplement of *Viz*, a comic, with 700 rude words and phrases, to a full-blown edition with over 20,000 vulgar definitions. I will spare readers of *The Economist* the subtitle of the 2018 edition.

PAUL LYNCH  
Hong Kong



## The meaning of the war

*Ukraine's fate will determine the West's authority in the world*

**T**HE OFFICES of Supreme Headquarters Allied Powers Europe (SHAPE), NATO's command centre near Mons in Belgium, are the opposite of imposing. Instead of granite and marble, the low-ceilinged corridors are decked out with plasterboard and tiled carpeting. Four-star generals sit on the higher floors—but SHAPE only has three storeys. The building, erected in the late 1960s, was supposed to be temporary.

Never before has the flimsiness of SHAPE so belied NATO's monumental sense of mission. Vladimir Putin's invasion of Ukraine, on February 24th 2022, has revitalised the alliance. It is armed with its first new set of goals since 1967, the year SHAPE's offices opened. Whereas the old NATO was reactive, it is now being rebuilt to deter Russia in peacetime and to respond in force as soon as it threatens to encroach on its members' territory. "We are rapidly enhancing the readiness of our forces," says General Sir Tim Radford, SHAPE's second-in-command, "and our overall military responsiveness is increasing exponentially."

The war has changed Ukraine even more. Mr Putin planned a lightning strike to topple the government, the culmination of a campaign of aggression and destabilisation that began in Crimea and the Donbas region in 2014. Instead, in the pulverised ruins of Donbas and in bomb shelters across the country, it has forged itself anew, into a more unified, more Westward-leaning, more resilient democracy (see later article). Russia, meanwhile, has been reorganised around the war and Mr Putin's broader hostility towards NATO, even as sanctions and an exodus of its best-educated citizens have sapped its long-term economic prospects. Its descent into despotic militarism, coupled with NATO's invigoration and Ukraine's transformation, have turned the war into a trial of rival ideological systems.

Ukraine's future still hangs in the balance—and is likely to remain uncertain for years to come. Mr Putin may accept a ceasefire at some point out of expedience, but his overhaul of Russian society is geared entirely towards aggression abroad and repression at home (see later article). Any conceivable end to the shooting will therefore require strong Western security guarantees and large and lasting transfers of arms and financial aid—almost as if a second, much bigger Israel had appeared on Europe's eastern borders. Some European leaders argue that requires full NATO membership. If reconstruction of Ukraine were to fail, and its economy to falter, then Ukrainian democracy would start to fail, too. NATO's generals reckon that Russia could rebuild its land forces in three-to-five years. Ultimately, the conditions would be ripe for Mr Putin or his successor to have another go.

Hence, in both war and peace, Ukraine will put to the test the West's resolve, its unity, even its industrial capacity. The conflict raises three fundamental questions of geopolitics, in particular: what role the United States will play in European security, whether NATO's European members can credibly take responsibility for more of the region's defence and what the allegiances of the rest of the world will be amid the biggest war in Europe since 1945. The answers are not just crucial to Ukraine's fate—they are a measure of the West's self-belief and stature.

Much of the world has concluded that the power of the United States and its allies is ebbing, because of their failure to prevail in Afghanistan and Iraq, their part in the global financial crisis and a succession of governments plagued by strife and populism. If Uk-

raine succumbs to Russian chaos, the perception of Western decline will deepen. But if Ukraine thrives, the lesson will reverberate around the world. That includes the Pacific, where the struggle between dictatorial Russia and Western-backed Ukraine should be seen as a prologue to the century-defining contest between China and the United States.

#### THE ATLANTIC SHRINKS

Of the three geopolitical questions, the most pressing is America's role in Europe. "European security hasn't just shifted a bit, it's fundamentally changed," says Michael Clarke, the former head of the Royal United Services Institute (RUSI), a think-tank. In 2019 France's president, Emmanuel Macron, said that NATO was suffering "brain death", because under Donald Trump and Barack Obama America had seemed uninterested in Europe. Ukraine has proved that judgment wrong.

"The war brought back the US as a prime European power," says Fabrice Pothier, a former policy planner for NATO and director of Rasmussen Global, a consultancy. Under President Joe Biden, the United States has sent Ukraine weapons and aid worth \$48bn. Kori Schake, a former official now at the American Enterprise Institute, a think-tank, says it is clear that, without the United States, Europe would not have come together to provide Ukraine the support it needed.

The aid is not just an indication of America's generosity, but also of its strength. At a cost of roughly 5% of America's annual budget for defence, Ukrainian forces have punctured the myth of Russia's military prowess, destroying more than 1,000 Russian tanks in less than a year. "We used to think Russia was the second-best military in the world," says Ms Schake. "And now it's not even the best military in the former Soviet Union."

The question is what America chooses when the hot war is over and Ukraine needs rebuilding during a heavily armed peace. Ms Schake expects American officials to argue that, as they have provided most of the assistance during the fighting, Europeans should pay for the reconstruction and rearming of Ukraine. At the same time, she says, the Pentagon may conclude that the diminished state of Russia's land forces means that America no longer needs a large standing army on European soil.

Looming behind this calculation is the need for America to focus on China. A dramatic withdrawal would not be in its interests: if America's security guarantees are not thought reliable in Europe, they will not be thought reliable in Asia. "Xi Jinping is watching us closely," said Senator Roger Wicker, the most senior Republican member of the Armed Services Committee, last month. "He wants to see if we will stick by our commitment as he weighs his opportunities of invading his own neighbour and our friend, Taiwan. Our Indo-Pacific allies are also watching closely—and even helping in Ukraine."

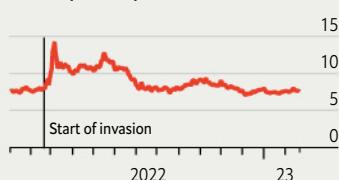
For that reason, says Andrew Michta of the George C. Marshall European Centre for Security Studies in Germany, the United States is likely to insist that "burden-sharing" becomes "burden-shifting". By that he means that America still helps defend Europe through its nuclear deterrent and other high-tech capabilities, but leaves European armies to provide most of the conventional forces. This elevates the age-old demand that NATO's European members take more responsibility for defending their own continent, which both Mr Obama and Mr Trump urged in different ways. ➤

## The commodities shock

**62m**

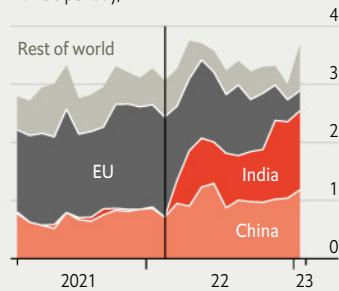
The increase in the number of people globally suffering an acute shortage of food in 2022

Wheat price, \$ per bushel



Russia, crude-oil exports<sup>†</sup>

Barrels per day, m



\*Dutch TTF front-month    †Excluding CPC Blend    #Forecast

Sources: World Food Programme; Kpler; Refinitiv Datastream

**65%**

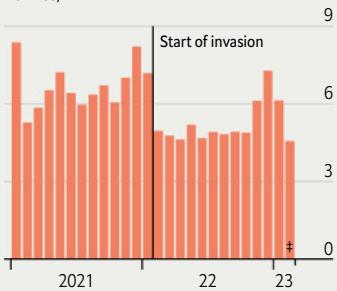
The increase in the volume of LNG imported by the EU in 2022

Europe, natural-gas price\*, € per MWh



China, LNG imports

Tonnes, m



When the war began, commodity prices soared. Then Ukraine's wheat exports resumed, Europe had a mild winter, Russia found new buyers for its oil and China locked down. Prices remain high, but the frenzy has faded.

► Before the war, America saw burden-sharing mainly as a way to cut costs. Today, says Fiona Hill, a Russia expert who served on the National Security Council, it also has a broader strategic logic: "What Russia was saying is, OK, the United States is still an occupying force in Europe; Europe has no security; we want to be the dominant force just like Germany in World War One or World War Two." Ms Hill foresees serious thinking about how to "retrofit" European security around Ukraine without having the United States dominate everything, because enhanced European responsibility counters the Russian perspective that NATO is just an American tool.

That raises the second question: can Europe rise to the challenge? The war has forced it to think more strategically, Mr Pothier believes. In just a year some of the constraints that had diminished its room for diplomatic manoeuvre, such as German dependence on Russian gas, have largely been dismantled. Three days into the war the chancellor, Olaf Scholz, declared a turning point in Germany's global outlook, pledging to spend €100bn (\$107bn) to prepare the *Bundeswehr* to be more assertive—though it has yet to be seen how effective that spending will be.

The impact of Finland and Sweden joining NATO

would be more immediate and probably even bigger. If Turkey agrees to their membership—and it should—they will bring lots of new personnel, equipment and fighting expertise. Finland, for example, can muster 280,000 troops within weeks, more than twice the size of Britain's standing army and reserves.

Geographically, Finland and Sweden would also help secure the Baltic states, which are hard to resupply through the narrow stretch of Polish territory that sits between Belarus and the Russian enclave of Kaliningrad. Although they greatly extend NATO's frontier with Russia, "Nordic and Scandinavian military can pool resources," says Ms Hill, "becoming a quite formidable line of defence." In addition, were Mr Putin or his successor to attack a member of the alliance, he would have to worry about defending a longer frontier.

Continental European members of NATO have also shown a new seriousness about applying sanctions, says Tom Keatinge of RUSI. In the past, their sanctions were often symbolic. Although Western leaders were being bombastic when they pretended that sanctions would rapidly bring Russia to its knees, EU states have taken them seriously enough to update their legislation repeatedly in order to implement them. That matters because sanctions are a slog. "They are a plague of henpecking that you hope eventually will kill the target," Mr Keatinge says. "The target shape shifts and you therefore need to maintain your aim."

Considering where Europe was before the Russian invasion, all this marks progress. A view is emerging that NATO's centre of gravity is shifting from France and Germany towards the east and north. European defence is increasingly being redefined in Poland and the Nordic countries, as well as in Ukraine. Post-Brexit Britain has also shown that in defence and security it can still be in the European vanguard. Owing to this new vigour, Mr Pothier says, Europe, always an economic giant, is turning from a political dwarf into a more imposing presence in world affairs.

Despite that progress, however, NATO's European members are still unable to take up America's mantle. "Whatever Europe does, it does in a piecemeal way," says Sir Lawrence Freedman, professor of war studies at King's College London. "Grand visions for new European security just don't cut it. Because there are too many disparate views." Not only is power shifting eastward, but Mr Macron's dream of "European strategic autonomy" from America looks as distant as ever.

### CASH AND CARING

One worry is that Europe will not cohere sufficiently to bring about Ukraine's reconstruction. The bill will run into the hundreds of billions of dollars at a time when government budgets are being squeezed. Money is not the only factor. The EU also has a role in fostering a Western institutional culture in Ukraine, including a decent regulatory environment and a brake on corruption. The prospect of Ukrainian accession to the EU could be a powerful spur to reform, but only if membership seems genuinely attainable, not, as so often with other countries, a receding dream.

Another worry is that Western arms-makers do not have the capacity to equip Ukraine for victory, let alone build up its arsenal during the peace and replenish NATO's own stocks. Ukraine is firing 5,000-6,000 shells a day, roughly the annual procurement of a small NATO country before Russia invaded. The West's defence industries have withered since the collapse of

► the Soviet Union (see next article).

If Europe falls short in these ways—and, just now, that seems depressingly possible—Ukraine is likely to pay the price. The job of filling the gaps and of corralling and cajoling Europe would, once again, fall to America, possibly led by a different president. “As things stand, we’ve got a single point of failure in this very impressive Western alliance,” says Mr Clarke. “And the single point of failure is America’s willingness to keep on.”

The final big geopolitical question posed by the war is whether the West can win the battle of international opinion. Only a third of the world’s population lives in countries that have condemned the invasion and also imposed sanctions on Russia, according to the Economist Intelligence Unit, our sister organisation. Most of them are close allies of America. The rest tend to see the war as a contest between autocrats and hypocrites.

Shivshankar Menon, formerly India’s top diplomat, speaks for many. He acknowledges that the war has imposed global economic costs, and made it harder for the international system to deal with problems such as development and climate change. But he rejects the idea that the global south should side with Ukraine out of principle.

“It’s not some geopolitical turning point for the rest of the world,” says Mr Menon. “Where we are, the primary geopolitical fault line is still between China and the US and this is not going to change it.” He sees the war as a struggle over European security. Whoever wins, or if neither side wins, Europe is going to be unsettled and preoccupied. Mr Menon sees Europe remaining a force in the global economy, but not becoming one in geopolitics.

And yet, in at least three ways, the war has already perturbed the international order. The first is in Africa, the Caucasus and Central Asia, where Russia’s diplomats are in overdrive in an attempt to shore up its influence. Although Russia is holding its own in Africa, it is losing ground elsewhere.

When Azerbaijan, backed by Turkey, launched a limited war against Armenia in September, Russia was unable to prevent its ally’s defeat. Kazakhstan’s president, Kassym-Jomart Tokayev, owes his job to Russian paratroopers who helped suppress an insurrection shortly before the war in Ukraine. Yet Mr Tokayev has felt no compunction about being courted by Mr Xi, who visited him just before a regional summit where Mr Putin was chided by both China and India.

The second upset to global politics is Mr Putin’s threat to use a nuclear bomb. Although he has failed to deter the West from supplying Ukraine with advanced weapons, he has slowed their arrival. Mr Putin was half-successful, says Mr Pothier. “He did, indeed, inject fear in our population and even in our leaders.”

Even a limited erosion of the taboo against using nuclear weapons presents a problem for all countries. If Mr Putin is seen to have gained an advantage from his threats, it will be an incentive to other aggressors to acquire the bomb and to threaten its use. Given that Russia and America are struggling to agree on arms control, the risk of proliferation is growing. Nuclear blackmail is a particular worry for India. It enjoys superiority in conventional arms over its rival, Pakistan, which has invested a lot in short-range nuclear weapons to compensate.

Lastly, the war is driving Russia into the arms of China. In the Soviet era, China saw Russia as a threat.

Now that the vast northern border is at peace, Mr Xi can shift military resources elsewhere. China also benefits from a like-minded ally at the UN, where it can take a back seat while Russia acts as a bully. And finally, notes Alexander Gabuev of the Carnegie Endowment for International Peace, a think-tank, Russia is a valuable source of commodities that are increasingly being supplied on Chinese terms.

“I would probably throw modern Russian weapons into that mix,” says Mr Gabuev. China, he notes, still relies on Russia for certain crucial military components, which makes the friendship central to any plans China might have to invade Taiwan.

#### SHOW OF FORCES

SHAPE is busy planning NATO’s biggest-ever exercise, called Steadfast Defender. Scheduled for early 2024, it will involve tens of thousands of troops under the alliance’s command. In the past NATO has often been less than the sum of its parts. The exercise will be a test of the new doctrine, which is known as Deter and Defend, and is the fruit of four years’ work. The idea is to reach deep into national armies to project power in all domains, from land battles to cyberwarfare.

The exercise is also supposed to show Mr Putin that attacking a member of the alliance would be calamitous. NATO’s generals want to prevent a miscalculation of the sort they believe he made by invading Ukraine.

And yet, the scale of that miscalculation is still to be determined. Russian success on the battlefield in the spring, or even a freezing of the conflict in its current form, combined with a half-hearted or inept programme to support and rearm Ukraine, would confirm his view that the West is in decline.

Even countries that think that Mr Putin’s invasion was reprehensible might still conclude that Western power is on the wane if it fails to protect Ukraine. But given arms, money and political support Ukraine may yet prevail. Through their courage and by the power of their example, the Ukrainian people have earned the chance to do so. There could be no better investment in Western security. ■



Their cause still hangs in the balance



### The defence industry

## Keeping the guns blazing

SCRANTON, PENNSYLVANIA

### The West is struggling to forge a new arsenal of democracy

**I**AM A bomb technician," reads the t-shirt draped over a chair at Scranton Army Ammunition Plant in Pennsylvania. "If you see me running try to keep up." In fact, it is the bomb technicians who are scrambling to keep up, as America transfers huge quantities of munitions to Ukraine, for use in the war with Russia. The factory in Scranton makes the steel casing of M795 155mm howitzer shells, of which America has given Ukraine more than 1m over the past year. But even such prodigious quantities of ammunition are not enough: Ukraine is firing roughly as many shells in a month as America can produce in a year.

The process of making shells is quite involved. Thick, 20-foot long solid steel cylinders are first cut into stubby billets. They are then heated in a furnace to 2,000°F (more than 1,000°C), extruded into longer cylinders, cooled and hollowed out. One end is "nosed" into a precise cone shape—a process that Rich Hansen, who supervises the plant for the army, likens to cutting the top off a Coke can and squeezing the remaining part into a narrow point without leaving a single crease. Any imperfections, he notes, would cause the projectile to veer off target.

Once painted, the finished shells are loaded onto lorries and trains, and taken to another army facility in Iowa, where they are filled with explosive. All told around a dozen components from roughly as many places go into a finished, ready-to-fire howitzer round. Galvanising this supply chain to produce much bigger

quantities of shells is proving surprisingly difficult.

Like generals, military planners always fight the last war. The last wars the West fought were against Iraq, the Afghan Taliban and Islamic State. The first was against a middling military power that was utterly outmatched in terms of technology and tactics. The others (including the aftermath of the second war in Iraq) were counter-insurgencies. They were not wars between countries with remotely comparable military capacities, much less big defence industries.

For at least the past five years, military planners have paid lip-service to the growing possibility of such a conflict in the future, with a revanchist Russia in Europe or in the Pacific with a China attempting to invade Taiwan. But it has not been reflected in either the stockpiling of essential munitions or the investment in the industrial capacity required to produce them at the rate that any war lasting more than a few weeks would demand.

The fighting in Ukraine has come as an unpleasant reminder that high-intensity warfare, which the West has not really experienced since 1945, swallows up munitions at an extraordinary rate. A similar lesson had to be learned in the first world war, when the French faced shortages of shells after only six weeks and the British and Germans soon after. This munitions crisis led to the fall of the British government in 1915. As Hew Strachan, a historian, has observed, what started as a military problem quickly became an industrial and then a political one.

With both Russian and Ukrainian forces dug in, the war over the winter has settled into an artillery duel. The Ukrainians reckon that they are on the receiving end of about 20,000 shells and rockets a day. They have managed to maintain a barrage of about 5,000–6,000 most days—similar to the annual procurement of a smaller NATO member before the war—although the blitz may be diminishing as both sides seek to conserve ammunition.

Ukraine, having probably burned through most of the 152mm and 122mm shells used by their Soviet-era artillery, is now relying increasingly on NATO countries for both 155mm shells and the guns to fire them. But the stocks held by its Western allies from which it has been supplied up until now are rapidly becoming depleted. America has started sending shorter-range 105mm howitzers and shells to make up for the shortfall in larger calibre rounds.

Ukraine will soon be dependent on what the American and European arms industries can manufacture (plus a few shells scrounged by America from allies in Asia, such as South Korea, which has a sizeable arms industry but strict export rules). Currently, America can make about 180,000 155mm shells a year, while Europe, according to Bastian Giegerich of the International Institute for Strategic Studies, a think-tank, produced about 300,000 last year. All told, that amounts to barely three months' consumption for Ukraine.

### SHELL SIGNAL

The warning signs have been flashing for years. In 2011, during a bombing campaign against Libya, European countries ran out of precision bombs within weeks and had to be resupplied by America. During the campaign to push Islamic State out of Iraq and Syria, America ran worryingly low on smart bombs.

Francis Tusa, the editor of *Defence Analysis*, a newsletter, thinks NATO's European members probably have ➤

▶ only 10% of what would be needed for even the early stages of a war in Europe. He estimates the cost of building up Germany's stockpiles to cover 30 days of high-intensity warfare would be €20bn (\$21bn). Olaf Scholz, Germany's chancellor, has pledged to spend an extra €10bn on defence in the coming years, but none of it has been earmarked for munitions.

Part of the problem is a tendency, among both politicians and soldiers, to prioritise purchases of "platforms", eg, ships and planes, over the munitions that they fire. "You can't buy nine-tenths of a ship," says Eric Fanning, a former Pentagon official now at the Aerospace Industries Association, a lobby group, "But you can buy nine-tenths of the number of missiles you need." Munitions thus become the "bill-payer" of weapons procurement, explains Stacie Pettyjohn of CNAS, a think-tank.

Big American and European defence contractors tend to sell to just one buyer: their home governments. "When I walk into a hardware store I am always going to be able to buy a hammer because there are lots of customers for it. But in the defence industry, when the government stops buying something, it disappears," says Mr Fanning.

Even for weapons still in production, arms manufacturers gear their capacity to what they expect to be asked to make. "The US defence industrial base is scoped for maximum efficiency at peacetime production," says Jim Taiclet, the boss of Lockheed Martin, America's biggest defence conglomerate. That means, in effect, that contractors usually have the capacity to make munitions only at the pace needed to replace those expended in training.

Western governments and defence contractors are now scrambling to increase their output. The rush has echoes of the early days of covid-19 when countries found they had hardly any reserve stocks of protective clothing or ventilators. Unfortunately, it takes a bit longer to set up production lines and supply chains for weapons than it does for rubber gloves and face masks. Doug Bush, the US army's acquisition chief, says the Pentagon has learnt from the experience of the pandemic to issue contracts with unprecedented speed and give industry a clear "demand signal". Congress, meanwhile, has authorised greater use of multi-year contracting to give firms more certainty about that demand. However, until now, such contracts have been used mainly for expensive planes, ships or tanks, not the munitions they fire. Money is also being spent on clearing production bottlenecks.

#### EXPLOSIVE GROWTH

As a result of such efforts, says Mr Bush, production of Stinger shoulder-fired surface-to-air missiles will increase six-fold (from very low levels); that of Javelins (anti-tank weapons that helped to halt the Russians' initial offensive) will double; ditto for HIMARS launchers, which have also proved their effectiveness in Ukraine, destroying arms dumps, command posts and barracks far behind the front lines.

Output of 155mm shells will triple and possibly increase six-fold, to over 1m a year, as the Pentagon sets up another production line in Texas and issues contracts to a firm in Canada. But much of the extra capacity will not be available until 2024 or even 2028. "I think the American economy is capable, and knows how to do this," declares Mr Bush. "It's simply a matter of time. It's not a new thing. Industrial mobilisation in

#### See more

To watch "Putin's Hidden War", *The Economist's* latest film about resistance to Vladimir Putin's regime within Russia, visit [economist.com/russia-film](http://economist.com/russia-film).

To see all of our coverage of the invasion of Ukraine, visit [economist.com/ukraine-war](http://economist.com/ukraine-war).

world war two and the Korean war also took time."

A similar process is under way in Europe. Armin Papperger, boss of Germany's Rheinmetall, says his firm can quickly lift production from 70,000 to 450,000 shells a year or more, having recently agreed to buy Expal Systems, a Spanish ammunition producer. Rheinmetall is also setting up a new munitions plant in Hungary. csc, a Czech arms manufacturer that produced 100,000 shells last year, is hoping to boost its output to 150,000 this year. A Norwegian firm, Nammo, could also increase production. Former Warsaw Pact countries are even toying with reopening factories to make 152mm munitions, so Ukraine can keep using its Soviet artillery.

But for all the talk of urgency, European governments have not been signing many procurement contracts. Mr Papperger has said he is prepared to "pre-finance" some of the investment required to accelerate production of shells and missiles, but there are limits to what private companies will do without firm orders.

Ukraine, meanwhile, needs weapons now, both to fend off a Russian offensive and to launch one of its own. Shells are the most pressing requirement, but the rapid depletion of guided munitions, particularly Javelins and Stingers, may cause even greater problems in future. Even at newly accelerated rates of production, according to Mark Cancian of the Centre for Strategic and International Studies (csis), an American think-tank, replacing the 8,500 Javelins that Ukraine has received will take nearly seven years. As for Stingers, Ukraine has already received as many (1,600) as all buyers bar America over the past 20 years. The Pentagon will probably order more advanced alternatives instead of Stingers for itself, but to replace those used in Ukraine would take more than six years.

The root of the problem is the fragility of the defence industry. Both in America and in Europe, the state of the supply chain can be surprisingly opaque, even to prime contractors making the weapons and government departments ordering them. The difficulties often lurk in the second and third layer of suppliers. They are often highly specialised but small enterprises. The barriers to entry for new firms are high because of the exacting certification required to provide equipment to the armed forces and other peculiarities of doing business with defence ministries. This means that particular widgets in weapons are often made by only one firm, raising the risk of a breakdown. Bottlenecks include shortages of labour, semiconductors, tools, sub-components and more.

For old technology, such as 155mm shells, the main obstacle to increasing production is brute industrial capacity—notably the machinery required to forge and machine shell casings. There is also a need to boost the supply of explosives: IMX-101, which is made at only one factory in America, and TNT, which is imported.

For guided munitions, meanwhile, the multitude of components makes for many potential constraints. A shortage of just one or two parts can hold up production of an entire type of weapon. If the maker of a simple bracket goes out of business, a new supplier must be certified and its product tested for compatibility. Chips for weapons—often requiring the ability to withstand extremes of heat, humidity and vibration—are a perpetual headache. The problem is not usually the most advanced semiconductors, but older chips that may have gone out of production. "There is no drop-in replacement," notes a Pentagon official. In-►

17%

The share of Ukrainian territory still occupied by Russia

▶ creasing production of the Stingers, for instance, required a redesign of parts of the missile so that it could use newer chips.

Of particular concern among missile-makers is the shortage of rocket motors. Only two firms in America make engines for small missiles. One is a subsidiary of Northrop Grumman. The other is Aerojet Rocketdyne, which has been the object of several takeover bids and which Greg Hayes, boss of Raytheon, a big arms manufacturer, describes as a "weak link" in the supply chain. Establishing an alternative supplier could take years, however. Rocket propellant is yet another worry.

Bill LaPlante, the Pentagon's under-secretary for acquisition, says America will increasingly have to think of including surge capacity when it buys weapons. "We have to be comfortable with the fact that what we may be building may not be used." Industry executives note that, with foresight, it is cheaper to store tools than to build them anew. In the end, though, the capacity to surge will come at a cost; maintaining the ability to build weapons quickly tomorrow means having more expensive ones today.

Mr LaPlante also wants the industry to adopt more standardised, modular designs to allow a plug-and-play capability akin to consumer electronics. Most precision weapons, he notes, have three main elements: a sensor to detect the target; a command-and-control system, be it an algorithm or a "man in the loop"; and an "effector", ie, a warhead or other device to destroy the target. If the interfaces between these can be standardised, the components can be swapped easily as weapons are improved or new ones developed.

A third way to enhance greater resilience is for America to work more closely with allies, Mr LaPlante says. They could co-operate in setting common standards, produce weapons in more than one country and develop new ones jointly. Australia, for instance, will work with America and Britain to develop hypersonic missiles, and is thinking about making munitions for the HIMARS launchers it is buying. Industry insiders say Norway's Nammo could become a third source of rocket motors for America.



From fire to fire

But standardisation and joint procurement are hard, all the more so when they are attempted across national borders. NATO has been banging the drum for it for as long as anyone can remember. The European Defence Agency was set up in 2004 to boost collaboration among European Union members. But it has no authority, and must rely on persuasion. Only about 18% of EU defence procurement is collaborative.

Defence firms competing for business want to preserve their distinctive technologies; countries, in turn, want to protect what they see as national champions. Although grateful for weapons wherever they come from, Ukraine is having to cope with a mix-and-match arsenal in which every incompatibility adds to logistical complexity. "We are exporting our fragmentation to Ukraine," notes a European defence minister.

If state-on-state wars were simply a contest between the industrial capacity of the antagonists, the economic might of Europe and America should be adequate to cope with foes such as Russia or, should it come to that, China. Russia's economy is smaller than Germany's even after adjusting for the cost of living. The EU and America together easily outstrip China. But liberal democracies take more time to put their economies on a war footing than authoritarian regimes and are much more reluctant to do so.

Russia's armament factories are not waiting to negotiate contracts with the Kremlin; they are already working round the clock. Sanctions may be impeding them from buying the microprocessors needed for precision munitions (hence reports that allies of Russia, such as Kazakhstan, have been taking huge orders for Western domestic appliances to strip them of their chips and pass them on to Russian arms firms), but few would bet against Russia scraping together enough shells for the next offensive and the one after that. Mr Putin no doubt subscribes to Stalin's dictum "quantity has a quality all its own".

As for China, over the past 20 years it has been building up the world's largest stockpile of precision-guided land-based missiles. It wants to prevent American sea and air forces, particularly carrier groups, from coming to Taiwan's rescue during a Chinese blockade or invasion. To counterbalance the Chinese arsenal, America would need large stocks of long-range precision missiles of its own, to threaten Chinese naval forces from beyond the range of China's formidable air defences.

These are not the sort of weapons being sent to Ukraine, so the effort to help one American ally is not jeopardising the security of another. But America still does not have nearly enough of them. csis has modelled a conflict with China over Taiwan in which America exhausts its inventory of long-range anti-ship missiles in less than a week. This year the Pentagon is planning to buy just 88 such missiles. It currently takes two years to produce most of the relevant munitions, Seth Jones of csis notes—and that lead time is for the delivery of the first missiles, not the last ones.

Would China, too, have trouble staying in the fight? It has a vast manufacturing capacity and little compunction about bossing private firms about, let alone state-owned enterprises. It also has the advantage of deciding when an invasion would occur.

Wars are won or lost for all sorts of reasons. Leadership, tactics, morale, logistics and technology all play their part. But running out of ammunition before the other side is never a winning strategy. ■

## Militarising Russia

## The home front

MOSCOW

**The invasion may have stalled, but Putin's war on dissent marches on**

TANKS DID put a stop to Grigory Sverdlin's career in the end—but not in the way he expected. In 2017 Mr Sverdlin, who until recently ran one of Russia's largest and oldest charities, the Shelter, was talking to a local official in St Petersburg about homelessness in the city. It was clear that the activism of groups like his, and civil society more generally, alarmed the authorities. "If you don't keep quiet, we will run you over with a tank," the bureaucrat warned him.

Yet Mr Sverdlin was allowed to continue his work as long as he was not too vocal about the failings of Vladimir Putin's government. "We tried to warm the cold air outside our comfortable flats. We tried to create a country where people are independent of the state." He felt his efforts were working: "Russian [civil] society was growing fast. People started to think not just about themselves, but about their neighbours and what is going on in their streets." Donations to charities were rising fast (see chart 1 on next page).

"Then this bastard started this war and the temperature dropped 300 degrees and maybe lower than ever—at least in the last 70 years." After several days of protesting on Nevsky Prospekt, St Petersburg's grandest boulevard, Mr Sverdlin was warned that he was about to be arrested and so fled the country. "For years I have been talking about what it is like to be homeless, and suddenly, overnight, I lost my home," he says.

Mr Sverdlin is one of the hundreds of thousands of Russians who have fled since the war began. Their exodus, and the ruinous effect it is likely to have on Russia's future, is the subject of a new *Economist* podcast, "Next Year in Moscow". We spoke to dozens of exiles in Britain, Georgia, Turkey and elsewhere—and many people who stayed in Russia. Their stories help explain why Mr Putin started this devastating war and how it will change their country.

Exiles like Mr Sverdlin are not the only Russians to have lost their place in society. Some 20,000 have been arrested since the start of the war for protesting against it. The police have even detained people laying flowers by statues of historic figures of Ukrainian origin, since they see the gesture (rightly) as an implicit rebuke. Alexei Navalny, a jailed opposition leader, has been moved to solitary confinement. Prosecutors are preparing a new political show trial for him.

What is more, the few remaining institutions that criticise the government or advocate a more liberal society have disappeared. The legal restrictions Mr Putin's regime has imposed on discussing the war—or even calling it that—have forced the closure of all independent media outlets, including Echo of Moscow, a radio station, and TV Rain, a television channel (both now broadcast from outside Russia). The Moscow Helsinki Group, which campaigns for human rights, has



Indoctrination fatigue

been shut down. Another such outfit, the Andrei Sakharov Centre, is being evicted from its premises.

Daniel Treisman of the University of California argues that these people and institutions are not accidental victims of the war, but one of its main targets. Ukraine, after all, posed no military threat to Russia. And a vast and sparsely populated country, spanning 11 time zones, could scarcely be said to need more territory. Rather, it was the gradual emergence in Ukraine of a vigorous civil society that successfully demanded reform of the state, and the inklings of a similar process in Russia, that Mr Putin found threatening.

Before the tanks rolled into Ukraine, Mr Treisman notes, liberal values were spreading fast in Russia. The share of people who told pollsters that freedom of speech was important to them rose from 34% in 2017 to 61% in 2021. Use of the internet was rising rapidly (see chart 2); record numbers were watching Mr Navalny's YouTube channel. Meanwhile, television viewing, the government's main tool for shaping Russians' outlook, was in sharp decline.

The shift is largely generational. People born during Russia's liberalisation in the 1990s tend to be more enterprising than their elders, less prone to rely on the state and more liberal on matters such as gay rights. In 2017 some 70% of older Russians told the Levada Centre, a polling group, that they could not survive without the government's help, whereas only 27% of people under 35 felt the same. And in 2020, despite the Kremlin's propaganda, some 60% of young Russians told Levada that they had a positive view of America.

"Putin and his crew understood that time was working against them, because the young generation is not interested in their TV propaganda and does not believe that Russia is a besieged fortress encircled by enemies, or that the United States wants to conquer us," says Mr Sverdlin. This week Mr Navalny echoed that sentiment in a statement conveyed from his prison cell by his lawyers. Alexander Gabuev, who worked for a think-tank in Moscow forced to close last year, laments, "This is a war against Russia's future...And Russia's future will now be very different, regardless of the ➤

# 20,000

The number of Russians arrested for protesting against the war

► outcome of the war, from the one it might have been had February 24th not happened."

For one thing, the 500,000 people who have fled are among Russia's best educated and most dynamic. They may not have had any say in politics even before the war, but their voices were nonetheless audible. No longer. Political debate, to the extent there is any in Russia now, occurs not between those who oppose the war and those who support it, but between "patriots" and "turbo-patriots", who criticise Russian commanders for not being brutal and aggressive enough.

By amplifying pro-war voices and silencing common sense, Mr Putin has achieved an illusion of total support for the war. People are wary of expressing criticism of it in any form but, even so, some 20% of Russians tell pollsters they are against it. It is safe to assume that disquiet is far more widespread than that. "Putin has managed to persuade the minority that it represents a majority, and the majority that it is a minority," says Leonid Volkov, Mr Navalny's chief of staff.

Polling conducted by Mr Navalny's team, which operates from outside Russia, suggests that even among supporters of the war confidence in Mr Putin's wisdom is fast evaporating. Since the summer, the share of people who think that the "special military operation" is going as planned has declined from 40% to about 15%. This is hardly surprising, given the rising death toll. In October 6% of Russians said they knew someone who had been killed in the war; by January that figure had doubled. Two-thirds of Russians know someone who has been mobilised or is fighting in the war.

In a recent interview Oscar Kuchera, an actor and television host, neatly captured the inchoate views about Ukraine that are typical of many Russians. He simultaneously displayed confusion about the purpose of the war, misgivings about its progress, and ardent

support for Mr Putin and "our boys" on the front line. The idea of annexing Ukrainian territory is especially puzzling to him: "Don't we have enough problems of our own without having to feed someone else?" he asked. But he insisted that Mr Putin must have good reasons for his land grab, even if a simple man like himself could not fully understand them.

#### POCKETBOOK PATRIOTS

The idea that things are under control is bolstered by the stability of the economy. On the surface, Moscow looks much as it did before the war. Some popular Western brands—McDonald's, IKEA—have disappeared and some martial symbols have materialised. The economy contracted by a little over 2% last year, with the harm inflicted by sanctions largely offset by the benefit of massive export earnings thanks to high prices for oil and gas (see chart 4). Those were equivalent to about \$230bn (10% of GDP), according to Re: Russia, a research network, almost compensating for the \$275bn of capital that fled the country. The bonanza has allowed the government to boost its spending by a quarter, injecting an extra 5.5trn roubles (\$74bn) into the economy. That will only reinforce the state's growing hold over the economy (see chart 3).

Monthly output in some import-dependent and consumer-facing industries, such as cars and pharmaceuticals, was 50% lower by the end of 2022 than at the beginning. But arms manufacturing, naturally, has boomed. Tatarstan has seen a joint venture to make Ford cars shut down, but expects a factory to make military drones in collaboration with Iran to open soon.

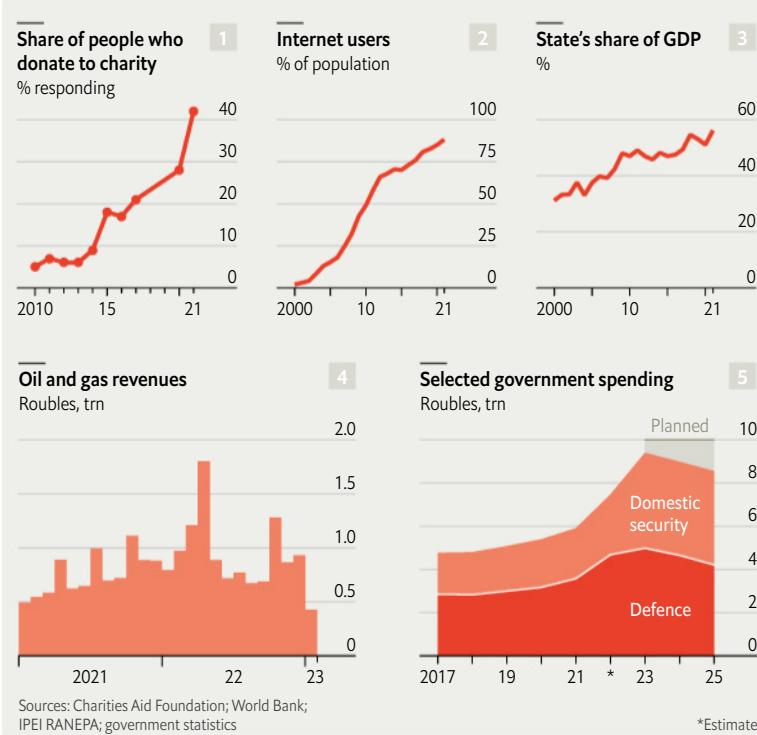
A lower oil price and sharply reduced sales of gas are likely to lead to a budget crunch this year. In the long run, the exodus of skilled workers will harm the economy. Since the start of the war Russia is estimated to have lost at least 100,000 IT specialists. But the bureaucracy has done a good job of adapting to the new circumstances, blunting the immediate impact of the brain-drain and sanctions. "They see this as a quest," says Mikhail Komin, a political scientist who had surveyed middle-level technocrats. "They feel as much in demand as the military themselves".

In fact, the war has raised the status of technocrats, and of the army and security services even more so. The government wants to expand the army from its current 1m soldiers to 1.5m. That is 4% of the male, working-age population, a higher share than in any other country bar North Korea. A third of the national budget goes to men in uniform. Spending on the armed forces this year has been revised up by 40% compared with pre-war plans. Spending on domestic security—the machinery of repression—is up by over 50% (see chart 5). Meanwhile, spending on health care has fallen by 9%. To further exalt men in uniform, the government plans to reserve seats in the Duma, Russia's docile parliament, for "military patriots".

Culture and education have also been "mobilised". Actors and artists who have decried the war have been expelled from state-funded theatres. The latest victim is Liya Akhmedzakova, a famous actress who has been pushed out of the Sovremennik Theatre after 45 years. Zelfira Tregulova, the director of the Tretyakov Gallery, which houses the country's biggest collection of Russian art, was dismissed for deviating from the Kremlin's "spiritual and moral values". Her replacement is the daughter of a senior officer in the security services.

In short, even though the material impact of the ►

#### State v society in Russia



► war is scant in much of Russia, the conflict is inescapable. "Putin's purpose in this war is to achieve a radical break from the West and thus maintain control over Russian society by moving it into a state of permanent struggle and mobilisation," says Kirill Rogov, the founder of Re: Russia. Any lack of progress on the battlefield is likely to be compensated for by ever-growing repression and purges, particularly as success becomes more elusive and casualties mount.

Russians who used to look to Europe for modernisation have been cut off from it, rather as when Stalin tightened his grip in the 1920s. Some have turned instead to China. Many opponents of Mr Putin and his war see a Ukrainian victory as the best hope for Russia. Mr Sverdlin, who ran the homeless charity in St Petersburg, is now trying to resist Mr Putin from outside the country. His new volunteer group helps Russian soldiers desert and escape, often crossing Russia's borders illegally. Since the autumn, his organisation has helped 4,000 soldiers flee. "For me, and for many volunteers, it is not charity, it is our way of striking back." Few people have as much interest in a Ukrainian victory as Russians who want their country to be peaceful, independent and prosperous. But for Ukraine to feel secure, Russia would need to change radically. Just as the war started in Russia, it can only end there, too. ■

#### **Ukraine's national identity**

## Battle-tested

KYIV

#### The war has strengthened Ukraine's institutions and civil society

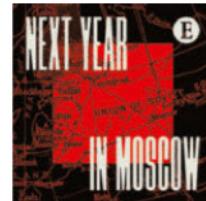
UKRAINE'S ARMED forces had prepared for the invasion that began at 4:30am on February 24th, but many ordinary Ukrainians had not. Svitlana Povalyaeva, a writer, had to be woken by her 24-year-old son, Roman Ratushny, at about 5am. She wanted to go back to sleep; he insisted that she take the news seriously. "They're bombing Boryspil airport with fucking ballistic missiles," he railed.

Prepared or not, people like Mr Ratushny jumped into action. Later that day he returned to see his mother, in military fatigues, with a gun. She screamed at him hysterically, desperate to stop him going off to war and getting himself killed. But she also knew that he was a determined sort, who had faced down death-threats while campaigning to stop a wood in Kyiv being bulldozed by developers. As she feared, her protests were in vain.

Mr Ratushny was not the only one doing the unexpected that day. When Andrii, a fighter pilot, finally took a break after almost 19 hours of sorties, too exhausted to fly any more, his commanding officer spooned stew into his mouth to revive him. Vitaly Shabunin ignored warnings that his name was on a list of people whom Russian soldiers had been instructed to kill, and set about turning his anti-corruption organisation into a network to support the armed forces.



#### **Listen**



Our new podcast, *Next Year in Moscow*, investigates how Russia's liberals lost their country—and how they might get it back. Listen on all major platforms, *The Economist* app and [economist.com/moscowpod](http://economist.com/moscowpod)

Famously, Volodymyr Zelensky, the president, declined to flee the onslaught. Instead, the next day, he posted a video of himself in the centre of Kyiv to reassure Ukrainians that the state was still functioning. "We're all here," he declared. "The military is here. Citizens and society are here. We're defending our independence, our country."

With Mr Zelensky setting the bar for courage, the Ukrainian state proved much less flimsy than the Russians—and many Westerners—had expected. What is more, many ordinary Ukrainians were eager to come to its defence. During the course of the war, the state and civic pride have become stronger still. "We had belief in the resilience of our institutions, but it was only after 24th February that we became sure," says Denys Shmyhal, the prime minister. "We paid bills, collected taxes, supported business, provided services and restructured the economy. Our Western partners tell us they are amazed at how strong we've been."

The Russians, says Mykhailo Podolyak, an adviser to the president, "don't get what Ukraine is about". They disliked that it was becoming a more functional democracy and, by fits and starts, drawing closer to Europe. But they did not understand how far that process had advanced. On the face of things, after all, the country was still riven by political divisions, addled by corruption and dominated by powerful oligarchs. Twice in a decade, in 2004 and 2014, protesters had toppled unpopular governments. The previous president, Petro Poroshenko, a media and chocolate magnate, had been voted out in part because of a litany of corruption scandals. Russian-speakers in the south and east of the country seemed alienated, often voting differently from the rest of the country. And in 2014 Ukraine had not been able to stop Russia seizing Crimea and fomenting rebellion in the Donbas region.

But all the upheaval, while revealing discontent and division, also showed that civil society was becoming more vigorous and politics more responsive to it. People like Mr Shabunin and Mr Ratushny, who both participated in the Maidan protests in 2013-14, kept up their activism after the crowds had dispersed, the first as an anti-corruption campaigner, the second as an environmentalist. Despite the domination of the media by oligarchs, a free press had also sprung up, abetted by the internet. Large-scale migration for work to European countries, and a liberal regime for tourism, had helped develop an affinity for Europe. Meanwhile, efforts to curb corruption had begun to undermine Russia's chief means of exerting influence.

The war has accelerated all these trends. Almost overnight Ukraine's geographical divisions, which had anyway diminished since 2014, disappeared. Russian-speakers bore the brunt of the invasion, since they are concentrated close to the Russian border. The indiscriminate, vicious offensive disabused them of any illusions they might have had about Russia's brotherly benevolence. According to Volodymyr Paniotto, a pollster, most of the 9m or so Russian-speakers in Ukraine now regard it as their homeland. Many of them are learning Ukrainian and immersing themselves in Ukrainian culture, which they might previously have seen as quaint or parochial.

The political rift about whether Ukraine's future lies more with Russia or the West has also been decisively resolved. Ukraine has officially become a candidate for EU membership, a step that was seen as a decade away before the invasion. A full 86% of Ukrai-

►nians want their country to join NATO, up from barely half before the war.

Fewer Ukrainians describe themselves as cynical than a year ago; three and a half times as many (68%) express optimism for the future. Trust in government and institutions has increased. Mr Zelensky's approval rating shot up after the invasion, from barely 30% to over 90%. Mykola Davydiuk, a political analyst, likens the surprisingly concerted response to the invasion to the behaviour of bees: "In normal times, bees buzz around and make honey. But when a bear tries to steal it, they swarm, and sting him."

Ukrainians' willingness to swarm, in turn, reflects genuine improvements in its institutions, and above all in the armed forces. When Russia invaded Crimea in 2014, Viktor Muzhenko, Ukraine's top general at the time, said his army was "literally in ruins" and suffering from "total demoralisation". Much of the navy defected to Russia rather than fight. Mr Poroshenko initiated sweeping military reforms. America, Britain and Canada sent aid and advisers. Five battalions a year received training from America at a military base in western Ukraine. America first gave Ukraine Javelin anti-tank missiles—used to great effect to repel the Russian advance on Kyiv—in 2017. Perhaps most importantly, Ukraine's military culture was transformed. By the time Russia invaded again last year, says Liam Collins, a former US Army officer involved in those efforts, "Ukraine had built a well-led, professional force with a culture that encouraged junior leader initiative on the battlefield."

#### HARD WIRING

Other parts of the government, too, have shown remarkable adaptiveness. Ukrzaliznytsya, the state railway company, runs trains through war zones, evacuating citizens and ferrying troops, supplies, and diplomats in the opposite direction. Government cybersecurity agencies draw on the best IT specialists in the country to provide a robust defence against some of the world's most sophisticated hackers. Engineers in the power industry work around the clock, sometimes in body armour, to somehow bandage together infrastructure as fast as Russia bombs it.

The Ukrainian state still has many weaknesses. Corruption continues to plague it. A recent scandal involving overpriced contracts for military rations shows that plenty of venal officials remain, even in the Ministry of Defence. Nor has petty politics disappeared: the president's office is paranoid about the stratospheric popularity of Valery Zaluzhny, the head of the armed forces, and appears to be circumscribing his role. "Ukraine faces its biggest danger when politicians start interfering and telling soldiers what to do," warns Mr Shabunin.

And whatever strides Ukraine has made, they must be weighed against the catastrophic consequences of the war. Hundreds of thousands have died. Whole cities have been razed (see next story). Ms Povalyaeva, the mother of Mr Ratushny, who headed to the front so eagerly on the first day of the war, says she sensed that her son would die many months before he eventually did, on a reconnaissance mission in June. She could see the desperation on his face. "The pain is unbearable," she says, reflecting on her son's squandered potential. "We are losing our best people. The very people we need if we are to build the modern, just society we all now demand." ■

90%

Volodymyr Zelen-sky's approval rating, up from 36% before the war

#### Measuring the damage

## A hail of destruction

Data from satellites show that the scars of the war extend far beyond the front lines

**T**HE WAR in Ukraine is the most documented in history. Every day, social media overflows with videos of air strikes, reports from bloggers embedded with troops and round-ups of shifting front lines.

Yet such material, despite its abundance, paints only a partial picture. Events that were not recorded, or about which no one has released information, remain invisible. And when videos or photos do get shared, interpreting them can take days of complex work.

Generalising analysis of specific events to the conflict as a whole requires comprehensive data and consistent methods. One source of such information is satellites. Using numbers from two space-based systems, we have calculated the intensity of fighting and degree of physical destruction in every corner of the country. Our study shows that rather than being limited to a few big offensives and grinding battles, the war has left a brutal mark on a large slice of Ukraine. Fighting has reached 14% of municipalities, and damaged nearly half the built-up area in the hardest-hit cities.

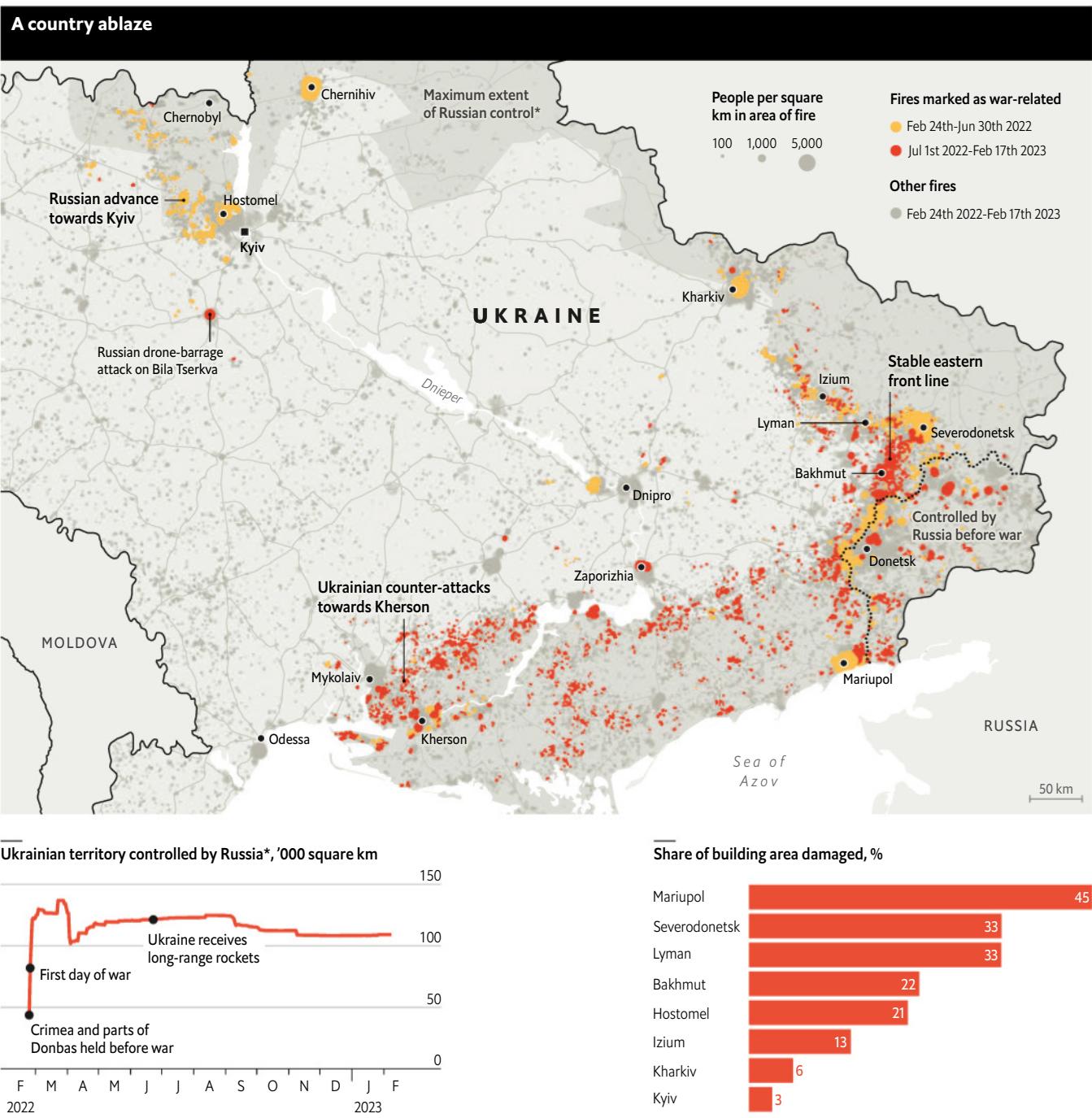
Our first source of data is FIRMS, an American system designed to track forest fires, which detects conflagrations everywhere in the world twice a day using infrared sensors. FIRMS recorded fires in Ukraine long before the fighting began, mostly from such activities as making steel or burning crops. However, the war added new explosions on top of these everyday events.

To identify fires of military origin, we split up Ukraine into cells and calculated an expected fire rate in each one, based on factors like historical fire counts and cloud cover (FIRMS cannot see through clouds). Whenever the number of fires surpassed this benchmark to a statistically significant degree, we marked the excess as caused by fighting. Of the 72,221 fires during the past year, we classified 14,068 as war-related.

The front lines that appear in the data match those in other sources. Based on maps from the Institute for the Study of War, a think-tank, 64% of military fires were in contested areas or within 25km of the edge of Russian-held land. However, the rest were far from the front, meaning that attacks were common even in areas firmly held by one side. In Donetsk, the worst-hit province, we found military fires in 80% of municipalities. Four other provinces had shares above 50%.

Russian artillery probably accounts for most war-related fires in Ukrainian-held territory. Additional explosions resulted from attacks on Ukraine's power grid, and occasional strikes on distant targets using missiles or drone barrages. The data suggest that Russia has exacted revenge on civilians for the Ukrainian army's successes. When Russia has lost territory, military fires in the following month outside areas it controls have been unusually concentrated in cities.

On the Ukrainian side, the numbers imply that the ►



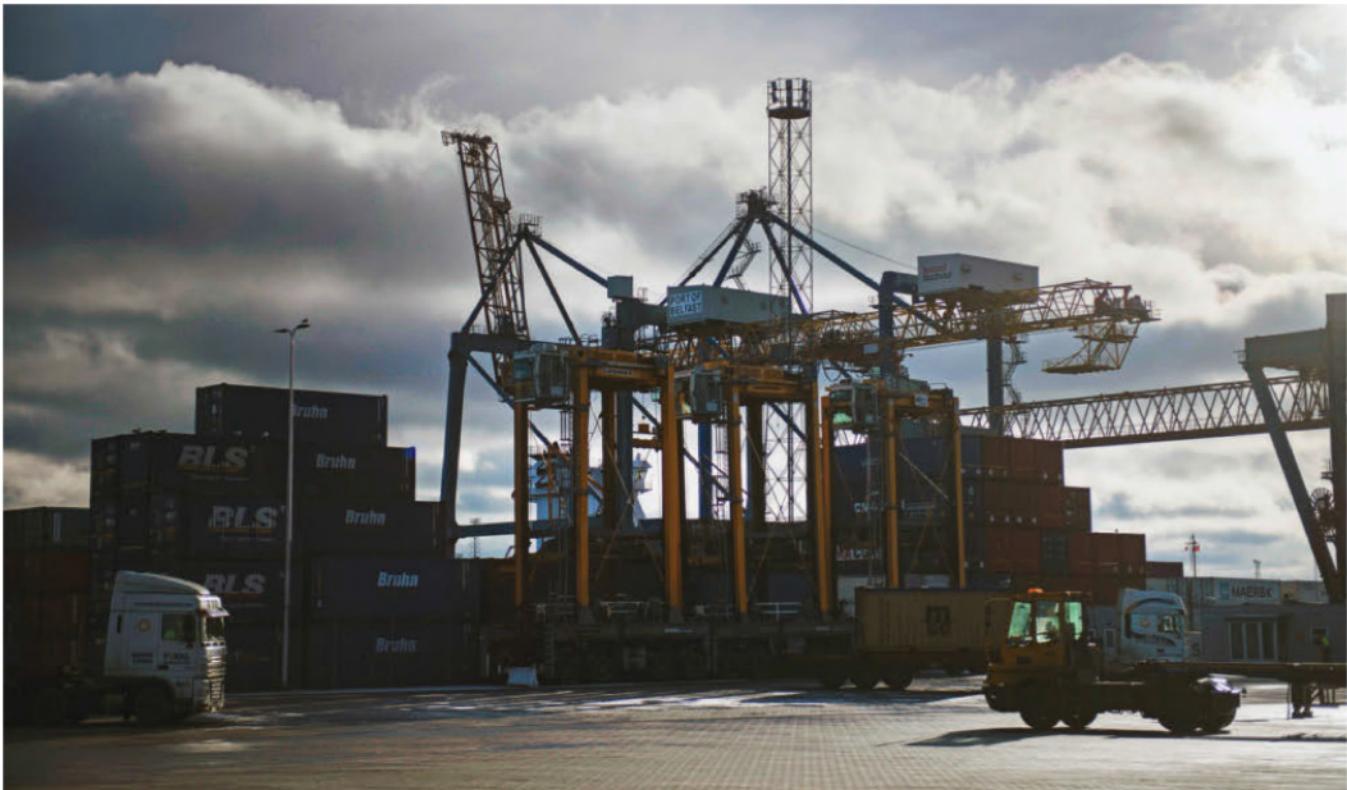
Sources: DMSP Nighttime Lights; ESA; Google Earth Engine; Institute for the Study of War; Microsoft Open Buildings; NASA; Ollie Ballinger; WorldPop; *The Economist* \*According to ISW

arrival last June of HIMARS, an American rocket system, was a turning point. The share of military fires in Russian-held areas rose from 26% in the two previous months to 50% in the two subsequent ones. Many other factors also contributed to Russian losses, but Ukraine has clearly used the rockets extensively.

Our other space-based data source is Sentinel-1, a European satellite that bounces microwaves off Earth. When the shape of objects on the ground changes, so does the strength of the returning signal. Ollie Ballinger of University College London has classified every building in Ukraine as probably damaged or not, based on whether recent signal strengths differ from a given

structure's pre-war average by far more than the building's pre-war measurements differed from each other.

If the data on fires reveal the war's reach, the figures on destruction highlight its intensity. In some cases, Russia damaged nearly half of a city before capturing it: 45% of Mariupol and 33% of Severodonetsk show changes detectable from space. In Bakhmut, which is still being pummelled, the latest available number already exceeds 20%. Even places that have not absorbed a frontal assault are pockmarked with scars. The share of damaged buildings in Kharkiv, Ukraine's second city, has ticked up steadily to 6%, and will keep rising as long as Russian shells continue to fall. ■



Brexit

## Protospasm

BELFAST AND LONDON

**Rishi Sunak's pragmatic effort to fix the Northern Ireland protocol runs into some familiar obstacles**

THE SENSE of déjà vu has been unavoidable this week. Rishi Sunak, the prime minister, has been grappling with the hardest problem created by Britain's decision to leave the EU in 2016—the status of Northern Ireland. His efforts have prompted predictable opposition, from hardline Brexiteers in Westminster and from unionists in the province. As *The Economist* went to press, Mr Sunak's proposed deal to revise the Northern Ireland protocol was hanging in the balance and with it, the prospects for effective government on either side of the Irish Sea.

The protocol was concocted by Boris Johnson in 2019. It left the province in the European single market for goods and required checks for products crossing the Irish Sea from Great Britain. In protest at this forced separation, the Democratic Unionist Party (DUP), the main unionist (pro-British) party, pulled out of the Northern Irish executive in February 2022. It said it would not return unless the protocol was in effect scrapped. The DUP's intransigence was bolstered last May when Mr Johnson

himself proposed a bill to allow Britain to unilaterally override the protocol if the EU did not soften it. He also demanded that the European Court of Justice (ECJ) lose any jurisdiction in the province. Relations between Britain and the EU markedly soured.

Mr Sunak's elevation to Downing Street has changed the mood music for the better. The EU has admitted that it was too zealous in its border checks. The proposed deal envisages that goods that pass from Great Britain and stay in Northern Ireland will be able to go through a green channel with minimal inspections; only goods likely to

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cross into Ireland, and thus into the single market, must go through a red channel with full controls. This was facilitated by a British concession, which was to give the EU access to live data on the movement of goods. There will also be a system of trusted traders subject to few, if any, checks.

On the governance of the protocol, too, a deal is emerging. Mr Sunak seems to have secured agreement to a mechanism whereby the EU promises to discuss with interested parties in Northern Ireland the application of new single-market laws. As for the ECJ, although it has to remain the ultimate arbiter of EU law, both sides have agreed that in practice disputes should be settled without the need to consult it.

A compromise of this sort could give Northern Ireland the best of both worlds, with free access to both British and EU markets. As Katy Hayward of Queen's University Belfast notes, public opinion in Northern Ireland consistently backs the protocol, as does a clear majority of the Northern Ireland Assembly (though almost all unionists are opposed). When Mr Sunak visited Belfast on February 17th to discuss his plans, the DUP leader, Sir Jeffrey Donaldson, displayed cautious optimism.

Caution has since had the upper hand over optimism. Others in the DUP, as well as hardline Tory Brexiteers, have spoken out against the deal. They object that the ECJ would still play a visible role on British territory, and that Northern Ireland would have no right of veto over changes to sin-►

gle-market rules. Mr Johnson, who blames Mr Sunak for his own ousting last year, let it be known that he was opposed to ditching the bill allowing the protocol to be overridden. Sir Jeffrey now sounds warier.

What next? The British government and the European Commission continue to talk, though the scope for big changes is limited: EU negotiators have no mandate to rewrite the treaty. Mr Sunak could simply choose to push ahead in the teeth of opposition. A deal does not strictly even require parliamentary approval, precisely because it does not alter the text of the protocol. In a vote the Labour opposition has promised to support him if need be.

Facing down the hardliners in Westminster is easier than it was, too. Public interest in Brexit has dissipated; unlike in 2019, there is no hard deadline to give Brexiteers real leverage. If Mr Sunak wants to placate them, he can push ahead with an ill-advised bill to scrap retained EU laws and with plans to speed up regulatory divergence from the bloc in some areas.

The harder problem is winning round the DUP, whose reluctance to endorse a deal is less about ideological purity than fear of its own voters. Two-thirds of unionist voters want the party to continue to veto devolved government unless the protocol is removed completely or radically rewritten. If Mr Sunak imposed a deal on the province but the DUP continued its boycott, Northern Ireland's power-sharing arrangements mean that it could have no government of its own for years. Over the short term an intransigent DUP might do well at the ballot box. Over the long term, it might weaken support for unionism itself: what is the good of a political movement which is defined by refusing to govern?

Even if the DUP went begrudgingly back into government, the Northern Irish conundrum remains. Increasing regulatory divergence between Britain and the EU could mean more, not fewer, controls in the Irish Sea. Mr Sunak is not proposing the one option that would do most to soften the protocol's operation, which is aligning with EU veterinary standards.

A potential Labour government, however, is likely to seek exactly that. If Mr Sunak cannot get his deal done, the current unsatisfactory application of the protocol and the DUP boycott will almost certainly continue until the next election, which is due by January 2025. If the Labour Party takes power then, it would seek to make a sweeping new deal with Europe and to resolve the Northern Ireland question once and for all. But waiting almost two more years for a rapprochement with Brussels would not be good for the British or Northern Irish economies. And Mr Sunak would be greatly weakened—another in a growing line of Tory prime ministers undone by Brexit. Déjà vu, indeed. ■

## Criminal investigations

# Social-media Sherlocks

### The case of Nicola Bulley illustrates a big challenge for police

**T**ENS OF THOUSANDS of people go missing in Britain every year. Many of them do not make it into the local press, let alone the national media. This can distress their relatives: press coverage helps police as they appeal for information and witnesses. Yet the family of Nicola Bulley, who was missing for 23 days before her body was found on February 19th in the River Wyre in Lancashire, may wish that her disappearance had attracted less attention.

Perhaps because she was pretty, white and middle-class her case generated intense interest. On social media in particular, there was an unprecedented level of voyeuristic speculation. Detective Superintendent Rebecca Smith of Lancashire Police, who led the investigation, said she had "never seen anything like it".

The case has highlighted one of the great downsides of the internet: the amplification of voices that are better left unheard. In the days after Ms Bulley dropped her children at school, took her dog for a walk and vanished, self-proclaimed body-language experts and psychics posted videos hypothesising about what could have happened. YouTube and TikTok broadcasters turned up to film the river bank where she disappeared and to quiz passers-by. Some tried to break into nearby buildings.

All this was extremely upsetting for Ms Bulley's family. But it was also potentially damaging to the investigation. Detective Smith said that the police had been "inun-



The offline search

dated with false information, accusations and rumours". This had "significantly distracted the investigation".

Social-media sleuthing presents a big new challenge for police conducting high-profile investigations. Paul Fullwood, a former assistant chief constable for Bedfordshire, Cambridgeshire and Hertfordshire Constabularies, says that in the past police working on missing-person cases had a "professional understanding" with journalists, which might include giving information on the understanding that it not be published. But the explosion of interest on social media meant police on the Bulley case "lost control of the media narrative", he says. "Unhelpfully, some of the armchair detectives included former colleagues, many of whom have not been near major crime for many years."

What can the police do to limit the damage done in such cases? Legislation gives them some powers. Lancashire police used the Public Order Act to arrest and fine one man who had posted numerous videos to YouTube and TikTok. (He then posted footage of his own arrest.) But that does not deal with the online rumour mill.

Better communication might help. The Lancashire Constabulary has come in for a lot of criticism, much of which may be groundless. Their initial supposition, that Ms Bulley had somehow fallen into the river, may well have been correct. Yet some reckon that the police provided too few progress reports, allowing others to fill the gap. After a diving expert (who was giving regular updates on his own search) said she could not have fallen in, online speculation—about everything from abduction to potential suspects—grew wilder.

That seems to have prompted police to reveal new snippets of information, including that Ms Bulley had menopause-related alcohol problems. The revelation is thought to have followed discussion with her family; it may have been made to preempt a tabloid tell-all or a leak. But critics piled in, saying it was a shameful violation of her privacy. Unusually, they included the home secretary, Suella Braverman.

Some believe the police could exploit social media themselves, to counter false information. "They fail to recognise that their own channels don't have the reach of even the most benign influencer and there's a belief that using popular channels is somehow less credible," says a former detective chief superintendent. He adds that too often the police misinterpret the rules about open cases to justify not sharing information. A bigger problem is lack of trust in police themselves, largely as a result of falling numbers of community officers. "They are no longer seen as a trusted part of society," he says. That means people are more likely to look elsewhere for information—and, unfortunately, to find it. ■

## Labour markets

# No skills required

**Why don't British companies train their staff?**

**BRITAIN'S  
GROWTH  
CRISIS**



**S**HOULD YOU wish to know the best way to carry a hot coffee or avoid backache, Britain's employers have you covered. But set your sights a bit higher than health-and-safety briefings—on courses that risk making you better at your job, say—and the chance of disappointment soars.

According to data from Eurostat, the EU's statistics agency, British firms spend only half as much on training per employee as European ones. They train fewer workers, and give each of them less time in class. Most of these metrics are going backwards. The Learning and Work Institute, a think-tank, reckons that in 2019 bosses in Britain spent 28% less in real terms training workers than they did in 2005 (while spending in Europe went up).

Training can be wasteful. Informal learning may be filling some of the gap. Even so, these trends are surprising. At the last count, before the pandemic, a lack of skills was reported to be making almost a quarter of all vacancies hard to fill. The twin storms of covid-19 and Brexit have probably made that worse. So why do British firms do less than their peers?

Bosses everywhere fret that expensively trained workers are more likely to flee to competitors. That may be a bigger worry in Britain, where a higher proportion of staff change jobs each year than in most other rich places. Plentiful access to low-skilled immigrant workers (in the past, at least) may have had an impact. British firms are more likely than EU ones to say that hiring, not training, has solved their skills problems. Britain's employers also grouch that it is difficult to find affordable training providers, and that the government's neglect of colleges and other peddlers of vocational education is partly to blame.

Tight labour markets have made "upskilling" a hotter topic but they have also made the task harder, says Matthew Percival of the Confederation of British Industry, a trade association. Firms have long sought to turn warehouse workers into lorry drivers, he says; but recently they have started worrying that they will struggle to fill the low-level vacancies that such promotions create. Workers have less time for training when labour markets are tight.

Trainers who know their onions are getting hired back into industry themselves.

Yet alongside all this lies a problem that gets rather less attention. One-third of Britain's firms say they employ staff who have higher skills and qualifications than their jobs require. Some 16% of bosses say this is true of more than half the people on their payroll. When companies are asked why they do not train workers they often say it is because their staff are smart enough. That would be good news, if their roles were more demanding. Some 23% of jobs in Britain require no more than a primary education, according to analysis last done in 2013 by the OECD, a rich-country think-tank. That is one of the loftiest rates in the developed world (see chart).

Some of this may be explained by red tape in other countries that requires more workers to have certain qualifications even for mundane jobs. But it may also reflect less effort in Britain to make such jobs more productive. In many European supermarkets, for example, electronic displays allow the prices on shelves to be adjusted remotely; workers in British stores are often required to ferry printed labels around the aisles. The OECD warns that in swathes of the country low demand for skills from employers is depressing Britons' desire to better themselves.

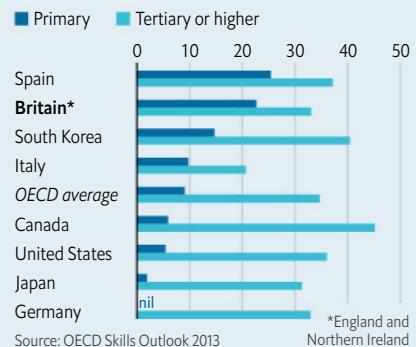
Efforts to make companies keener on training have not come to much. Train to Gain, a wheeze of the last Labour government, burned through a lot of money setting up lessons that would probably have gone ahead anyway. The Tories have placed their chips on apprenticeships (which companies may offer both to new recruits and as a way of upskilling old hands). In 2017 the government began requiring big employers to set aside 0.5% of their annual wage bill to fund these. Any part of this "levy" that they do not spend is handed to the government, which uses it to help pay for apprenticeships at smaller firms.

The levy was supposed to help drive a big increase in the number of people doing apprenticeships each year. Instead numbers have actually fallen, from around 900,000 in 2016-17 to about 740,000 in 2021-22. Although it was never the plan that big companies would spend all the levy money themselves, they are leaving surprisingly large chunks of it on the table. Many of the new "apprenticeships" that they are funding look a lot like pre-existing training programmes, rebadged to qualify for the cash. Some courses have just become more expensive.

Few want the levy scrapped entirely. But lots of businesses want permission to spend it on different things. Currently apprenticeships must last at least a year and involve at least one day a week in a classroom, which is fine for complete beginners but can be overkill for people in the middle

## Basic instincts

Workers in jobs categorised by minimum required level of education, 2013, %



of their careers. Ideally, a revamp would give firms more incentive to help the 5m workers who are desperately bad at either reading or maths. When he was chancellor Rishi Sunak said he would examine whether the levy is prompting "the right kinds of training". Nothing has yet come of that.

Any changes would also have to be accompanied by a big new effort to drive up employers' demand for skilled staff, reckons Lizzie Crowley of the Chartered Institute of Personnel and Development. She says the government has "completely ignored" this part of the puzzle. Ms Crowley would like to see more in the way of business-support services and coaching for managers, which might spur companies to concoct zingier ways to grow. If they had smarter plans, she says, spending splurges on skills would follow in a flash. ■

## BBC Monitoring

# Found in translation

**The place that listened in on the world is being sold**

THE DENOUEMENT was undramatic. The Cuban missile crisis in 1962 might have begun with public declarations from President John F. Kennedy and the threat of nuclear annihilation for all, but its conclusion was much more muted. The West first realised that the end was not nigh after all when, in a charming country house in Berkshire in south-east England, a translator working for the BBC tuned in to Radio Moscow and listened as Nikita Khrushchev's climbdown began.

The wars of the 20th century offered two main ways for enemy nations to understand what the other was up to. One was to use secret agents and derring-do. The other was to switch on the radio and let ►



Ears to the sound

► that nation simply tell you, sometimes twice daily, often with nice music in between. The radio led to few thrills and fewer thrillers (not many novels star someone sitting in headphones for eight hours a day) but it mattered. Joseph Goebbels was convinced that his department had been infiltrated; in truth, British translators had just been listening to Nazi broadcasts.

Eavesdropping on the airwaves was a habit that was slow to begin in Britain. An initial government department, set up at the start of the second world war, comprised three people. But it was the BBC, which started its own service at around the same time, that won out.

By 1943 BBC Monitoring—the branch of the broadcaster that doesn't speak but listens—was operating in earnest. It took up residence in Caversham Park, bringing with it radios and receivers, typewriters and teleprinters, and numerous refugees from Nazi-occupied Europe to act as monitors. They set about building Babel by a lake in Berkshire. Over the years that followed their reports were used by the BBC itself, by other news agencies and by wartime and peacetime governments.

The radios have now fallen silent; the monitors have moved elsewhere (mainly to London); and Caversham Park itself is about to be sold to be turned into swanky retirement flats. The legacy remains, however. Over the static of the radio and the taka-taka of the teleprinters, the broadcasts of 40-odd countries were listened to by staff who produced briefings of half a million words daily, amounting to 15m pages of transcripts over eight decades.

They include some of the scoops of the century, from the first, confused reports of the Chernobyl disaster in 1984 to the proclamation of the *fatwa* against Salman Rushdie in 1989. ("Hold on," the duty editor said to his Persian monitor, "what the fuck

## The justice system All rising damp

### Why crumbling courts are worsening Britain's trial backlog

**G**RANDIOSE ROOMS, antique benches, lawyers bedecked in wigs and gowns. As the set of a period legal drama, Inner London Crown Court looks the part. As a modern workplace, it's struggling to fit the bill. The staff canteen, shut during the pandemic, has been abandoned. The basement is prone to flooding and the ceiling is prone to leaking. Like much of the court estate in England and Wales, it's slowly falling apart.

Delays and cancellations are rife across the justice system. Government figures to September 2022 show that 28% of crown-court cases have been outstanding for over a year, with a growing proportion of cases now waiting longer than two (see chart). Crunching through the backlog depends principally on the availability of barristers and judges: shortages of both are the most pressing constraints on progress. But the state of the courtrooms is not helping.

A recent report from The Law Society, the professional body for solicitors, describes how a "crumbling" court estate is compounding a pandemic-induced backlog of more than 60,000 serious criminal cases. According to the report, 64% of lawyers surveyed had experienced delays within the past 12 months due to the state of the courts. The issues range from the banal to the farcical. Nick Barracough, a criminal-defence lawyer, describes how, during a cold snap, his trial had to be postponed because there was no heating. "When you think of the expense and the delay...it's just mad that we're not sitting in court because they wouldn't service the boiler," he says.

At another court, one judge lamented that a whole day was lost because, upon arrival, the prisoners couldn't get off the prison van; the shutters of the loading bay were jammed and the defendants were driven back to their cells. No cases could be heard. "It all sounds very Fawlty

is a *fatwa*?") Monitoring of the most important broadcasts was a group effort, with speeches split up and given to different translators. The divisions on Khrushchev's speech can, like a game of thermonuclear consequences, still be seen.

But Babels can cause problems—in wartime Britain as in the Bible. At an early incarnation of the monitoring station, the natives were variously alarmed by female monitors (who wore trousers); Russian ones (who wore Astrakhan coats); and

Towers but actually, these things are not getting fixed," says Lubna Shuja, the president of the Law Society.

Money, inevitably, is to blame. The Ministry of Justice has been squeezed hard by a decade of austerity. Its budget was reduced by 25% in real terms between 2010 and 2019. Cuts have rippled throughout the system. Funding for criminal legal aid has fallen by 59% in real terms since 2010-11. Between 2010 and 2022, 244 courts and tribunals—roughly a third of courts in England and Wales—were closed. The maintenance budget has not been spared.

Prolonging the wait for justice has serious implications. Lawyers describe how, for crimes with prison sentences of less than a year, the incentives to take plea deals become perverse once pleading guilty could mean giving up less time than proving innocence. At Inner London Crown Court, a tannoy snafu means James Oliveira-Agnew, a barrister and assistant secretary of the Criminal Bar Association, isn't called to his hearing. "Everything's getting delayed," he says. "It's just really difficult to get things off the ground at the moment."

### The queue for justice

England and Wales, crown-court cases outstanding after two years, '000



Source: Ministry of Justice

Scandinavian ones (who wore nothing at all in front of their bedroom windows).

BBC Monitoring still exists but, in the internet era, its purpose is less obvious, its uniqueness diminished. Its importance had already faded with the collapse of communism—which it also listened in on. On November 9th 1989 a teleprinter spat out a message about increasing freedom of movement in Berlin. A German monitor tore it off, read it and said: "That's it." Hours later the Berlin Wall started to fall. ■

## The beautiful game

# Referee!

**The government hopes a regulator will save football from financial folly**

**T**O BE ENLIGHTENED—or just bewildered—about the febrile finances of English football, consider a small triangle in the north-west of the country. At one corner is Manchester United, the prize in a battle of billionaires. Sheikh Jassim bin Hamad al-Thani, a Qatari banker, and Sir Jim Ratcliffe, a British chemicals magnate, are vying to buy United from the American Glazer family. Whoever wins may have to stump up £5bn (\$6bn).

A little to the east, Manchester City, owned by Abu Dhabi's royal family, scooped the Premier League title last season—and £613m in revenue, the most of any European club. Its riches are drawing scrutiny as well as envy. This month the league alleged that City had broken its financial rules dozens of times over several years. If found guilty, City could lose league points or even be expelled. (It denies the charges.) A banner at a recent match lauded a new signing: not a striker, but a high-profile lawyer.

Fifteen kilometres north, and half a world away, is Gigg Lane, where Bury played for 134 years—until in 2019 the club, unable to pay its debts, was kicked out of the English Football League (EFL), which comprises the three tiers below the Premier League. A supporters' group bought the ground from the administrator, helped by a government grant, but has no team. Another created a “phoenix” club, Bury AFC, but has no ground (home games are in nearby Radcliffe). Relations are not wholly cordial. One merger attempt has failed.

So skewed and rickety are football's finances that the government has decided the game needs an independent regulator, established by law. Its proposals, published on February 23rd, largely match those made in 2021 by Tracey Crouch, a Conservative MP and former sports minister. Ms Crouch's review was inspired by Bury's collapse and an abortive attempt by 12 rich clubs, including City, United and four others from the Premier League, to set up a breakaway European Super League for which they would be guaranteed qualification—anathema in a sport where promotion and relegation is the rule.

The regulator would oversee a new licensing system for professional clubs. The government says they will have to show that their business models and corporate governance are sound; owners and directors will face stricter tests. The sale or relo-



cation of a stadium—typically, a club's biggest asset—will require the regulator's approval and consultation with supporters. The regulator would also be able to stop clubs joining competitions such as the European breakaway.

Closer oversight may help prevent more failures, like those of Bury and Macclesfield Town, which folded in 2020, or near-misses, like those of Bolton Wanderers and Derby County (both, once upon a time, names to be reckoned with). But football's finances are likely to remain lopsided—and probably more than a little scary.

The Premier League is where the money is. Its clubs' combined revenues have soared from £200m in its first season,



1992-93, to perhaps £6bn in 2022-23, according to Deloitte, an accounting and consulting firm. Its rise has been fuelled mainly by broadcasting fees, now £3.5bn. Half of that comes from abroad, making the league a valuable cultural export.

The scariest part is in the EFL's top tier, the Championship. Because clubs there make so much less than in the Premier League, promotion to the top flight is enormously valuable: worth £170m or more over three years, estimates Deloitte. That gives teams an incentive to spend lavishly on players. Kieran Maguire, of the University of Liverpool, and Christina Philippou, of the University of Portsmouth, calculate that in every season but one from 2012-13 to 2019-20, the average wage bill in the Championship outstripped revenue. In the other, it soaked up a mere 99%.

Some cash is redistributed from the Premier League to lower levels. Nearly £1bn went to the Championship between 2019 and 2022. But much of that is in “parachute” payments that soften the descent of the three Premier League teams relegated each season. The drop is still painful. Mr Maguire and Ms Philippou report that revenues at clubs demoted between 2014-15 and 2018-19 fell by an average of 47% in the next season (see chart).

But the payments do give relegated teams a financial advantage, raising the stakes for the rest. The two leagues have been negotiating a new settlement: the EFL both wants more money from the Premier League and wants parachute payments scrapped. Whether the new regulator might eventually be called on to impose an arrangement remains to be seen.

Although Championship finances are the most hair-raising, clubs at all levels are stretched. Profits are thin or non-existent pretty much from top to bottom. Even Premier League clubs see money gush out on wages and transfers, whether they are striving to stay up or to finish in the top four and thus qualify for the UEFA Champions League, Europe's most prestigious tournament. Clubs in lower tiers depend more on match-day income, from tickets and catering, and on benevolent, competent owners. They too can find success hard to come by without spending a large slice of revenue on wages.

The wonder is that this should be the government's job to fix. Football has plenty of its own authorities already. Unlike other regulated industries—banking, say, or energy—football is not particularly big. Even after its astonishing growth, says Adam Cox, also of Portsmouth, the Premier League represents a fraction of 1% of the economy. Yet when clubs go bust, whole towns grieve—even if, as in Bury, Macclesfield and elsewhere, phoenixes rise. The game's emotional pull far exceeds its commercial weight. Truly, political football. ■

## Bagehot | Banishing Shamima Begum

*Ms Begum was made in Britain. Punish her at home*



**W**HAT STRIKES people first about Shamima Begum is her familiarity. Her part-gormless, part-affronted manner is recognisable to any parent. It is the look a teenager gives when asked why they have jumped a ticket barrier or not stacked the dishwasher. It appears on Ms Begum's face when she is asked why she ran away to join Islamic State (is).

Since leaving Britain to join the so-called caliphate as a 15-year-old in 2015, the girl from Bethnal Green in east London has burrowed her way into the British psyche. First, as the minor who joined an Islamist death cult. Then, in 2019, as an unrepentant teenager who was stripped of her British citizenship by the government. Four years on, a new Ms Begum has appeared, asking to come home from a camp in northern Syria in a lengthy BBC documentary that aired this month. The niqab is gone, replaced by a baseball cap and sunglasses that are more TikTok than terror state. On 22nd February, a court put paid to that dream: her appeal against the removal of her citizenship was struck down.

Ms Begum is being punished with an old idea that is back in fashion: banishment. In ancient Greece Socrates chose hemlock rather than endure it. In medieval Germany bells would toll while the condemned was escorted out of the city. In 18th-century France victims were paraded through Paris, and stripped and beaten at various markets, before expulsion. Banishment ceased not because people thought it was cruel but because it became impractical, says Matthew Gibney, a historian at Oxford University. Modern states could block the entry of citizens thrown out by neighbours.

Banishment returned only in the wake of the 9/11 attacks on America. Terrorism did not respect modern borders, so governments dusted off ancient tools. Britain was in the vanguard. Dormant laws that allowed naturalised citizens to be stripped of their passports were repurposed; in 2002 Labour expanded the law even to those who, like Ms Begum, were born British.

Since 2010 Britain has removed citizenship from over 200 people who were "not conducive to the public good" (by comparison, France stripped 16 people of citizenship in the same period). Predominantly, these were people who had gone to fight in the Middle East, but sometimes they were dual nationals guilty of serious crimes at home. Ms Begum is only the most famous example of a

sanction that, though still rare, has started to become routine. The language is bureaucratic. Officials speak not of banishment but denaturalisation. No bells toll. But the effect is the same.

The consequences are ugly. For starters, British citizens are no longer equal. Britain does not remove citizenship from native-born people who would thereby be made stateless, which is against international law. Only Britons with an alternative citizenship, or the potential to gain one, may face the punishment. (Although Ms Begum does not have a Bangladeshi passport, the courts argued that she was technically a Bangladeshi citizen through her parents.) Someone of Bangladeshi descent or with an Irish grandparent can have their citizenship stripped; someone of tenth-generation Norfolk stock cannot. For some citizenship is an inviolable right; for others it is a revocable privilege.

Banishment is a form of free-riding. In the 18th century Voltaire compared banishment to "throwing into our neighbour's field the stones that incommoded us in our own". Britain is usually sensitive to such allegations. A single veiled reference to free-loading by President Barack Obama in 2015 was enough to make the British government juice up defence spending. But when it comes to its home-grown Islamists, such as Ms Begum, the government is happy to let others fix the problem. Even close allies are not spared. Jack Letts, who was raised in Oxford, was accused of joining is in 2014. Because he was half-Canadian, Britain stripped him of his passport in 2019. Canada had, incidentally, repealed its own law that allowed it to banish people accused of terror offences in 2017. If you snooze, Ottawa, you lose.

Whipping away someone's citizenship is an extreme step. The authority to do so resides with the home secretary, the minister charged with keeping Britain safe. Ms Begum joined a terrorist group: she may well have done terrible things in Syria, as British securocrats say. But the initial decision was made without public scrutiny. Sajid Javid, then the home secretary, stripped Ms Begum of her passport with reference to secret evidence: "If you did know what I knew...you would have made exactly the same decision."

What most worries officials is the thought that Ms Begum could avoid jail if she faced trial in Britain. Lawyerly machinations could free someone that the British state sees as a grave threat, runs the logic. To solve this problem the Home Office has alighted on a comparatively benign version of a Stalinist mantra: "No person, no problem" becomes "no passport, no problem". But that is an unhealthy principle for any democratic society to live by. Nor does the argument really hold. Leaving threats to national security in the desert, and assuming that they will not wend their way back home in a more chaotic manner than they otherwise might, is naive. America, no bastion of civil liberties, has put pressure on Britain to keep its jihadis in its own jails rather than in poorly controlled camps.

### Where to, Begum?

Banishing Ms Begum keeps her out of the country but it does not keep her out of mind. Her supporters are media-savvy. She will probably appeal against the decision to uphold her banishment. Her tale will continue to capture attention because it cuts across the neuroses of British society, from immigration and integration to the rise of Islamist terror. But keeping her in a desert camp in Syria rather than putting her in a British jail demonstrates weakness rather than strength. Rather than punish her at home, Britain tramples its values to keep her at bay. Ms Begum was made in Britain; she is Britain's problem to fix. ■



### Germany's armed forces

## The slow shift of Mr Scholz

BERLIN

**The chancellor promised transformation, but it is happening at a glacial pace**

JUST THREE days after Russia unleashed its “special military operation” to grab Ukraine, Olaf Scholz, Germany’s freshly elected chancellor, proclaimed a moment of epochal change. The term he used in a speech to parliament on February 27th last year was *Zeitenwende*, a “turning in time”. The last such shift, known to Germans simply as *Die Wende*, was the movement of 1989–90 that reunited communist East Germany with the capitalist West.

Listeners in Germany and abroad, notably those who have long pleaded for the EU’s biggest and richest state to take its security more seriously, cheered. Not only did the dour Social Democrat, whose party has since the 1970s preached pacifying Russia, condemn its aggression and lend full support to Ukraine. Mr Scholz pledged an extra €100bn (\$107bn)—double the annual defence budget—to boost Germany’s defence, as well as to push future military spending above the goal of 2% of GDP that NATO members have promised since 2006, but mostly failed to sustain. He also vowed to end dependence on Russian energy.

One year later, where is Mr Scholz’s *Zeit-*

*wende* going? The easy answer is that while his government has met some promises, including generously aiding Ukraine and greatly boosting Germany’s energy independence, Mr Scholz’s three-party coalition has often moved unsteadily. It has flailed badly over the toughest promise, to overhaul the rusted and neglected German army. “In my view we have lost a year because almost nothing was done,” says Heinrich Brauss, a former lieutenant-general and top NATO official.

A more complicated answer is that, given Germany’s pinched geography, heavily loaded history and complex politics, the process of changing course is necessarily clumsy. Yet although this *Wende* may be taking more *Zeit* than many would like,

there are indications that sweeping changes are indeed happening. Asked to score the government on its overall *Zeitenwende* achievement, Mr Brauss at first awards a meagre three or four on a scale of ten. But on second thoughts, taking in the scale of Germany’s help to Ukraine, its energy transition, the sea-change in public attitudes towards security and the government’s current trajectory, he raises the score to five. He is delighted with the belated appointment, in January, of Boris Pistorius as defence minister. The man fits the task and is clearly engaged, enthuses the ex-general. “At least in defence, I feel like the *Zeitenwende* is now about to start.”

### Turning a supertanker

When a horde of fancy guests packed into the plush Bayerischer Hof hotel in mid-February for the 59th annual Munich Security Conference, their German hosts projected confidence and satisfaction. Mr Scholz could tick off plenty of achievements for the ballroom audience. Ukraine remains free, the NATO alliance strong. German help to Ukraine, starting with taking in over a million refugees, has been vital: its commitment of €13.3bn in combined financial and military aid ranks second only to America’s. Having on January 25th approved the supply of German-made Leopard tanks to Ukraine, the chancellor could even take a swipe at countries that had for months charged him with foot-dragging, but were now failing to deliver their own tanks.

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In truth the scrap over Leopards brought little glory to any of Ukraine's allies. A far clearer success for Germany has been its disentanglement from energy dependence on Russia. This is indeed a sharp U-turn. When Russia shut off gas supplies in midsummer last year, the talk was not just of recession but of Germany's doomed economic model. Instead, helped by a mild winter and a temporary boost to coal-burning, gas consumption fell by 20% even as the government splashed out to secure alternative supplies, and at record speed set up multiple terminals to unload liquified natural gas. As energy prices then tumbled, fears of an economic slump softened into predictions of mild dip before a return to normal in the spring.

A success less easy to quantify is Mr Scholz's deft navigation of dangerous politics. The taciturn chancellor is no great communicator. Among opinion-makers, many chafe at his penchant for consensus-building over bold action. Whether you call it plodding or plain stubborn, however, Mr Scholz's patience seems to tow opinion to where he needs it to go. Until the *Zeitenwende* speech few Germans would have consented to breaking an unspoken ban on sending weapons into war zones. By letting such notions percolate rather than forcing the pace, the chancellor has kept his public on board. Polls show that his slow decision on tanks matched a lumbering shift in opinion, leaving the opposition little room to snipe at his overall policy on the war. Though the dithering exasperated allies to the east of Germany,

where passions against Russia rage highest, it reassured some in the west who remain wary of escalating the conflict.

Delaying Germany's own military transformation cannot be so easily excused. At the end of the cold war, no country embraced the "peace dividend" with as much enthusiasm. The Bundeswehr has shrivelled from Europe's biggest land force to a shadow. In 1990 it fielded over 5,000 main battle tanks. Today it has 321. By some estimates its ammunition stock would last just two days in a real war; restoring adequate levels could cost €20bn. In December the Bundestag's defence ombudsman revealed that the army has more than 20,000 unfilled posts. She has suggested that beefing it up and filling it out would cost not €10bn, but three times that.

Before appointing the tough and capable Mr Pistorius, Mr Scholz had seemed to be as blasé about defence as his predecessors. During haggles over tanks his team failed even to start planning, meaning more delays now before the Leopards can be deployed. Despite the wallet-waving, defence spending last year did not move, and is budgeted at barely more this year. But Mr Pistorius is off to a racing start. He is already demanding an extra €10bn for defence, and wants 2% of GDP to be the minimum to be spent rather than a target. Breaking with Mr Scholz's careful mantra that Germany "will do what it takes" to support Ukraine, the new defence minister says plainly that Ukraine must win. That does sound like a *Zeitenwende*. But Mr Pistorius is not the chancellor. ■

### The war in Ukraine

## Neither shock nor awe

### Russia's vaunted second offensive is a damp squib

FOR MONTHS Ukrainian officials had warned that Russia was getting ready to launch a big new offensive. It was mustering forces "beyond the Urals", said General Valery Zaluzhny, Ukraine's army chief, in December, and could even once again target Kyiv. Russia had gathered half a million fresh troops and would "try something" around the anniversary of the war, suggested the defence minister, Oleksii Reznikov. In fact, Russia's offensive began weeks ago. It has underwhelmed.

Since late January Russia's army has been hurling troops and shellfire along wide swathes of the front lines in the east. To the north, in Luhansk province, Russia is attacking towards Kupiansk, a rail hub, and Lyman, a small city, both of which Ukraine liberated in the autumn. In the south, in Donetsk province, Russia is pressing Avdiivka and Vuhledar, which lie either side of Donetsk city. The focus of its efforts, unchanged since August, remains Bakhmut, an unassuming town that has acquired talismanic status for Russia (see Obituary).

Russia has little to show for this onslaught. Its gains this year have been trifling: 60 square kilometres around Bakhmut and the nearby town of Soledar, estimates Konrad Muzyka, an analyst. Bakhmut is likely to fall in the coming days or weeks. But Ukrainian troops will simply reset along a new defensive line to the west. And such gains will have come at a steep price. On February 17th British defence intelligence said Russian military casualties, including those for the Wagner

Group, a mercenary firm which leads the fighting in Bakhmut, had reached 175,000 to 200,000, with 40,000 to 60,000 deaths.

Russia's attack in Vuhledar epitomises the campaign. The city, in Donetsk province, sits on a high point astride key Russian supply lines running west into neighbouring Zaporizhia province. A Russian effort to seize Vuhledar in November ended in disaster. So too did the latest attempt, which began in January. Russia's 40th and 155th naval infantry brigades, a pair of elite units, are thought to have suffered enormous casualties, with over a thousand deaths in just two days, according to Ben Wallace, Britain's defence secretary.

Nor does Russia have much in reserve. Though it has mobilised over 300,000 troops since September, half were sent straight to the front to replace casualties, running to 1,000 a day killed and wounded, reckons another Western official. The rest, says Michael Kofman of CNA, an American think-tank, have probably been used to fill out under-strength battalions and build a reserve to rotate front-line units out of Ukraine. A much-rumoured new wave of mobilisation has not materialised. ■

**Internships.** We are seeking interns to write about foreign affairs for *The Economist*. The internships will be London-based and paid. Anyone is welcome to apply, regardless of citizenship or any characteristic unrelated to the job. An interest in economics is helpful but not essential. Applicants should send an unpublished article of 600 words suitable for publication in *The Economist*, a cv and a covering letter to [foreignintern@economist.com](mailto:foreignintern@economist.com). The deadline is March 31st 2023.

### Too much of a dividend

#### Defence spending, % of GDP



#### Germany, armed forces, number

■ 1990\* ■ 2022

Fighter and attack aircraft	434
	226
Main battle tanks	5,045
	321
Active personnel	469,000
	183,150

Sources: SIPRI; IISS

\*West Germany

Russia has also held back four brigades of naval infantry around Mariupol, in Donetsk province, and seven brigades of vdv airborne forces in Luhansk province, says Jack Watling of the Royal United Services Institute, another think-tank. "That's not enough to do some massive offensive that breaks through and starts carving up everything." Moreover, says Mr Kofman, although these elite units have done most of the serious fighting, their quality has deteriorated as mobilised personnel pad out their depleted ranks.

Manpower is not the only problem. Western security officials say that, come spring, Russia's rate of artillery fire will be 20% of the level it managed in late 2022—a serious handicap in what has been an artillery-dominated war. Russia's defence industry, despite being on a war footing, is struggling to keep up, say officials. Military demand for main battle tanks outstrips production by a factor of ten. Precision-guided munitions (PGMs), central to Russia's air campaign against Ukraine's power grid, are dwindling. Russia's air force used up half of its air-to-ground missiles in the first month of the war alone. This year Russia is likely to have half as many PGMS available as it expended in 2022.

Russia's army is fragmented after a year of war and increasingly resembles a militia of disparate forces, says Captain John Foreman, Britain's defence attaché in Moscow until September. Sergei Shoigu, Russia's defence minister, and General Valery Gerasimov, chief of the general staff, have reportedly feuded with Yevgeny Prigozhin, the head of Wagner, and General Sergei Surovikin, his ally, for months. On January 12th General Gerasimov was put in charge of the war army, with General Surovikin demoted to serve under him. On February 21st Mr Prigozhin accused Mr Shoigu and General Gerasimov of treason, claiming they had cut off Wagner's access to ammunition and air transport. ■



The question is whether Ukraine can exploit this disarray. One scenario is a repeat of last summer, when Russia's conquest of Severodonetsk, a town in Luhansk, came at such a high price in casualties that Ukraine was able to punch through Russia's thinned-out lines in Kharkiv two months later. If Russia expends shells and manpower in pyrrhic victories in Donetsk, that could pave the way for a Ukrainian counter-offensive in the spring or early summer—bolstered by Western armour that is on the way.

But there are other forks in the road. In December, General Zaluzhny told *The Economist* that he was holding back resources to prepare for future offensives. Mr Muzyka says that Ukraine has indeed repelled most, if not all, Russian attacks using only units that were already deployed: "We have seen no indications that the main elements of Ukrainian reserve forces have been utilised."

Mr Watling says he is optimistic about Ukraine's prospects. But he points to the risk that Russian assaults, if kept up for long enough, force Ukraine to commit these reserves merely to hold the line, which would result in a protracted conflict—one in which Russia could gradually rebuild and recapitalise its forces by turning to China and fixing its defence industrial base. Mr Putin continues to believe that time is on his side, say officials.

Even if Ukraine can keep its powder dry, it faces an ammunition crunch of its own. Moreover, some Western officials who work closely with Ukraine's army remain sceptical of its ability to conduct complex offensive operations at the level of brigade and above. Many were disappointed that Ukrainian commanders were not bolder in exploiting their successes in Kherson in November. As Russian military power approaches its nadir, Ukraine's task is to make the most of an opportunity that might not come around again. ■



### Ukraine's tech wars

## The might of miltech

KYIV AND ODESSA

**Ukraine's tech entrepreneurs turn to military matters**

ON A PROMOTIONAL video a dog-biscuit hurtles into the air and two dogs fly upwards to intercept it. Until the Russian invasion in February 2022, Yaroslav Azhnyuk ran a company that makes pet monitors which can distribute treats. Now he is helping entrepreneurs intercept cruise missiles. Ukraine's war has led to an explosion of engineering talent being diverted from the humdrum to war fighting. As a result, he says, his country is becoming "a sort of military Silicon Valley".

With friends in high places in the tech sector, business and government, Mr Azhnyuk's contribution to the war effort is connecting people. Soldiers at the front say, "Hey, we need this," and he introduces them to engineers who can try to solve their problem. "Everyone has only one goal," he says, "and that is to free Ukrainian territories and destroy the occupiers."

Hundreds of teams are now working on military technology. Many are garage start-ups but there are also companies that were founded in the wake of the first phase of the conflict in 2014, or pivoted towards defence at that point. Some of what they are producing is cutting-edge; some is well established, but export controls or cost mean that Ukraine's armed forces cannot get their hands on it. The work spans the whole gamut of what the military needs, from drones and targeting systems to cyber-defences and electronic warfare.

One of the most developed systems is called Delta and provides soldiers with real-time intelligence about the battlefield ►

► on their phones or tablets. Or there is Kroppa, mapping software that helps the user pinpoint artillery and send that information instantly to several positions which can then blast away at it simultaneously. To date, much of Ukraine's military technology is more advanced than what the Russians possess. But, say developers, the Russians are catching up fast.

In freezing wind whipping in from the Black Sea a drone lifts off on a test flight. A two-man crew directs it and identifies targets. These spotter drones use specialised new software to correct artillery and can fly in high winds, unlike many others. When his company, Spaitech, was founded in 2012, says Pavlo Hrozov, the CEO, it originally aimed to supply the civilian market. Now, says Mr Hrozov dryly, the Russians "are hunting for us". Two teams operating Spaitech drones have been killed on the front. Last year a missile struck a field where an hour before soldiers were being trained to use them.

A year ago, says Mr Hrozov, there were about ten different types of drones being made in Ukraine; now there are 68. Roboneers is one of the 2014 generation of companies which already made military drones and which is now diversifying. These days it makes dozens a month, and by the end of March production will be in the hundreds. The company also makes buggy-style unmanned land drones and tech-packed gun turrets that can be operated remotely. The turrets are like tripods with guns that can defend fixed positions or be mounted on a land drone. Their aim, says its director, who asks not to be identified, is to save Ukrainian lives and to "help soldiers understand what is going on in the battlefield", for which software is key. Some of the software is new but some replicates that which already exists elsewhere. A big difference is the cost. Their gun-turret system, for example, costs less than 10% of a similar one from Israel.

Dmytro Bielievtsov runs a company which has developed voice-cloning software for the entertainment industry; he has an Emmy award statuette in his office to prove it. One of his wartime projects is Zvook, which is already filling gaps in Ukraine's air-defence systems. Working with engineers in the 125th Brigade who built the hardware, Mr Bielievtsov and his colleagues developed algorithms that filter out unwanted sounds like cars and mooing cows to give warning of incoming cruise missiles. Lieutenant "Dancer", who is in charge of a similar military-civilian unit which is about to begin production of kamikaze drones, says he knows of about a dozen such groups.

The way in which Israel married investors, engineers and the military is "100% of the idea that we have", says Alex Bornyakov, Ukraine's deputy minister of digital

## Zoos and war

# Tigers and trenches

KYIV

**Meet the woman who is saving Ukraine's wild animals**

**A**LEX HAS gained some weight, and started walking. The bloody welts that covered his body when he arrived at Natalia Popova's shelter in January are gone. He still suffers from gastroenteritis, and his roar sounds like a chain-smoker's cough, but he will live. Alex also needs a new home. A shed on the outskirts of Kyiv, the Ukrainian capital, is no place for a white tiger.

Ukrainian troops found Alex near Vovchansk, a town they recaptured from Russian forces last year, locked in a cramped enclosure and starving. They then called Ms Popova, who hopped into her van, drove for 600km (370 miles) and brought Alex back to her stables.

Since the start of Russia's invasion, Ms Popova, a former horse-riding club owner, has rescued at least 600 wild animals, many of them once kept as pets in homes or private zoos near the front lines, and since abandoned. Ukrainian soldiers accompany her, often under fire, and help her load the animals into her van. Recently, while she was preparing to anesthetise a bear in Bakhmut, the



**Still burning bright**

bombing became so intense they ordered her to pull back. She refused. Moments later, a grenade landed metres away. "We'll die together," she remembers telling the bear. The grenade failed to explode. "Since then," she laughs, "the soldiers say I'm crazy."

Some of her rescues end up at the Kyiv Zoo, which has its own problems. Blackouts mean some of the animals have to spend much of the day in the dark. One of the elephants has learned to take cover during Russian missile attacks, says Kyrylo Trantin, the director. Other animals continue to panic. The zoo has stocked up on firewood, in case the heating stops working.

Because the zoo is short of space, and conditions at Ms Popova's compound are even worse, many of her charges are evacuated abroad. Their first destination is a zoo in western Poland, where the animals undergo rehabilitation before being sent to zoos elsewhere in Europe.

Grenades aside, Ms Popova and the group she works with, UA Animals, have to brave Ukrainian bureaucracy. Arranging the paperwork to move the rescued animals abroad can take months. Ms Popova complains of having to provide officials with information she cannot possibly have. "I don't even know who the owner of the animal is, not to mention where it's from," she says.

Such delays compound the animals' suffering. "They need to be taken to Europe as soon as possible, because it's impossible here," she says. During blackouts she relies on generators to heat the stables where she keeps her wild cats. During missile attacks near Kyiv, she has to keep them on sedatives.

Ms Popova recently managed to secure a passport for a lioness she had rescued from the outskirts of Russian-occupied Donetsk. The animal had been putting on a surprising amount of weight. A day before the evacuation, she gave birth to three healthy cubs.

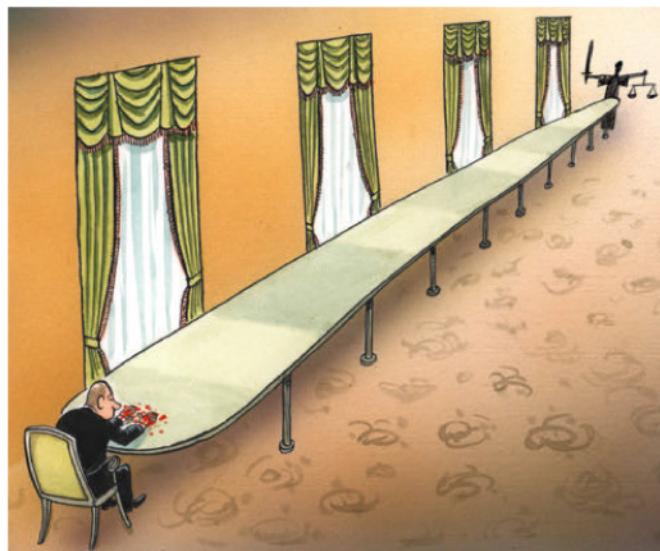
transformation. Next month he is launching a platform to bring together everyone involved, giving grants to startups, linking them with investors and giving them access to equipment owned by Ukrboronprom, the country's massive Soviet-legacy defence conglomerate.

Zvook has already found potential investors, says Mr Bielievtsov. They understand that while its aim is to protect the

country now, afterwards the company will have potential as a defence manufacturer "for the global market". The director of Roboneers says that after the war he wants to start a space company "to build something on the moon". For that he says, "you need to have systems that have already been tested" and replaced men in situations that are "very uncomfortable for human beings". Where better than the front line? ■

# Charlemagne | The not-much-justice league

Vladimir Putin will never stand trial in The Hague. Here is what could happen instead



**O**N A RECENT Monday morning Alfred Yekatom stared impassively into the courtroom as a witness described how her family survived a night of pillaging he is alleged to have orchestrated. The former Central African militia leader is facing a daunting rap sheet. Besides the murders, the torture, the raising of a child army and the ransacking of a mosque in 2013, one charge stands out: for crimes against humanity. That is why Mr Yekatom, who denies all the charges, was in the dock far from home in The Hague, the Dutch city that hosts the International Criminal Court (icc), wearing a scarf to fend off the early spring chill. Proceedings are slow. The trial is now in its third year. If a trio of blue-robed judges finds him guilty, a lengthy prison sentence awaits.

Where thugs from the Central African Republic linger, might a Russian president follow? "Vladimir Putin in The Hague" has become a rallying cry for those who want the Ukrainian war's mastermind to face a judicial response commensurate with the carnage he is causing. The case is morally overwhelming, born of the atrocities committed by Russian troops, the bombardment of civilians and the very act of invading a neighbour. All this surely deserves punishment. Volodymyr Zelensky, Ukraine's president, has made the prosecution of top Russian leaders one of his ten points for securing peace. Annalena Baerbock, Germany's foreign minister, is among those demanding that Mr Putin face justice. Foreign investigators are in Ukraine preserving evidence for a future trial.

Now for the obvious reality: Mr Putin will not soon find himself in the dock at the icc. The limited international criminal justice that currently exists simply does not apply to the leaders of nuclear-armed countries. Yet there are still possibilities for some Russian crimes to be prosecuted.

Mr Putin's effective immunity is an upshot of the frailty of the international judicial system. Whereas justice within countries has clear statutes and established tribunals, international law is determined by legal scholars as treaties are signed and norms established. Countries can opt in or out at their discretion; no global police force exists to enforce it anyway. A first obstacle for those who would like to see Mr Putin jailed is that Russia has not signed up to the icc. No matter, say some legal experts: an ad hoc tribunal could be established by the UN, as it was for Rwanda or Yugoslavia

in the 1990s following mass slaughters there. Slobodan Milosevic, the Yugoslav president, spent his last years in court and died in a Dutch detention centre. That might be just the thing for Mr Putin.

Precedent matters in international law, and none exists that might land Mr Putin in jail. There are two broad categories of charges Russian perpetrators of the war might face. One includes war crimes and crimes against humanity: when civilians are targeted during a conflict, say, or troops rape and pillage. The soldiers who commit these outrages can be tried (as some Russians already have been in Ukraine). In theory their commanders and political masters can ultimately be held accountable, too. In practice it can hardly ever be proved that they ordered such behaviour.

For that reason, Ukraine and its allies talk up the second category of charges: the crime of aggression. The act of invading a neighbouring country is one that can be placed squarely on the shoulders of politicians. But prosecuting such a crime is nigh-uncharted legal territory. In the only two instances in which it has happened—the Nuremberg and Tokyo trials that followed the second world war—the countries involved invited the prosecutions (both governments were run by America and its allies). Short of Russia being invaded or Mr Putin toppled, that will not happen.

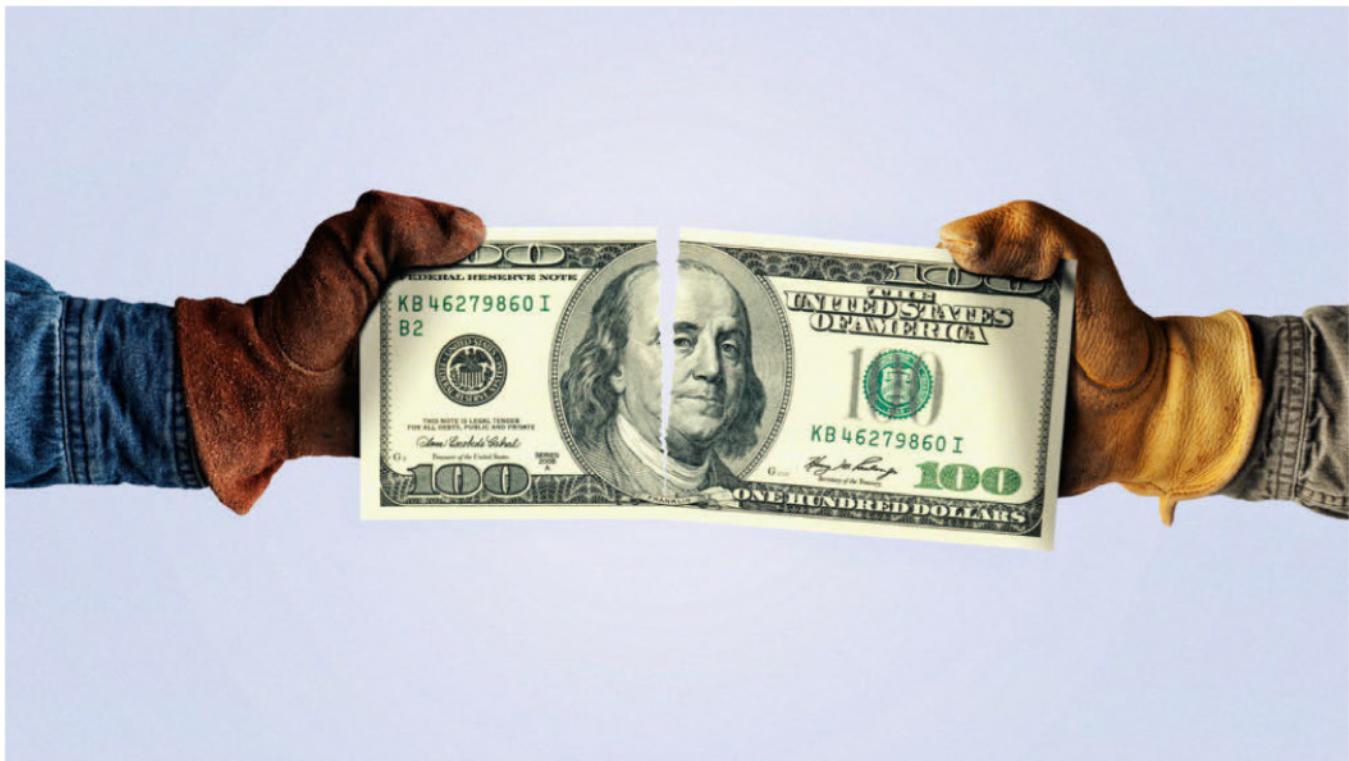
The Rwandan and ex-Yugoslav courts offer no more hope. Both were set up by the UN Security Council, which endorsed other such tribunals in places like Sierra Leone. Given Russia wields a veto there, a repeat is improbable. Some legal experts think the UN General Assembly (where each country has one vote and no veto) could call for such a court instead. But this workaround would push international law beyond its current limits. And winning such a vote is not guaranteed: lots of countries, including America, are not keen on giving international courts more power.

Two options remain, neither of them satisfying. One is to prosecute Russians via the Ukrainian legal system, perhaps in a court endorsed by foreigners and featuring international judges. This would lack the symbolic value of a trial in The Hague: only lowly Russians would be prosecuted, in what would look like retributive justice. The other would be to allow the icc to prosecute Russian war crimes and crimes against humanity—but not the crime of aggression, which is outside its current remit in the case of Russia. For that, it is enough that Ukraine recognises the authority of the Hague court, which has thus launched an investigation into Russia's actions. But few think a case against Mr Putin could be built. In any event, it generally does not try suspects in absentia.

## Objection!

Ukraine's preferred plan is for the creation of an ad hoc tribunal in The Hague, separate from the icc and able to prosecute the crime of aggression—and thus target the Kremlin. That, too, is unrealistic. Worse, it could discredit the icc in its budding quest to prosecute such cross-border aggression in future, says Olivier Corten, a professor of international law at the Université Libre de Bruxelles. Chasing battlefield war criminals at the icc, while it would eschew the big prize of nailing Mr Putin, would be no mere symbol. Any one who might fear prosecution from the icc—generals and Wagner Group types, say—will hesitate ever to leave Russia, lest they be rendered to The Hague. That would be a punishment of sorts.

Settling for such an approach need not mean letting down Ukraine. For if the international community cannot prosecute Mr Putin's crime of aggression, it must double down on making sure such crime does not pay: by giving Mr Zelensky the weapons and money he needs to defeat the invading force. ■



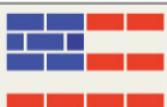
America's industrial policy

## The incentives war

SOCIAL CIRCLE, GEORGIA

**State subsidies help fuel America's EV boom but threaten to create overcapacity**

**REBUILDING  
AMERICA'S  
ECONOMY**



**A**N HOUR EAST of Atlanta, turn off the interstate highway and drive into a postcard scene of rural Georgia—a road lined by tall pines, country homes and a cluster of churches—when suddenly a vast expanse of clear-cut land appears. Big yellow trucks are flattening the earth and large transmission lines run along its edge. What makes it especially attractive for an industrial investor cannot be seen: tax breaks, direct grants and other assistance that, all in, come to \$1.5bn. When Georgia announced this incentive package last May for Rivian, a California-based startup that makes electric trucks and SUVs, it was the biggest corporate subsidy given by the state. Not for long, though. In July it promised an even bigger package, worth \$1.8bn, to Hyundai, also for an electric-vehicle (EV) facility.

Subsidies in the EV industry are popping up across America. On February 13th Michigan approved incentives of more

than \$1bn for a Ford battery factory. On February 8th Ohio's private development agency gave nearly \$240m to Honda. Last year brought \$1bn-plus deals for firms in Kansas, Michigan and North Carolina, adding to dozens of smaller dollops. Globally, concern is rife about America's rapid emergence as a competitive threat in the EV industry, thanks to the federal government's hefty investments and domestic-content rules. Within America the competition can feel even fiercer, as states battle with one another to lure investors. "But for the right incentive, the project would go elsewhere," says a spokesperson for the Georgia Department of Economic Development.

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States are not neophytes at business handouts, but the current boom is remarkable for its scale and speed. In a report last year Good Jobs First, a corporate-subsidies watchdog, tallied 51 state-level EV subsidy packages, which helped make for the biggest mega-subsidy spree in its records dating back to 1980. One state consultant estimates that, historically, incentives work out to \$5,000 per created job, but that the EV ones run to about \$30,000.

In part state governments have been emboldened by strong finances: covid-19 stimulus payments left most with chunky budget surpluses. They also have extra urgency because of the Inflation Reduction Act (IRA), the cornerstone of the Biden administration's new industrial-policy push, which will give billions of dollars in tax credits to both buyers and makers of EVs. The IRA expires in 2032, so companies have to move fast to take advantage of it. Adam Jonas, head of global auto research at Morgan Stanley, a bank, explains it with a fishing analogy: "The IRA stocks the lake full of trout. And now the states are there trying to attract the trout with chum."

Given the rush of subsidies, a looming question is how many will end up being wasted. Georgia's package for Rivian has shone a spotlight on the risks. Residents near its future plant site challenged the bonds that are needed to make the deal work, pointing to Rivian's record as a loss-making startup. "The government is basically investing in this company as a speculative investor," says John Christy, a lawyer ➤

for the opponents. The trial judge concurred and refused to validate the bonds. The government has appealed, with Rivian's plans hanging in the balance.

Yet a closer look at Georgia's package shows how states are trying to guard against waste. Tax credits are contingent on performance. In Rivian's case the firm has to meet at least 80% of its commitments to invest \$5bn and create 7,500 jobs by the end of 2028, and then stay at that threshold until 2047; if it slips, the state can claw back benefits. Tax breaks are also just one element. Nearly \$200m will go to acquiring the land, preparing it for development and building road and rail links. Another \$90m will go towards training for employees, adding to the local skills base.

Other states are designing incentives with similar structures, typically featuring a mix of site preparation, infrastructure, worker training and tax breaks. Even if the target company fails, the states still stand to reap benefits. "They'll get a return because they're investing in their people. They're investing in their land and infrastructure. And another user could quickly come along and absorb the capacity," says Eric Stavriots, a site-selection specialist with CBRE, a property broker.

Still, there is a risk that, in aggregate, national and state subsidies will result in excesses. As of November, announced plans would increase America's battery-making capacity from 55 gigawatt-hours a year in 2021 to about 900 by 2030. That would support the production of some 10m all-electric vehicles a year—more than half the cars now bought annually in America, a vast amount, especially when factoring in imports. Moreover, investments are only increasing. The implication is that America could be headed towards EV overcapacity. And given how young the technology is, plants being built now may soon be obsolete. "Even before the completion of many of these projects, you might have breakthroughs in companies that don't need government money," says Mr Jonas.

From a national perspective, that may not necessarily be a bad outcome. Before the boom began, America was facing a severe undercapacity in EVs and batteries. The prospect of reliance on China, its chief rival, for vehicles of the future alarmed officials. Far better to have manufacturing heft, even at the cost of overcapacity, in such a critical industry.

For individual states, however, the challenge will be how to avoid hangovers. In the traditional auto market America's manufacturing hubs had a solid half-century of prosperity before decline slowly set in. The EV investment cycle, like much else these days, may go much faster. Some of the states now throwing money at gleaming new projects will rue their largesse before the decade is over. ■

## Chicago's election

# Ghost of the machine

CHICAGO

### A chaotic election may unseat Mayor Lori Lightfoot in the first round

**S**TANDING ON A stage at the National Museum of Mexican Art in Pilsen, a fast-gentrifying corner of south-eastern Chicago, Jesús Chuy García, a congressman, explains why he is running for mayor, in nostalgic terms. "Chicago 40 years ago saw an opportunity to make history by undoing a barrier, by electing someone who was different," he says. In 1983, ten electoral cycles ago, Mr García was part of the movement that helped elect Harold Washington, the city's first black mayor, with a "rainbow coalition" of ethnic-minority voters and white liberals fed up with corruption. His election inspired Barack Obama to move to the city. Now Mr García says he wants to repeat the trick to become Chicago's first Latino mayor. Yet Chicago in 2023 is a very different place to what it was.

The first round of the election takes place on February 28th. Nine candidates are standing, all Democrats. Unless one wins over 50% of the vote, which nobody thinks is likely, the top two will compete in a run-off on April 4th.

The polling is inconsistent, but suggests that at most four of the nine have a credible chance. As well as Mr García, there is Paul Vallas, a former chief executive of the schools system who has the backing of the police union; Brandon Johnson, a member of the Cook County commission who is supported by the teachers' unions; and, of course, Lori Lightfoot, the incum-

bent, who after just one term is facing an especially challenging re-election campaign. Many suspect she will not even make it into the final two.

That partly reflects a difficult time for incumbent mayors generally, in the wake of the pandemic and rising crime. But it also reflects how, over the past decade or so, the Windy City's politics have become more like those of other American cities. For most of the post-war period, Chicago was a place of ruthlessness and corruption, with votes bought by means of jobs and favours. Even as patronage declined, corporate donations and enormous spending on TV ads took its place, to the benefit of incumbents. Almost every Chicago election for the past 70 years has been characterised by a fight between the "machine" and an insurgent—including the one that in 2019 brought Ms Lightfoot to power, defeating Toni Preckwinkle, the president of the Cook County commission.

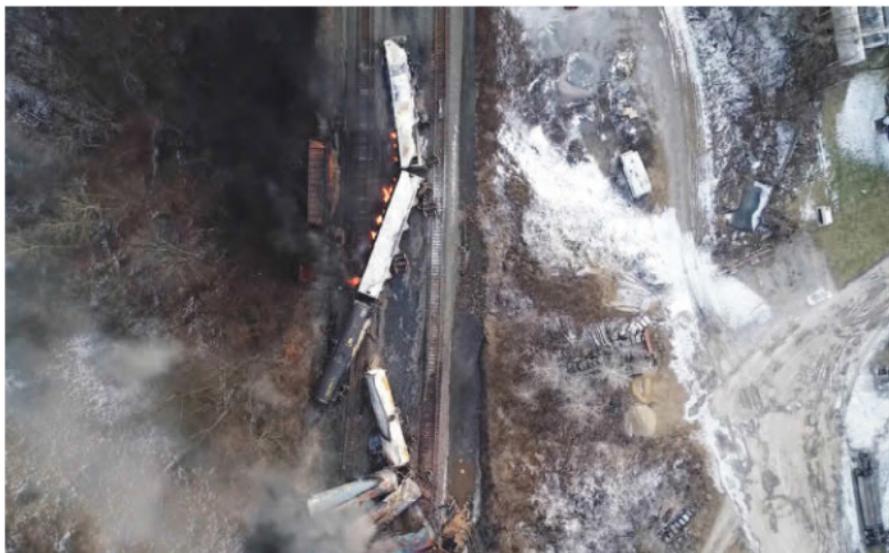
This election is different. The closest Ms Lightfoot has come to patronage politics was an ill-advised email her campaign sent to some teachers to try to recruit teenage volunteers. She has struggled even to raise much money, something presumably not helped by her abrasive style (she has a habit of being rude even to allies). Together, the nine have raised a total of around \$24m, including \$6m that a no-hoper candidate, Willie Wilson, has donated to his own campaign. Rahm Emanuel, the mayor until 2019, raised more on his own in 2015.

Instead, with no favourite and limited money, the election is a scrap. That there are six black candidates helps to explain partly why Ms Lightfoot is struggling, and why Mr García and Mr Vallas are favourites (the city's racial split is very roughly one-third black, one-third Latino and one-third white). On February 18th the mayor suggested at a rally of mostly black voters that any vote "for somebody not named Lightfoot is a vote for Chuy García or Paul Vallas". But ideological splits matter, too. Mr Johnson jokes that, in this election, "everyone seems to want to identify as a progressive." That includes Ms Lightfoot, who ran as one in 2019, but now finds herself squashed between Mr Vallas on the right and Mr García and Mr Johnson on the left.

The real question is whether any of them can break through to an exhausted electorate. Crime has dominated the debates so far, and all of the candidates back increasing the police budget. Other pressing issues, such as the city's deep pensions deficit, or its rather dysfunctional transport system, have featured less. In 1983, over three-quarters of Chicagoans turned out to vote. "What happens in Chicago will have reverberations across the country and the world," says Mr García, about this election. In 1983 that was true. This time Chicagoans may just shrug. ■



Lightfoot, staring at defeat?



### Ohio's train derailment

## The fire and the fury

EAST PALESTINE, OHIO

### Donald Trump turns a catastrophic accident into a media circus

**W**HEN YOUR correspondent arrived in East Palestine, at around ten in the morning on February 22nd, the only person on Market Street, the town's main drag, was Eric Walleck, holding a sign reading "Walleck 2024". Sheltering from the rain under a shop's awning, Mr Walleck explained that he had come from his home in Illinois to this part of eastern Ohio as part of his independent campaign to become president. "I came to talk to the citizens about the train wreck," he said. "I've got food, I've got water in my truck, and I am going to hand it out." He then admits that so far it hasn't gone very well. "You're the first person I have talked to," he says.

Later that day a rather better-known presidential candidate would appear in the town, also with plans to distribute food and water, and limited plans to speak to locals. By 1pm at least 100 people were gathered on Market Street awaiting the arrival of Donald Trump. Two stands had been set up to sell t-shirts, hoodies and flags. Dozens of journalists, YouTubers and TikTok influencers wandered up and down conducting interviews and performing pieces to camera. When Mr Trump finally arrived, just visible through the darkened tint of his suv, the crowd cheered and broke into a chant of "Let's Go Brandon", a meme that means, roughly, "Fuck Joe Biden".

The proximate cause of this circus was a calamity that happened almost three weeks earlier. On February 3rd a Norfolk Southern freight train derailed in East Pal-

estine, a town of a little less than 5,000 people on the Ohio-Pennsylvania border. Its cargo included dangerous chemicals such as vinyl chloride and butyl acrylate, both of which are used to create plastics. Apparently fearing an explosion, on February 5th Ohio state officials evacuated the town and then burned the spilled chemicals, creating an enormous black cloud over the place. A few days later residents were allowed to return. State and federal officials have declared that the local tap water is safe to drink and the air is safe to breathe. Yet few trust them.

### Turning toxic

There are plenty of legitimate questions about the long-term impact of the chemicals that leaked into the local environment, and about the safety of freight trains in America. But it is a lack of trust in government that has turned a disaster into a political farce. Within days of the disaster right-wing political pundits were busy arguing that the town was not being paid enough attention because its residents are mostly white and voted for Mr Trump. One Fox News presenter suggested that the Environmental Protection Agency was happy with "spilling toxic chemicals on poor white people in Ohio" because it was a way of "fighting environmental racism".

Many people in the town share the feeling that they are being ignored. "Anybody who voted for Donald Trump doesn't believe the government," says Traci Ketchum,

who lives just outside the town. "And here, that's 71% of the population." She says it is thrilling to see her home being discussed on Fox News, though she resents the assertion that its people are poor. Joy Mascher, who runs a florist on Market Street, says the government's response was hardly quick enough. "The federal government has not stepped up," she says. "Do we just not matter because we're in the Rust Belt? This would not have happened in somewhere like Potomac, Maryland."

Mr Trump deftly exploited this sentiment. "You are not forgotten," he told a small group of locals during his visit on February 22nd. He drew a contrast between his presence in Ohio and the whereabouts of President Joe Biden, who had been in Poland that day, after an earlier stop in Ukraine. Richard Lloyd, who lives around three miles away from where the train derailed, stood waiting for Mr Trump wearing a hazmat suit and a gas mask. "They should be giving these to everyone in this town," he said. The air is far too unsafe to breathe, he observed, before removing his mask to light a cigarette.

Will Mr Trump's visit do anything to help (not counting the McDonald's meals the former president purchased for firefighters and the bottles of water he donated)? It does seem to have kept attention on East Palestine.

Hours before Mr Trump arrived there, Pete Buttigieg, the transport secretary, announced that he would come to the town the next day. Mr Buttigieg had earlier promised that his department would hold Norfolk Southern "accountable for any safety violations found to have contributed to the disaster". The results of a preliminary investigation by the National Transportation Safety Board were also due to be published on February 23rd (after *The Economist* went to press). The Senate's environment committee has pledged to investigate, too. Mr Trump claims none of that would have happened without his promise, made at the end of the previous week, that he would visit the place.

Preventing another disaster like this will take more than Mr Trump's brio. In recent decades the safety of American trains has in fact improved. Compared with a decade ago there are half as many incidents annually involving hazardous-material spills, and roughly 20% fewer derailments.

But Ian Naish, a former safety inspector on Canadian railways, says he worries about the future. In recent years profits on the railways have soared, as firms have reduced their headcount and increased the length of trains. With railway safety, you have "got to have a continual chronic sense of unease," he says. Because even if, overall, safety is improving, the next disaster might happen somewhere more densely populated than East Palestine. ■

## Healthy living

# Land of the fat

LOMA LINDA, CALIFORNIA, AND NAPLES, FLORIDA

## Lessons in longevity from a group of Californian Christians

**A**T 96 YEARS old, Paul Damazo still works nine-hour days, six days a week. He has a recurring spot on a radio show and occasionally appears on television. He can still sport his army uniform from the second world war. For seven years until he was 94, Mr Damazo delivered meals to pensioners for Meals on Wheels. How does he stay so sprightly? Some would say it started with a message from God.

Mr Damazo is a Seventh Day Adventist, a Protestant denomination that observes the Sabbath on Saturday and hopes for the imminent second coming of Christ. In the mid-19th century one of its prophets and founders, Ellen White, had a vision. She and her brethren should eat food as it grows out of the ground, the vision said. They must also be mindful of animal products and avoid smoking and alcohol.

"Seventh Day Adventists believe God made the body as a temple to hold the soul," says Hans Diehl, a best-selling author on health and nutrition, and a lifelong Adventist. At 77, Mr Diehl is still teaching workshops on healthy living. "We believe that taking care of the body is proper. It's honouring God," he says. Devout followers eat mostly plants—vegetables, fruits, nuts, legumes and whole grains. Some eat animal products, but most do so sparingly.

By some accounts, Seventh Day Adventists are the healthiest people in America. They have lower rates of cancer, a longer life expectancy, and better physical and mental health throughout their lives. This has sparked interest among researchers.

One Seventh Day Adventist community, Loma Linda, California, has been dubbed a "Blue Zone"—an area of the world with a large share of centenarians—by two researchers, Michel Poulin and Giovanni Mario Pess, and by Dan Buettner, an author. (The other four Blue Zone areas are Okinawa in Japan, Sardinia in Italy, Nicoya in Costa Rica and Ikaria in Greece.) A study published over 20 years ago found that Adventists who follow the religion's healthy lifestyle could expect to live ten years longer than others who do not. The research also found that female Californian Adventists live four years longer than other female Californians, and men bested non-Adventists by seven years.

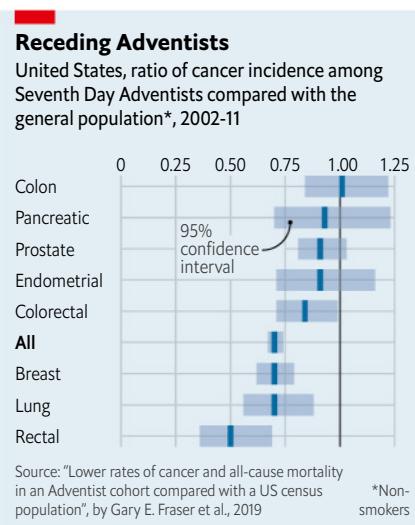
The health advantage also holds true for black members, who make up nearly one-third of the group. White people typically outlive black people in America, but black

to the study, people who regularly consume red and processed meat had an 18% higher risk of mortality in a given year. In other words, for every 118 deaths of people who regularly ate red meat, 100 people would also die that year who did not regularly eat red meat.

Adventism also discourages eating ultra-processed foods, such as white bread. People who consume these foods for half of their total calories have a 14% increase in mortality compared with those who eat such foods for a small portion of their diet. "The differences [between vegetarians and non-vegetarians] are actually quite stark, and much greater than I would have anticipated 30 or 40 years ago before we started this work," says Gary Fraser, a lead researcher for the study.

Is the God part necessary? Some might say yes. Americans certainly have not figured out how to stay slim without Him. America is the fattest country in the OECD, a club of rich countries. One in five children and 42% of adults are obese. American life expectancy has decreased by almost three years since 2019. Much of this dip is attributable to covid-19. Many Americans were vulnerable due to their weight.

"The food environment in the US is certainly much more obesogenic," says Frank Hu, a public-health researcher at Harvard University. "If you just compare the portion size of certain foods and beverages, it is much bigger in the US than in European or Asian countries." He points to other barriers—access to nutritious foods and health care, and confusing food labels. Nearly 58% of calories consumed by Americans come from ultra-processed foods, and as many as 75% of people eat red or processed meat on any given day. And richer countries tend to be fatter. Despite public-health messaging encouraging healthy



male Adventists live longer than non-Adventist white men. Women also tend to live about five years longer than men, but this gap closes to only two years among vegetarian Adventists.

Does one need to become a religious zealot to live a long life? Maybe not. Since the 1970s the federal government has given Loma Linda University, which specialises in health sciences, over \$30m for the Adventist Health Study, a survey of 96,000 Adventists in America and Canada, to understand why they live so long. According



Plenty of food for thought

► living, Americans are getting heavier.

To help Americans get healthier Mr Buettner, the writer who popularised the Blue Zones, has created the Blue Zones project, which applies principles from Blue Zones to ordinary American towns. Since 2009, over 70 communities in America have joined the programme. It has had promising results. Its first community—Albert Lea, Minnesota—had a 35% drop in smoking between 2010 and 2016. Corry, a small town in Pennsylvania, joined the project in 2019. In three years, the number of residents reporting high cholesterol decreased from 27% to 12%. A study published in the *British Medical Journal* found that the programme improved life satisfaction and optimism among residents of the Beach Cities (Hermosa Beach, Manhattan Beach and Redondo Beach) in California.

The initiative has nine principles that focus on healthy eating, movement, connection with others and having the proper outlook on life. "Wine at five gets people to take a second look," says Deb Logan, the director for the Blue Zones project in southwest Florida, referring to the principle of drinking one to two glasses of alcohol a day. (In contrast to the Seventh Day Adventists, the other four Blue Zone areas get merry on moderate amounts of alcohol.) Mr Buettner requires broad buy-in from local leaders before working with a community. Restaurants sign up to add plant-based options to their menus. Schools promise to serve healthy lunches and teach pupils about nutrition. Workplaces improve cafeteria options and remove junk-food vending machines. Pavements are widened and bike lanes constructed to encourage walking and cycling.

### Rhapsody in blue?

The Blue Zone project has faced its fair share of obstacles. Some changes made in south-west Florida were unexpectedly controversial. Roundabouts, built to slow traffic and improve street walkability, created mayhem. Things also got political with the children. One school board initially blocked the healthy-eating programme. "People thought 'Blue Zones is coming to mandate what you are putting into your lunch boxes,'" says Ms Logan, the scheme's director. A project to convert an old railway into a bike trail is currently facing opposition. Residents near the abandoned tracks are concerned that the new traffic will bring crime.

Despite such snags, the programme has delivered some impressive results. The south-west Florida Blue Zone region recently reported a fall in obesity rates; they are now almost a quarter lower than those in the rest of the state. Following the teachings of a niche Christian denomination is not the only way to live a long, healthy American life. But it does seem to work. ■



### Religious movements

## A new awakening

WILMORE, KENTUCKY

### The meaning of an outpouring of Christian ecstasy in Kentucky

**W**ILMORE, KENTUCKY, is the kind of quaint town (population 6,027) you might drive through and forget. Perhaps if you stop at the intersection of Main Street and Lexington Avenue you may notice a white Presbyterian chapel and a redbrick Baptist church on opposite corners—reminders of a bygone era when America was staunchly Christian. But over the past two weeks this sleepy town has turned into a pilgrimage site for tens of thousands of people who believe God's presence has descended on the campus of Asbury University, a private Christian school where students have been worshipping nonstop for days. They are calling it a spiritual revival.

To an outsider the scenes inside Asbury may seem perplexing. Students are crying, jumping, praying, shouting and singing. News of an unending worship service on campus went viral online. On TikTok, a social-media app, the hashtag #asburyrevival has been posted nearly 100m times. Joel Podeszwiak, an insurance salesman and a lay minister from San Diego, California, travelled to Wilmore to see it with his own eyes. "I wanted to be in a place where God is pouring his spirit," he says. An Asbury spokesperson estimates that up to 70,000 people from across America and even overseas have come to experience the numinous air inside the university's chapel.

Generation Zers—those born between 1997 and 2012—are not known for their piety. A third are non-religious and nearly

one in five are agnostic or atheist, the most of any generation. They grew up in less devout homes and start questioning their beliefs at a younger age, according to the Survey Centre on American Life, part of AEI, a think-tank. But it would be premature to conclude they are giving up on faith. The Barna Group, a research firm, reports that over half of Gen Zers aged 13-17 say they want to learn more about Jesus. Another survey, by the American Bible Society, a religious outfit, found that over 70% of Gen Zers express interest in the Bible. And the Pew Research Centre found in a poll published in 2020 that four in ten teenagers believe in God with "absolute certainty".

Kevin Brown, Asbury's president, thinks younger folk prize authenticity above all else. He says they are not asking, "What do you believe?", but "Does this work?" Research from a global study of Gen Zers by the Barna Group backs his hunch: respondents were more likely to say they wanted to see Jesus's teachings promote good than know whether they were true.

Take the revival at Asbury, which began on February 8th. The service that preceded it was "unremarkable", says Mr Brown. The volunteer preacher who spoke that night confessed he had "totally whiffed" the sermon—a sports term for missing the mark. The music is simply vocals, a piano and acoustic guitars. There is no programme, no one calling the shots—a point Asbury's spokespersons stress. The revival seems the opposite of organised religion.

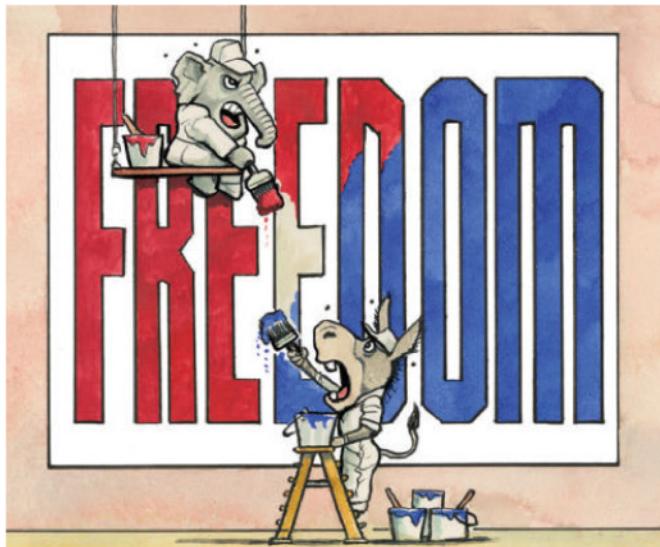
In some ways, it is also a rebuttal of religious politics. When Tucker Carlson, a popular Fox News host, requested permission to visit the campus, the university declined. What is happening on campus is purely spiritual, a university spokesperson told Mr Carlson's crew. "Jesus doesn't care about politics," says Alexandra Presta, a senior at Asbury and editor of the university's newspaper. "He just wants you no matter who you are, and he loves you no matter what political party you identify as."

Younger Christians, though conservative, seem tired of their parents' culture wars—polls suggest they rate LGBTQ issues, a hot topic among Republicans, lower than gun violence and racial justice. They have witnessed moral failures of church leaders and the rise of extremists who identify as Christians. Ryan Burge, who studies religious trends, says Gen Zers have grown wary of institutions, and reckons this is why so many are religiously unaffiliated.

After two weeks the university has decided to move services off campus. The revival, Mr Brown believes, will continue elsewhere. (Students at other colleges are reported to be trying to start revival meetings.) Some curmudgeons say this is prematurely ending a movement from God. Ms Presta disagrees: "We can't stop something we didn't start." ■

## Lexington | Not just another word

*While claiming to champion “freedom”, both parties are groping to explain what it should mean*



DEMOCRATS AND Republicans are competing over which party is the true defender of freedom in American life, but the claims of both have become muddy. What the debate really illuminates is how far the parties have drifted from decades of consensus about liberty in American economic and social life, without yet articulating where they are headed, if they know.

As evidence of their commitment to freedom, Republicans fall back on gun rights, while Democrats point to abortion rights. But their fights over how history should be taught, what words people should use and which behaviours and investments the government should demand from industry reveal rising anxiety about how Americans' use their freedoms and a new, shared willingness to inject the state into those choices.

There is no more vigorous or confusing claimant to the mantle of freedom's champion than Ron DeSantis, the Republican governor of Florida and probable presidential candidate. He calls his new budget a “Framework for Freedom”. It succeeded the “Freedom First” budget. In case anyone has missed the point, his forthcoming book is “The Courage to be Free”.

But even conservatives sympathetic to Mr DeSantis have trouble squaring his branding with an agenda that includes enhancing the state's control over local schools and substituting its judgment for that of corporations over how to serve their customers. He signed a law tightening restrictions on what materials teachers can use, prevented cruise-ship companies from requiring passengers to be vaccinated and sought new government control over Disney because he disapproved of its exercise of speech. Whatever you make of the policies, as a framework for freedom they pinch.

Gavin Newsom, the Democratic governor of California, calls his home “a true freedom state” because of its commitment to abortion rights and children's freedom to receive “gender-affirming” medical treatment. But California's severe regulatory environment makes it an awkward match for the title.

In the mixed messages of both parties, Michael Sandel, a political philosopher at Harvard University, hears not something new in American politics, but the halting return of something old. “They're both gesturing toward a larger civic purpose, but the terms of public discourse are impoverished, and have been for

some time, and so the language that they reach for doesn't readily capture the civic aspirations they are trying to articulate,” he says. “Another way of describing what they are reaching for, in their different ways, is a politics of becoming good.”

Back in 1996, Mr Sandel anticipated Donald Trump in the book “Democracy's Discontent”. Writing that Americans feared they were losing control over their lives and their communities were disintegrating, he warned of reaction “from those who would banish ambiguity, shore up borders, harden the distinction between insiders and outsiders, and promise a politics to ‘take back our culture and take back our country’”. (He recently brought out a new edition to recount what came next.)

Mr Sandel traces the vulnerability in American democracy to the rise, in the wake of the New Deal, of what he calls “the procedural republic”. Americans made peace with centralised power by embracing an idea of liberty that called for a government that maximised citizens' freedom to pursue their own ends and an economy that uncorked consumption. The government would deliver economic growth and Americans would debate how to distribute it, but politicians would stay out of questions about individuals' values or notions of the good life. In one sign of this shift the Supreme Court in 1943 blocked local governments from compelling schoolchildren to salute the flag.

This idea of the relationship of government to freedom has become such a core assumption of American politics that it seems always to have been there. Over the past 70 years, concerns about Americans' morality became the parched province of religious fundamentalists, while socialists and militiamen on the lookout for black helicopters did most of the fretting about globalisation.

Yet from the Founders through Teddy Roosevelt and Woodrow Wilson, leaders were preoccupied with how to create virtuous citizens capable of self-government. They saw that as the essence of freedom. Even Alexander Hamilton, that apostle of growth, thought the economy should serve political aims, not the reverse.

### Free to be me and me

Since Mr Trump grabbed hold of America's political framework and shook it, these ideas have begun popping out again. Whether they realise it or not, this older tradition is what leaders from Mr DeSantis to Joe Biden are often talking about when they talk about freedom. In his recent state-of-the-union address, Mr Biden stressed not just creating good jobs to honour “the dignity of work”, but making sure that to find them young people did not have to abandon their communities—the foundation, in the Founders' view, of self-government. Mr DeSantis also takes an instrumental view of growth. He favours free enterprise, he has said, but only “as a means to an end”.

The fight over how to teach American history is, at bottom, a battle over how to instil virtue. So is the fight over what words Americans should use. In delivering the Republican response to Mr Biden's state of the union, Sarah Huckabee Sanders, the governor of Arkansas, cast herself as a defender of free speech while boasting she had banned the “derogatory term LatinX in our government”. That is a risible contradiction under the definition of free speech she seemed to have in mind. Yet it points towards an older idea about the grounding of liberty.

Like Ms Huckabee Sanders, politicians of both parties are mouthing words about freedom they no longer quite mean, while gesturing at new definitions that have yet to cohere. On right and left, an old idea of American freedom is struggling to be reborn. ■



**The Mexican border**

## A new chapter in the migration crisis

MATAMOROS

**President Joe Biden needs Mexico's co-operation more than ever**

OVER THE past four decades migration flows over America's southern border with Mexico have grown to become epic in scope—and an epic headache for American politicians. On February 21st President Joe Biden's administration announced a new approach that it hopes could be transformative. The proposed policy allows the United States to immediately expel most people who cross its border illegally. It opens up a new, narrow, legal pathway for migrants: asylum-seekers will be able to try to secure an interview using a smartphone app. The policy also confirms other legal routes for some migrants in Latin America and the Caribbean.

These changes have the potential to significantly cut the volume of people entering the United States: the number of recorded attempts to cross its south-western border illegally in January, when some components of the new regime were put in place, fell to 128,410, or by 42% compared with December. But even as the United States asserts more control over its own border, the picture remains dangerously chaotic farther south, in Mexico and its

southern neighbours. That raises the possibility that while the location of the migrant crisis may shift to Mexican soil, it remains unresolved. Mr Biden's plans are being analysed by Mexican officials, who are unlikely to be impressed. They have long resisted pressure to be deemed a "safe third country", requiring asylum-seekers who pass through their territory to seek refuge there instead of the United States—something Mr Biden's proposal purports to do.

Illegal migration across America's southern border first accelerated in the 1980s, with the number of US Customs and Border Protection (CBP) "encounters" (apprehensions or expulsions) often exceeding 1m a year since then. In 2022, 2m unique individuals of all nationalities tried to cross and were apprehended or expelled (many more may have been undiscovered). The composition of people has shifted,

away from single Mexican adults looking for work, towards families from Latin America, who are far more likely to claim asylum. That involves being assessed by immigration courts in the United States that have backlogs, which makes immediate expulsion hard. In March 2020 Donald Trump's administration used a pandemic-inspired measure, known as Title 42, to seal the border. It allows migrants to be expelled on public-health grounds, either to their own country or, in some cases, to Mexico, which has agreed to accept some nationalities along with Mexicans.

The Biden administration has been working on a semi-permanent replacement for Title 42, which is due to expire this year. The proposed rules would require asylum-seekers to try to secure an appointment using a smartphone app. If they do not the rules would establish a presumption that people who enter the United States are doing so illegally and are ineligible for asylum, although in some circumstances this could be contested. At the same time the policy would confirm as permanent a new system of "humanitarian parole" in which some 30,000 people a month, from selected countries (Cuba, Haiti, Nicaragua and Venezuela), can enter the United States, providing they meet certain conditions. To be eligible, they must typically get approval before they travel to the United States, have a financial backer there, have a passport and pay for a flight.

Mexico has been pushing for more such legal routes for migrants. At the "Three

→ Also in this section

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49 Colombia's gig economy

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49 Illegal drugs in Canada

► Amigos" summit in January between Canada, Mexico and the United States, President Andrés Manuel López Obrador said, "Social problems cannot be solved only by coercion measures."

So will the new strategy work? According to the CBP, the largest drops in migrant flows have involved the nationalities facing a mix of the Title 42 regime and the parole system. A week after visas were announced for Venezuelans in October, the number encountered at the south-west border of the United States fell from an average of over 1,100 a day to under 200. By November this had fallen to 67, and by January to 28. Likewise, the numbers of Cubans, Haitians and Nicaraguans fell to 92 per day on January 21st, down from 928 on January 5th, when the parole system was extended to them. The administration is betting the new regime will make it harder for people to get into the United States. It may hope that this in turn weakens the incentives for migrants to leave their home countries.

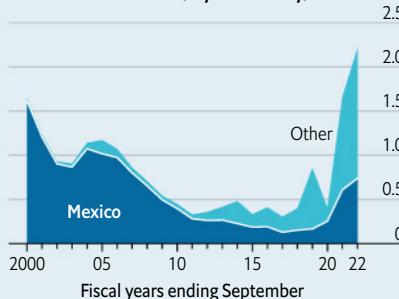
Yet looked at from a Mexican perspective, the picture is more chaotic. Mr López Obrador, a populist nationalist who has often bristled at the policies of his northern neighbour, is co-operating closely with the United States. But Mexico still has huge problems controlling migration. Its borders are porous, particularly with Guatemala, where jungles are hard to patrol.

Since 2019 Mexico has deployed the National Guard, a militarised police force, to beef up its control of the border, after the Trump administration threatened to impose sanctions if it did not do more. More recently drones have been deployed. But Mexico's migration agency has a tiny budget, of 1.8bn pesos (\$96m), compared with its American counterpart, which has \$17.5bn. A system of corruption means there is a huge vested interest in the illegal migration business. Migrants say that Mexican officials are easily bribed. Mexican gangs control many routes, particularly in the north of the country.



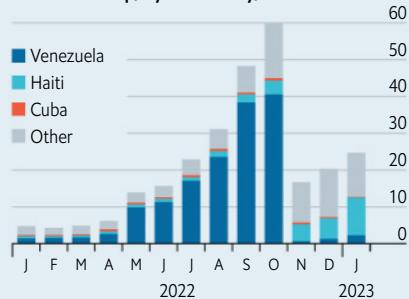
## Driven by desperation

United States, Border Patrol encounters on south-west border, by nationality, m



Sources: US Customs and Border Protection; Panama National Migration Service

Panama, migrants illegally entering through the Darién Gap, by nationality, '000



If Mexico is not capable of controlling migration, it follows that a key issue is whether the Biden administration's proposed regime will change the incentives of migrants so that the flow from the south into Mexico drops. The evidence so far is mixed. Despite the fall in illegal crossings into the United States in January, large numbers of people are still on the move.

Since October far fewer Venezuelans have attempted the journey through the Darién Gap, a treacherous stretch of jungle between Colombia and Panama. But their numbers appear to be rising again. In the first four weeks of this year nearly 25,000 people crossed the Darién Gap, more than in the first four months of last year (see chart). And despite being part of the scheme, Haitians made up the highest number of migrants crossing it in January. Some 10,222 made the journey that month.

Many others are coming from countries which are not eligible for Mr Biden's scheme. According to data collected by the authorities in Panama, the nationalities of those traversing the Darién Gap are manifold. The second-highest number of migrants in January were Ecuadoreans, at 6,352. Even 913 Chinese people and 562 Indians tried their luck that month.

Confusion is rife at the us border. Migrants of the four nationalities in the visa scheme who are in Mexico are eligible to apply if they arrived in the country before the programme opened to them. "We now have the hope they will let us cross," says Carolina Rivas, a 46-year-old Venezuelan waiting at the border. But if potential asylum-seekers are kept waiting for too long, they may resort to illegal routes again.

Meanwhile, although 30,000 visas a month is generous, it is small by comparison with the number of people on the move. Around 6m Venezuelan migrants currently live in Latin America. The result of Mr Biden's new approach may be that Mexico becomes the home of migrants who have left their country but cannot get into the United States. That is likely to fos-

ter discontent. Mexico's officials grumble that its policy is a reaction to that of its northern neighbour. It is rarely consistent. "The constant and unpredictable changes are a huge challenge for us," sighs one.

Mr Biden's plans have encountered resistance in the United States, both on the left and the right. Humanitarian groups argue that the most vulnerable migrants are the least likely to get in under this new scheme, and are planning to sue. Some would-be asylum-seekers face basic barriers, such as not having a financial backer, or a phone for the app the CBP requires people use to apply for the visa.

However, Mr Biden's proposal, which will also now be put to a 30-day public review, does allow asylum-seekers to rebut deportation if they have an "acute medical emergency", or are in immediate danger. Nor would unaccompanied children be sent back. Judged by the numbers crossing America's southern border now, the migration problem is being tackled. Judging by the huge numbers on the move, many of them vulnerable, it is far from solved. ■



Through hell and high water

## Colombia

## Not delivering the goods

BOGOTÁ

**President Gustavo Petro tries to smother the gig economy**

ON FEBRUARY 22ND fleets of taxi drivers went on strike and tried to block roads in over two dozen cities in Colombia. Their beef was with Gustavo Petro, the country's recently elected left-wing president. They cheered when Mr Petro's administration said that it was going to regulate transport apps, such as Didi and Uber, which are illegal in the country. But his government's proposals, which were leaked in January, created uproar among ordinary Colombians: one draft suggested they would have fined users 10m pesos (\$2,000) and blocked the apps. After hundreds of gig workers took to the streets in January Mr Petro put his plans on hold. On the evening of February 22nd the transport minister met striking taxi-drivers; they will now hash out a plan. The furore offers a hint of the political chaos that could become a feature of Mr Petro's time in office.

Mr Petro has given himself a difficult task. The gig economy is thriving in Latin America, and particularly in Colombia. Rappi, the country's first tech unicorn, was valued at \$5bn in 2022 and is used across the region. It is not illegal in Colombia, but exists in a regulatory void, as it is not considered a formal employer. Around 40,000 Rappi couriers work in the country. Another 150,000 gig workers toil for competitors such as Uber, iFood and Cabify.

Most of these gig workers are Venezuelan migrants, of which there are around 2.5m in Colombia. The apps provide them with a lifeline in the form of a daily income. But it is precarious. "There are days that are really bad," says Robert Romero, a Venezuelan Rappi driver. His journey will involve winding his bike through Bogotá's awful traffic, trying to avoid a deadly crash.

Mr Petro's concern is that the gig economy apps do not offer minimum wages, health insurance or pensions for workers. He thinks that their contracts create a "lying labour relationship". His government wants to enshrine formal labour protections for gig workers into law, and is introducing a labour reform this year. Big tech is also an easy target for the new left-wing administration to rail against. "It shouldn't be possible to accumulate wealth on the one hand and labour hazards on the other hand," says Edwin Palma, the vice-minister of labour relations.

Mr Petro also wants foreign tech companies to pay more in taxes. In November Congress approved the government's new



On the road, for now

tax reform, one aim of which is to capitalise on the country's growing digitisation. It includes a digital-services tax of 3% of gross revenue and stricter enforcement of a value-added tax on foreign digital services. It will automatically consider any company with more than 300,000 Colombian users as subject to taxation. José Antonio Ocampo, the finance minister, mentioned Uber, Spotify and Netflix when he announced the proposal last year.

This approach is a departure from the laissez-faire techno-utopianism of previous governments. Iván Duque, Mr Petro's predecessor, championed what he called the "orange economy" of startups (referring to Rappi's distinctive colour) and creative entrepreneurship. Mr Duque even sometimes donned a Rappi-moustached hat. By contrast, today members of Unidapp, Colombia's largest digital-platform workers' union, now regularly appear at consultations with the ministry of labour. "The [previous] government never bothered to listen to our needs," says Luz Myriam, Unidapp's president. "But we are confident [this] government is a new beginning that will carry out our demands."

Critics fear that these reforms could backfire. A heavier tax burden could stifle innovation and discourage future startups. "This [tax] reform will increase unemployment, inflation and poverty," says Miguel Uribe, a senator from the conservative opposition. Higher labour costs mean pricier and slower deliveries for delivery-app customers. It could also mean fewer jobs. In Colombia, most gig workers were previously unemployed or involved in other informal activities, according to a survey from Fedesarrollo, a think-tank. "The choice isn't between formalisation and informalisation," thinks Cristina Fernandez of Fedesarrollo, "but instead between an informal delivery job or no job at all." ■

## Canada

## A small, necessary step

VANCOUVER

**British Columbia decriminalises drugs**

ILLEGAL DRUGS are common in Downtown Eastside, a poor neighbourhood of Vancouver, the biggest city in British Columbia. Users regularly shoot up on the street. Overdoses are common. In 2016 British Columbia declared a public-health emergency after the number of people dying from illicit drugs more than doubled between 2009 and 2015, to 474. That figure has only kept rising. Last year, at least 2,272 British Columbians died from drugs.

Campaigners hope that this year could see a dip in those deaths. On January 31st British Columbia became the first province in Canada to decriminalise certain illegal drugs. Anyone aged 18 and older can now legally possess a combined 2.5 grams of illicit substances, including cocaine, opioids such as heroin, methamphetamine and ecstasy (or MDMA). Owners will no longer be arrested, charged or have their drugs seized. Police will hand out leaflets with treatment suggestions instead.

Originally the provincial government had requested a threshold of 4.5 grams. But that amount was not supported by law-enforcement agencies, the local police and the Royal Canadian Mounted Police. Importing, selling or giving away drugs remains illegal. Canada's armed forces are still not allowed to possess drugs.

Carolyn Bennett, the federal minister of mental health and addictions, called it a "monumental shift in drug policy". In 2019 Justin Trudeau, the Liberal prime minister, had twice rejected calls by Kennedy Stewart, then mayor of Vancouver, for the exemption from federal law. Opinions began to shift during the pandemic, says Mr Stewart. Overdose numbers increased. And the state of Oregon in the United States decriminalised almost all drugs in 2020.

Not all are convinced. "This is a very small step," says Leslie McBain, whose son Jordan died of an opioid overdose in 2014. "It's not going to stop the deaths." Sarah Blyth of the Overdose Prevention Society, an advocacy group, would like it to be accompanied by a safer supply of drugs. Others want more radical change: for drugs to be legalised, rather than decriminalised. Canada created a regulated legal cannabis market in 2018. Eris Nyx, co-founder of a "compassion club" which sells illegal drugs after they have been tested in a lab, thinks: "[If] they can do it with one drug, why can't we do it for heroin, or cocaine, or methamphetamine?" ■



**South Africa**

## Not so neutral

JOHANNESBURG

**Under the ANC the country is drifting into the Sino-Russian orbit**

SOUTH AFRICA's navy, like much of the country, is dilapidated. Its fleet spends less than half the time on the seas that it did a decade ago. It has few working ships, a result of budget cuts by the ruling African National Congress (ANC). So it makes sense that the country would welcome better fleets that might teach it a thing or two.

But the hosting of Russian and Chinese navies for exercises from February 17th-27th is not just a chance for sailors to salute each other. Coinciding with the one-year anniversary of Russia's invasion of Ukraine, the operations underline how the ANC government, despite claiming to be neutral over the conflict, is drifting into the Sino-Russian orbit, partly by choice. The West's resulting frustrations with South Africa show that mid-ranking countries claiming to be "non-aligned" today are often performing a tricky balancing act.

The ANC has long had a soft spot for Russia. Party stalwarts such as Naledi Pan-

dor, South Africa's foreign minister, are fond of telling Western diplomats how the Soviet Union supported the anti-apartheid struggle. (Ukraine, also once part of the Soviet Union, never receives much thanks.) When Ms Pandor met Josep Borrell, the EU foreign-policy chief, in late January, she said that the West had no lessons to offer South Africa because the West never gave weapons to those fighting for freedom from white rule, according to two people with knowledge of the meeting. Russia also matters for pragmatic reasons; China even more so. In 2010 South Africa became

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the s in the BRICS, a group of big emerging markets. Membership matters to South Africa, by far the smallest economy in the bloc, because it gives it a seat at a table with powerful countries.

For most of the 21st century the West has been understanding of South Africa's desire to have it both ways. Guilt over their initial acquiescence to apartheid tempered rich countries' criticism of the ANC. South Africa was the gateway to the rest of the continent. As long as it was open to trade, investment and tourists from America and Europe, the ANC was given a pass. Western countries still represent four of the five top destinations for South African exports. They also account for most of the country's foreign direct investment and international holdings of South African assets.

But the war in Ukraine has drawn attention to South Africa's ostensible non-alignment. Last March it was one of 26 of Africa's 54 countries that failed to condemn Russia's invasion at the UN General Assembly. That irked but did not surprise Western diplomats. On average South Africa echoed only 23% of America's votes annually between 2017 and 2021, according to analysis by *The Economist*. That was ten percentage points lower than the average for all countries—almost as divergent as nations such as Cuba and Zimbabwe. South Africa was among the minority of UN members that ➤

► did not condemn Russia's invasion of Crimea in 2014. Public opinion is different: most South Africans seem to disapprove of Russia's actions in Ukraine.

South Africa's abstention in October 2022, on whether to condemn Russia's annexation of Ukrainian territory, caused greater frustration in the West. A month earlier Cyril Ramaphosa had become the first head of state to receive a private tour of the White House from Joe Biden—a sign of America's efforts to woo South Africa. Weeks later Mr Ramaphosa would become the first to conduct a state visit to Britain under King Charles III. Western diplomats say they consulted the South Africans on the text of the UN resolution but ultimately Mr Ramaphosa overruled his diplomats and abstained. (His spokesperson declined to comment.) Charm offensives appear to be no match for real Russian ones.

### Choppier waters

Mr Ramaphosa was given the benefit of the doubt. He had an internal ANC election to win in December, and needed to keep pro-Russian party members happy. But then in November a superyacht owned by a sanctioned Russian businessman was reported to be heading to Cape Town (in the end it opted for the Maldives). More disturbingly, later that month, a Russian merchant ship subject to US sanctions for its alleged role in carrying materiel was spotted in South African waters. The ship, known as *Lady R*, turned its tracking device off before docking at a naval base in early December. Eye-witnesses reported cargo being offloaded under the cover of darkness. Diplomatic sources worry that further materiel may have been put on the ship afterwards. Thandi Modise, the defence minister, has not given a full account of events, saying only that the ship was bringing an order of ammunition placed before the pandemic. "We remain unsatisfied," says a Western diplomat. (A spokesperson for Ms Modise did not respond to requests for comment.)

Then, in January, came the visit of Sergei Lavrov. Alongside her Russian counterpart, Ms Pandor said that calling for Russia's withdrawal from Ukraine would be "simplistic and infantile" given the "massive transfer of arms" that the West had given Kyiv. She also said the BRICS bloc should be part of "a redesigned global order"—to Russian and Chinese delight.

Now there are the naval exercises. South Africa hosted Russia and China in 2019 to less outcry. It co-operates with Western navies, including France's, and regularly welcomes Western politicians. But hosting a Russian ship emblazoned with the pro-war "Z" logo at a time when Vladimir Putin's troops are slaughtering Ukrainians on the battlefield marks a shift.

The government's actions are drawing attention to the links between individual

### Nigeria's scorpion trade

## Bite me

ABUJA

**While politicians prick each other, a scorpion-breeder offers herbal remedies**

LOOKING AT THE middle-aged man in a grey robe ruffled by the breeze, one hand raised in greeting, you would never guess what is in the old black shopping bag dangling from his other hand. Ambling across the courtyard of the grandest mosque in Nigeria's capital, Abuja, he stops to greet a group of men who are sitting on benches under a tree. Their response is familiar and warm. He reaches into his bag, brings out a small box and coaxes a black scorpion into the daylight, perching it on his hand. The men are fearful and fascinated, but keep their distance.

They know the bagman as Usman Maikunama, the self-proclaimed Scorpion King of Gwoza, a town in the far north-east of Nigeria, where the murderous jihadists of Boko Haram once held sway. His surname means scorpion-owner in Hausa, the main language of the Muslim north. "That's what everyone calls me," he says. "That black one has enough poison to kill a man," he declares, putting a scorpion back in its bag, where it nestles with a host of others.

Evidently he has no fear of the arachnids. He feeds them liver and cow dung "to boost their poison". He has spent his entire life, gloveless, among scorpions. His father bred them. He has brought up his children among them, too.

His grandfather taught him how to handle and care for them, not as pets but as a source of income. "Under the rocks, in the forest, anywhere I find a scorpion I take it," he says. His grandfather also taught him how to make herbal remedies from tree bark and roots. He would sell the scorpions—along with their antidote. He would make potions to fend off a variety of afflictions, including the ef-

fects of sorcery. Mr Maikunama offers other services, such as smoking out snakes from people's houses. He has taught the secrets of his trade to his sons.

His prices vary according to the status and needs of his customers. "I don't sell them without selling the inoculations," he says. "When I give you the medicine, you can even put the scorpion in your mouth and it won't harm you."

The scorpion man has plied his trade all over the region—in Benin, Burkina Faso, Chad, Ghana, the Ivory Coast, even as far as Ethiopia and Sudan. But these days he stays closer to home, limiting his trips to Abuja, where he has found useful patrons such as the Guards Brigade, the unit responsible for protecting Nigeria's president and much of the capital. Its insignia is a black scorpion. Some officers, he proudly reveals, now keep the biting creatures as mascots and pets.



**By the pricking of my thumbs**

ANC politicians and Russia. In 2021 David Mabuza, the deputy president, spent more than a month in Russia for a "scheduled medical consultation". Ms Modise, a rare female guerrilla for the ANC's armed wing during the struggle, attended a security summit in Moscow in August with defence ministers from 34 other countries. Western diplomats see engaging with her as a lost cause. There are echoes, notes one, of Russia's *modus operandi* in more fragile African countries, such as Mali and the Central African Republic, where the Wagner Group of mercenaries is propping up regimes. Russia cannot match the West's economic importance to South Africa, but

it can try to pick off pliant elites, especially those with anti-Western sympathies.

The West is still figuring out how to respond to the ANC's pro-Russian moves. Some officials worry that speaking out or issuing threats will push ANC politicians further eastward. Diplomats note that in South Africa, what can seem like conspiracy is often cock-up. Ministries are siloed; the foreign ministry was unaware of the arrival of *Lady R*. But officials on the ground all agree that defending a softly-softly approach to the ANC government to their respective capitals is becoming harder.

Some in the West favour a tougher line. American senators are privately asking ►

▶ why South Africa should have preferential trade terms with the United States, as it does through the African Growth and Opportunity Act, when it is de facto supporting a wartime enemy. Some American officials want their law-enforcement and intelligence agencies to take a closer look at Russia's links to corrupt South African elites. Western governments are pondering whether to warn Mr Ramaphosa about the consequences should he attend a Russia-Africa summit due later this year.

The tragedy is that South Africa needs all the help it can get. It is not the singular sub-Saharan African power it was in the 2000s. Nor has it gone unnoticed that the country is falling apart. There are rolling blackouts and the taps are regularly dry: when Janet Yellen, America's treasury secretary, visited last month water tanks had to be delivered to where she was staying because the water was off. Organised crime is rampant. Yet just when it should be drawing closer to its main sources of trade and investment, it is veering away. To friends in the West, South Africa's pretensions to global importance look increasingly ridiculous. Its sympathy for Russia only makes it more so. ■

#### Digital Africa

## Workers of the world

BUNGOMA

**Young Africans are logging in and clocking on**

**H**IS HOME is Bungoma, a small town in western Kenya, but his workplace is the world. Kevin, who asks that his real name be withheld to protect his credibility, has written about casinos in China without ever going there. He has reviewed weight-lifters' barbells, headphones and home-security systems he has never seen.

Africa's digital workers are rewiring the old geographies of labour. Freelances on online platforms can reach clients around the world, harnessing skills from blogging to web design. Others are hired by outsourcing companies, sifting data used to train chatbots and self-driving cars. Optimists hope that online work can set Africa on the path of services-led growth trodden by countries such as India and the Philippines. Pessimists worry such work will entrench injustices.

Some are drawn to the work by the flexibility and pay; others because they cannot find a conventional job. There are evangelists for freelancing. Baraka Mafole, a student in Tanzania, organises training events and has written a book in Swahili about navigating online platforms. "Now



**She has nothing to lose but her blockchains**

everyone is speaking about digital jobs," he says. In Kenya the government's Ajira programme runs support centres that aim to link a million Kenyans to online platforms and make the country a "digital hub".

Typical tasks include transcription, data entry, online marketing, or even writing essays for indolent students. Joan Wandera is a Nairobi office worker by day, and by night a "virtual assistant" for American businesses. "It helps you learn a lot about other countries," she says. Sometimes it is potential clients who have learning to do. Some clients assume Africans cannot speak English, she sighs.

Freelances, like the wider outsourcing industry, "are fighting against a reputation of Africa as somewhere where you would not expect digital work to take place," says Mohammad Amir Anwar of the University of Edinburgh, who co-wrote a book about Africa's digital workforce. Some African freelances use virtual private networks and fake names to pretend they are somewhere else. Power cuts and competition for gigs from cheaper workers in Asia and beyond create other challenges.

The available data suggest that it will take time for Africa to become a continent of digital freelances. In 2019 Mr Anwar and colleagues estimated that there were 120,000 African workers on Upwork, the continent's most popular platform—fewer than in the Philippines. Most did not seem to be making any money.

Outsourcing practices have also sparked ethical questions. At a Facebook content-moderation centre in Kenya, run by Sama, an outsourcing firm, workers told *Time* magazine that they were mistreated and misled about the nature of their work. A former employee has taken both companies to court, accusing them of union-busting, forced labour and human-trafficking. Sama discontinued its services for Facebook this year. Meta, Facebook's parent company, says it takes seriously its re-

sponsibilities to its content moderators.

Technological change ricochets in unpredictable directions. ChatGPT, a new AI tool, was trained with the help of Kenyan workers, who flagged up tens of thousands of passages of obscene and violent text. Could it one day make freelances such as Kevin redundant? ■

#### Saudi foreign policy

## Cutting your losses

DUBAI

**In Syria and Yemen, Saudi Arabia decides to give up**

**D**IPLOMATS RARELY admit failure, but that is precisely what the Saudi foreign minister did on February 18th at the Munich Security Conference, an annual security gabfest. The kingdom has sought to keep Bashar al-Assad, Syria's blood-soaked dictator, a pariah. Asked about rumours that his country may change course, though, Prince Faisal bin Farhan hinted that Mr Assad's isolation was nearing an end. "There is a consensus growing that the status quo is not workable," he said.

Over the past decade, Saudi Arabia has spent tens of billions of dollars working to overthrow two unfriendly regimes: Mr Assad's, and that of the Houthis, a Shia rebel group that controls much of Yemen. In the coming months it will probably admit that both efforts have failed. This is not because the Saudis have developed an affinity for their foes. Rather it is another sign of how the kingdom, like some of its Gulf neighbours, increasingly sees the rest of the Arab world as a tiresome nuisance.

The Saudis were early supporters of the uprising against Mr Assad. They began sending arms and money to Syrian rebels ►

▶ in 2012. The insurgency, of course, would go on to end in defeat: light arms from the Gulf and the West could not match a larger investment by Iran and, later, Russia. But even after Mr Assad's Pyrrhic victory, the Saudis (along with Qatar) refused to restore ties with him, or to allow him to resume his place at the Arab League, from which Syria was suspended in 2011.

They are no longer so adamant. Prince Faisal said in Munich what other Gulf diplomats say in private: there is no longer any clear route to remove Mr Assad. "We all have policies, but we don't have any strategy to implement that policy," he said. "There is no pathway towards achieving the maximalist goals that we all have."

Diplomats think the kingdom could announce a rapprochement with Syria at the next Arab League summit, which is usually held in March (and this year will be hosted by the Saudis). A foreign-ministry official says it would have conditions attached. Mr Assad, for example, would be expected to distance himself from his Iranian patrons, something he might agree to in principle, but not in practice.

Warming to Mr Assad would be much less of an about-face than the one that may be looming over Yemen. The country has been in turmoil since the uprising in 2011 against Ali Abdullah Saleh, its longtime dictator. His replacement, Abd Rabbo Mansour Hadi, was an empty suit who proved incapable of holding the country together. That left a vacuum, eagerly filled by the Houthis, who had fought an on-and-off insurgency since the 1990s.

In late 2014 they marched on the capital, Sana'a, and then Hodeida, the main port on the Red Sea. By March 2015 they had reached the southern city of Aden. Mr Hadi fled on a boat. That drove the Saudis to intervene at the head of an Arab coalition. Operation Decisive Storm, as it was called, has dragged on for eight indecisive years and plunged Yemen into humanitarian crisis. An estimated 19m Yemenis need food aid to survive; three-quarters of the people live below the poverty line.

It has been costly for the Saudis, too. There are no official figures, but the kingdom has spent tens of billions of dollars on the war. Some put the tab as high as \$1bn a week in periods of the heaviest fighting.

The Saudis are negotiating a deal that would allow them to withdraw. It would not remove the Houthis from power, nor end Yemen's messy internal civil war. But it would give them assurances that the Houthis will stop lobbing drones and missiles across the border into Saudi Arabia. "It gives the Houthis more than they could have imagined," says one frustrated Yemeni observer. It could be signed in the coming months—perhaps in the holy city of Mecca around the Ramadan holiday, which starts this year in late March.

## Iran's royal claimant

# Could his kingdom come?

The last shah's son ponders a return

**H**IS FATHER called himself Shahanshah (King of Kings), Aryamehr (Light of the Aryans) and Sovereign of the Order of the Lion and Sun. When the shah died in 1980, a year after being toppled by Ayatollah Ruhollah Khomeini, his son, a student aged 20, proclaimed himself king with similar grandeur. "I'll leave it up to you to call me whatever you want," Reza Pahlavi says nowadays, modestly.

It is for the Iranian people to decide whether the peacock throne should have a new royal incumbent, he says. If they were to opt for a secular democratic republic, he would consider it his duty to back it. He merely hopes to help steer his people peacefully out of the current rotten religious dictatorship.

A posse of leading lights in the protest movement that erupted in Iran last September have pledged allegiance to him.



Shah la la

So has Ali Karimi, a footballer with 15m followers on Instagram. Opposition satellite channels beam interviews into Iran from the royal base in Washington, DC. On February 18th he took the podium at an annual gathering of global leaders in Munich to discuss world security. It was, he said, "incredibly empowering". Despite his 44-year-long absence, one recent poll suggested he could be the people's favourite, if they had a choice. "He's our new Cyrus," says a young fan in Tehran, the capital, referring to the Persian emperor of 2,500 years ago.

Since the shah was overthrown two generations of Iranians have been raised on stories of the horrors of SAVAK, his vicious secret police, and the one-party state they oversaw. But SAVAK's brutality pales in comparison with the ayatollahs', say some of today's protesters. Widespread poverty, rigid social restrictions and the country's pariah status all foster the yearning of many for the past. "We wronged him when we expelled him," says one student. "We must repay the debt to his son."

All the same, Mr Pahlavi will find it hard to oust the clerical order remotely. His network within the country is limited. His own dedication has been questioned. During a previous wave of riots against the ayatollahs in 2019, when protesters chanted his name, he apparently remained aloof, on a scuba-diving holiday in the Caribbean.

"There's a huge demand for the monarchy," says a former aide to the would-be shah. "If he was up to the job, the Islamic Republic wouldn't have lasted 43 years." That may be harsh but realistic. The peacock throne may remain unoccupied for a while yet.

Ask Gulf diplomats about their foreign-policy priorities for the coming years, and they tend to offer high-minded lists that would not sound out of place at a Scandinavian embassy: economic ties with developing countries, bigger foreign-aid programmes, joining efforts to fight climate change. When they talk about their Arab neighbours—and they often prefer not to—they describe the region as a burden.

Frustrated with Lebanon's endemic corruption, the Saudis have cut funds to their traditional clients. They are reluctant to pour more money into Egypt, which is now struggling through its second economic crash since 2016: it seems a bottomless pit

of need. They may offer a fillip to Tunisia, which is mired in its own debt crisis—but only because the price tag (perhaps \$1bn or so) is, relatively speaking, not that big.

Restoring ties with Mr Assad does not mean the Saudis would pour money into rebuilding his ruined country. Nor does ending their war in Yemen mean they will do much to fund reconstruction efforts, which the World Bank estimates will need \$25bn. Taking a page from former President Donald Trump, many Saudis, including officials, call this an era of "Saudi first", a time to spend money at home and cut back on foreign entanglements—especially the failed ones. ■



### Asian security

## The indispensable archipelago

MANILA, TOKYO AND WASHINGTON, DC

**The Philippines' proximity to Taiwan has made it central to Western strategy**

**A**MONG THE ways in which great-power competition is reordering Asian geopolitics, a new Western focus on the Philippines stands out. The archipelago country of 115m people is not rich, spends little on defence and was until last year led by an anti-American populist. Yet Rodrigo Duterte's successor, President Ferdinand "BongBong" Marcos, has returned the Philippines to its usual pro-Western posture. And with Taiwan on its doorstep, its location and long-standing ties to America have made the country central to Western strategy. As sparring between China and America grows nastier, officials in Washington say the Philippines has become as prominent in their security debates as any Asian country save China itself.

In February, during a second visit to Manila by America's secretary of defence, Lloyd Austin, the Philippines announced a deal to allow American forces use of four,

currently unspecified, military bases. Building on a previous agreement, the Enhanced Defence Co-operation Agreement (EDCA) of 2014, this gives America access to nine Philippine bases in all. The country's two biggest bases, Clark and Subic Bay, are not expected to be among them. Yet, significantly, the new pact will probably include two coastal bases in the northern province of Cagayan, less than 400km (250 miles) from the coast of Taiwan.

That makes them the closest possible launch-pad to the disputed island for American and allied forces, apart from one

or two far-flung Japanese island bases, which would be harder to defend and supply. "New EDCA locations will allow our forces to respond rapidly to shared challenges in the Philippines as well as across the Indo-Pacific region," says a Pentagon official. Other American allies are also investing in their relations with the country, including especially Japan, which sent two fighter jets to it for joint exercises late last year. It was the first time Japanese military planes had landed in the Philippines since the second world war.

America has dense ties with its former colony, underpinned by its large Filipino diaspora and elements of common culture. Filipinos are solidly pro-American. Even under Donald Trump, whom they strongly disliked, around 80% had a positive view of the superpower. America's promise of protection, under the terms of a mutual-defence treaty the two countries signed in 1951, is also popular. In 2019 America ended decades of strategic ambiguity by confirming it would come to the Philippines' aid if its vessels were attacked. On the day the enlarged basing deal was announced, America said it would restart joint patrols with its ally in the South China Sea.

The two countries have co-operated on security sporadically. The Philippines acted as an American logistical rearbase dur-

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ing the war in Vietnam and hosted American troops during the cold war. Subic Bay was at one time the biggest American military base outside America. In the early 1990s, a surge in Philippine nationalist sentiment led to America's forces being banished from it and Clark base (named after an early American aviator, Harold M. Clark). Yet, a decade later, the 9/11 terrorist attacks ushered in a fresh burst of co-operation. Up to 1,300 American troops joined the fight against Islamist separatists in the southern Philippines. By reinvigorating military ties between the two countries, Operation Enduring Freedom - Philippines, as the effort was called, was one of the more useful bits of the war on terror.

Mr Trump and Mr Duterte, who viewed China as a more reliable and lucrative partner, jeopardised that progress. In 2020 Mr Duterte threatened to end the two countries' Visiting Forces Agreement, which permits American troops in the Philippines. Mr Trump welcomed this as an opportunity to "save a lot of money". Yet Mr Duterte's threat, later abandoned, proved to be a "crystallising moment" for the defence and foreign-policy establishments in Washington and Manila, says Gregory Poling of the Centre for Strategic and International Studies, a think-tank in Washington. They considered the relationship to be both important and undervalued. Mr Marcos, the son and namesake of a former dictator and American proxy (who fled to Hawaii after he was ousted in 1986), has turned out to be unexpectedly supportive of that view.

Despite sharing Mr Duterte's desire for closer economic relations with China, he has proved a far more willing American security partner. Expanded Chinese drills around Taiwan last year, which brushed against Philippine territory, have encouraged him. "It's very hard to imagine a scenario" where the Philippines could stay out of a war over Taiwan, he recently said. The Biden administration has pushed to seize the opportunity this represents. Last year it helped negotiate the sale of a bankrupt shipyard at Subic Bay—which two Chinese companies had expressed interest in buying—to an American private-equity firm, Cerberus Capital Management. The administration has also so far agreed to pay \$82m to upgrade the infrastructure at five Philippine bases.

In October it provided Mr Marcos's government with \$100m in military funding, in part to help "offset" losses from an agreed 12bn-peso (\$227m) purchase of Russian helicopters that it cancelled after Vladimir Putin invaded Ukraine. Under threat of Western sanctions, it had little alternative. Yet when compared with Mr Duterte's former efforts to cosy up to Mr Putin, whom he once described as "my favourite hero", the cancellation looked like

further evidence of a pro-Western tilt.

The West has broadly welcomed it. Security co-operation between Japan and the Philippines has reached "a turning-point", says Kiba Saya of Kobe City University of Foreign Studies. Beyond last year's exercises, Japan has supplied a dozen patrol vessels to the Filipino coastguard. During a visit this month to Tokyo by Mr Marcos, the two countries signed a deal making it easier for Japanese forces to deploy to the Philippines on humanitarian missions. Mr Marcos said a trilateral security pact, also including America, was under discussion.

### Poland in the Pacific

Australia, the only other country to have a Visiting Forces Agreement with the Philippines, has stepped up security co-operation. On February 22nd the two countries' defence ministers met in Manila to discuss conducting joint patrols in the South China Sea. Earlier this month Britain and the Philippines held talks in Manila on maritime law enforcement. Last month France and Germany said they were willing to conduct trilateral maritime patrols with the Philippines. Canada has offered it investment and aid and hopes to sign a first defence framework with it by June.

If America and China came to blows, little would be expected of the Philippines' 140,000-strong armed forces. They are not equipped to first-world standards and largely focused on counter-insurgency operations. Yet playing the logistical-support role Western strategists envisage would still carry great risks for the Philippines, notes a retired Filipino general. The threat of war with NATO has made Poland's east-

ern border an uncrossable line for Russia, even as Poland performs a similar role for Ukraine. By contrast, if China were already engaged in a war with America, there would be no fear of it provoking one by attacking the Philippines.

The country's constitution forbids foreign troops from being permanently stationed on its territory. America's will therefore be rotated through the bases available to them. Mr Marcos's government may also be wary of taking Filipinos' pro-Americanism for granted; foreign troops are often unpopular. Sensitive to such concerns, Pentagon officials stress the multifaceted nature of America's commitment—they are as keen to talk up typhoon response as Taiwan. Ahead of the two countries' annual "Balikatan" ("shoulder-to-shoulder" in Tagalog) military exercises in April, America will build a clinic in the northern town of Sarrat.

Yet such baubles are nothing to the economic contribution of China, the Philippines' biggest trade partner. And Mr Marcos hopes to retain it. The president visited Beijing in January and was rewarded with \$23bn in investment promises, including in sectors such as energy, on which the Philippines until recently placed foreign-ownership restrictions.

During last year's Balikatan exercises, American troops staged an amphibious landing in Cagayan province. Chinese firms have proposed an array of projects along the surrounding coastline, including a "smart city" costing \$2bn on nearby Fuga island. Filipino security experts protest when provincial governors wave through such projects. Cagayan's governor, Manuel Mamba, meanwhile opposes the joint military exercises on the basis that they might scare away Chinese investment.

It is a reasonable concern. Chinese and Japanese investment has played a big part in raising the Philippines' growth rate—to 7.6% last year. Yet Mr Marcos is in a bind. China's near-constant bullying in the South China Sea "pushes us into a situation where we have a deeper military alliance with the US", says Jose Manuel Romualdez, the Philippines' ambassador to America. That, in turn, has made the country's economic reliance on China less straightforwardly positive. Chinese firms own 40% of the Philippines' electrical grid and much of its telecoms infrastructure. Equipment provided by Huawei, a Chinese telecoms giant, is allegedly being used in some of the military bases to which America has been granted access.

Maintaining the Philippines' growth spurt will require more than such investment: it requires peace. And peace in the South China Sea, as Mr Marcos seems to have concluded, will depend on America and its allies maintaining an effective deterrence against Chinese aggression. ■



## Indian energy

## A flagging solar rollout

MUMBAI

**Protectionism is constricting the supply of solar panels**

WHEN OLAF SCHOLZ meets Narendra Modi in Delhi this weekend, India's green-energy targets will be at the top of the agenda. In Berlin last May the German chancellor committed €10bn to help India meet its ambitious goal of generating 500GW of power from non-fossil-fuel sources by 2030. India's prime minister will have some impressive progress to regale Mr Scholz with. Renewable sources now make up 121GW of India's 411GW of power-generation capacity, up from 113GW when the two men met in Berlin.

Yet there is a significant blot on this progress. By the end of 2022, India had installed a total 63GW of solar-power capacity. That represented a 14GW increase over the year, but was far short of the government's 100GW target. Given the importance of solar to India's ambitions, this was ominous. Of India's 500GW goal for 2030, 280GW is expected to come from solar.

Most of the shortfall is in panels mounted on rooftops, which the government envisages will account for 40% of total solar generating capacity. Even as the growth of overall capacity has accelerated, rooftop installation has slowed. Just 8GW of India's solar-power generation is small-scale, and most of it is atop offices and factories, which pay higher rates for grid electricity, as opposed to residences.

Three factors discourage Indians from topping their homes with sun-soaking panels. The first is that most Indian cities, whose residents are likeliest to have the requisite cash and technological know-how, already have reliable grid power and many demands on rooftop space. Urban rooftops tend to be crowded with satellite dishes, water-tanks and other paraphernalia, or used as social spaces. Or landlords may build extra rooms on them.

A bigger obstacle is a shortage of suitable financing for small-scale renewable-energy installations. A 5kw solar unit, sufficient to power most homes, costs at least 250,000 rupees, or about \$3,000. And yet the average monthly household electricity bill in Mumbai, an expensive city, rarely exceeds 5,000 rupees. Without attractive financing, Indian households have insufficient incentive to go green. And energy companies also have too little incentive to promote rooftop solar. It works on the basis of "net metering", whereby the value of the electricity a rooftop unit supplies to the grid is deducted from the household bill.



Panel requires roof

And since the households likeliest to install panels are those paying the highest bills, utilities tend to consider this arrangement a net loss.

Central and state governments are experimenting with ways to realign the incentives behind rooftop solar. Haryana, a small state next to Delhi, requires new buildings to get a portion of their electricity from it. In Jharkhand, a poor eastern state, the government is considering topping up the central government's subsidies for rooftop solar to make it free for low-income households. India is developing a bouquet of such policies, says Ashwini Swain of the Centre for Policy Research, a think-tank in Delhi. "If all materialise, we will probably overshoot the target."

If that proves optimistic, it will probably be because of another bottleneck: protectionism. To boost domestic manufacturing, the government slapped a 40% import tariff on Chinese panels and decreed that panels used in most solar projects be sourced from an "approved list" of Indian panels and panel-makers. Reducing India's reliance on China in this area seems prudent. And having robust domestic production, says Nandita Sahgal of ThomasLloyd, an investment company with 434MW of solar fields in India, might make it easier "to have the capacity of installation that India is projecting". Yet, for now, domestic output is not keeping pace with demand.

To supply solar projects that have been approved with domestic panels would take seven years, the minister of power, R.K. Singh, said earlier this month. "But we can't wait seven years." The government therefore relaxed its procurement rules for two years. That will allow imports of panels from South-East Asian countries with which India has a free-trade agreement. But the tariff on Chinese panels remains. ■

## North Korea

## Crypto-heist

SEOUL

**North Korean hackers stole a record \$1.7bn of cryptocurrency last year**

FEW FORMS of celebration are as close to literally burning money as fireworks and missile tests. And for North Korea, a great fan of both, the more it burns the better. It launched more than 95 cruise and ballistic missiles in 2022, a new record. And it loves above all to splurge on the biggest, showiest rockets, like the intercontinental ballistic missile it fired eastwards into the sea on February 18th.

Despite being unable to feed its people, North Korea has found innovative ways to fund its missiles programme, including by forging foreign currency, committing insurance fraud and making and selling arms and narcotics. A more novel revenue stream is stolen cryptocurrency. Last year its hackers pinched a record \$1.7bn of the stuff, according to a report published this month by Chainalysis, a data firm based in New York.

Some of North Korea's hacking thefts were eye-wateringly big. Last March it ripped off a cross-chain bridge, a method for moving cryptocurrency from one coin's blockchain to another, associated with the game Axie Infinity. At the time it was discovered, the stolen currency was worth more than \$600m, making it the second-biggest crypto-theft ever.

But as with all heists, the robbery is just the first step. To launder their loot North Korean hackers employ all sorts of tricks, including splitting up the money, moving it between different crypto-wallets, converting it into different coins and putting it through mixers—large digital pools where crypto owners can deposit funds to obscure their origins.

Some of the stolen crypto was put to direct use. In 2022 two South Koreans, including an army captain, were arrested on suspicion of selling secrets to the North in return for bitcoin. But North Korean hackers mostly try to turn the loot into hard cash, either through a broker or more commonly through a centralised exchange. The fiat currency obtained is then used to purchase items through established procurement channels, run through front companies and North Korea's embassies abroad.

Most of the hacking-and-laundering operation is visible to expert eyes, however. "This isn't happening in some shadowy corner of the world," says David Carlisle of Elliptic, another blockchain-analysis company. "It's happening in public on the blockchain." This helps investigators trace ►

► funds and understand hacking methods—and they are getting better at doing both.

America has blacklisted crypto-wallets associated with North Korean hackers. In May it targeted Blender.io, a mixer used in the Axie Infinity hack. In September American investigators recovered \$30m of cryptocurrency stolen in that hack. Given a drop in the value of cryptocurrency after the heist, that represented about 10% of the total. On February 16th Norwegian authorities seized another \$5.8m.

But countries should adopt more stringent measures, argues Allison Owen of the

Royal United Services Institute, a London-based think-tank. "Most hacks begin with relatively unsophisticated phishing attacks. Better regulation of the industry and cyber-hygiene could help prevent them."

The crypto industry is meanwhile getting better at policing itself. On February 14th two centralised exchanges, Binance and Huobi, froze \$1.4m of cryptocurrency associated with a North Korean hack.

The hackers are also adapting and improving. "It is a bit of a game of whack-a-mole," says Mr Carlisle. Even if North Korea's hackers could actually lay their hands

on only a fraction of the \$1.7bn they stole, it would all be worthwhile, notes Dennis Desmond, a former American intelligence officer who now teaches at the University of the Sunshine Coast in Australia. "It's all free cheese," he says.

Mr Desmond foresees a continuing "arms race" in theft and counter-theft capability between the hackers and crypto-crimefighters. If the crimefighters could only get the upper hand, it might help to slow the actual arms race, illuminated by a blaze of ballistic missiles, taking place on the Korean peninsula. ■

## Banyan Keeping up with the Tokugawas

*The new shogun reflects on family history and Japan's looming social change*

**I**F NOT FOR the Meiji Restoration, Tokugawa Iehiro might be running Japan. Instead, the new head of one of Japan's most eminent dynasties, which ruled from 1603 to 1863, spends his days overseeing its relics at a spacious stone compound down a side-street in Tokyo's Yoyogi-Uehara neighbourhood. The shogun greets Banyan in fluent English, with no ceremony and a warm smile.

Mr Tokugawa, who took over from his father last month in the dynasty's first succession for over half a century, cuts an incongruous figure at the head of a family perhaps best known for barring its subjects from travelling abroad. He is a consummate internationalist, who grew up partly in New York and completed master's degrees at the University of Michigan and Columbia University. He is a prolific translator of books, from tomes on China to polemics by George Soros. Mr Tokugawa worked for years at the United Nations, including in Rome and Hanoi, where he met the Vietnamese woman who became his wife.

The Tokugawas wield no formal political power now. (Mr Tokugawa ran for a Diet seat with a liberal opposition party in 2019, but lost.) The 19th shogun's main role is to shepherd the family legacy. Artefacts need cataloguing and preserving. But his most important task is shaping the public's understanding of Tokugawa history. "The image of the Tokugawa is malleable and changing over time," says Isoda Michifumi, a historian. That image continues to influence how Japanese see themselves—and how the world sees Japan.

The first Tokugawa shogun, Ieyasu, came to power amid civil wars. He and his successors introduced a strict class structure and a complex system of internal control that sidelined the emperor

and kept the peace between Japan's many *daimyo*, or local lords. But by the time Matthew Perry sailed America's black ships into Japanese ports in 1853, lower-ranking samurai and commoners were bristling at their lack of opportunity. Fearful also of ending up under the thumb of technologically superior Westerners, they banded together and "restored" the emperor to bring an end to Tokugawa rule.

Several narratives of the Tokugawa period have since emerged. One defines the period in terms of its purported backwardness—Japan as *sakoku*, or closed country, cut off from the world. Another sees the era as a dark age of oppressive "feudal" rule under the samurai sword. For some of the ultra-nationalists who led Japan to disaster in the second world war, the shogunate represented an unspoilt state, a manifestation of the Oriental spirit before the arrival of Western modernity.

To Mr Tokugawa, many of these ideas reek of myth. Contemporary historians challenge the notion that the Tokugawa period was entirely closed (even the term *sakoku* was a translation of a German

observer's description in the early 19th century). A brisk trade continued with Chinese and Koreans and also Dutch merchants stationed in Nagasaki. "Japan was controlling traffic," Mr Tokugawa says, "but we didn't cover our eyes, or our ears, like the monkeys of Nikko," referring to a famous carving at the temple where Ieyasu is entombed.

Yet perhaps the most misleading myth has to do with change. When contemporary observers invoke the old trope of Japan as unchanging and stuck, it is often images of Tokugawa traditionalism or isolationism they draw upon. That misses the dynamism within the superficially static Tokugawa era. It was in fact a time of remarkable social change, when great cities grew and mass culture flourished thanks to a vibrant merchant class. Even Tokugawa ideas, the political philosopher Murayama Masao once wrote, "could be seen as developing unceasingly toward modernity".

Today, too, change in Japan is of the Tokugawa rather than the Meiji sort, bubbling away under the surface. It is often obscured by the grey-haired men in leadership positions, thanks to Japan's stubborn seniority system. "Change happens in due course, with the changing of the guard," says Mr Tokugawa, who is a relative youngster at 58 years old.

Such a shift may be coming soon. Shibusawa Ken, a descendant of a great Meiji-era reformer and an adviser to the government, speaks of a "clay layer" of older managers and leaders who came of age during the post-war period, and whose passing will reveal a different Japan beneath. Mr Tokugawa illustrates it. "He is a person with a new Japanese mindset, but from an old family," Mr Isoda says. "He's not the Japan of the past, he's the Japan of the future."





**China and the war in Ukraine**

## Proxies and peril

BEIJING

**Chinese support for Russia risks inflaming the Sino-American rivalry**

THE SYMBOLISM could not have been clearer. As America and China drift towards a new cold war, the conflict in Ukraine has increasingly resembled a proxy conflict between the two powers and their rival ideological systems. So when China's top diplomat, Wang Yi (pictured), travelled to Russia on February 20th, it was only fitting that President Joe Biden should turn up in Kyiv on the same day. China, which dislikes instability, probably did not welcome Russia's bloody invasion of Ukraine, but it has sought to make the best of the war, manoeuvring to undermine the unity of Western countries. Mr Biden's trip, planned in secret, was designed to demonstrate Western resolve.

It all comes amid a flurry of Chinese diplomacy surrounding the one-year anniversary of the war. On February 18th, at the Munich Security Conference, Mr Wang announced that China would offer a proposal to stop the fighting. Days later his government re-released its "Global Security Ini-

tiative", nearly 3,500 words of Communist Party-speak filled with calls to respect countries' sovereignty and territorial integrity—odd stuff coming from an ally of Russia. China's leader, Xi Jinping, is expected to give a "peace speech" on February 24th, the date of Vladimir Putin's invasion.

These efforts ring hollow to American and European officials. Just weeks before Mr Putin launched his invasion, Mr Xi agreed to a "no-limits" partnership with Russia. While in Moscow, Mr Wang said the relationship remained "rock solid". China claims to be neutral in the war, but it is a pro-Russian pseudo-neutrality. Officials in Beijing have spent a year promot-

ing Kremlin talking-points. China accuses America of prolonging the fighting in order to boost the profits of its arms dealers. Chinese firms have supplied non-lethal aid to Russia, according to American officials. Now China is considering sending weapons and ammunition to Mr Putin's regime, warned Antony Blinken, America's secretary of state, in Munich.

Relations between America and China were already at a low point. Each side has come to believe that the other is bent on doing it down. Earlier this month an attempt to lower tensions with a visit to Beijing by Mr Blinken was derailed by a different incursion, that of a Chinese balloon into American airspace. Claiming China was spying, the Americans shot the inflatable down on February 4th. A subsequent discussion between Mr Blinken and Mr Wang in Munich was described as confrontational. America claims Chinese balloons have intruded into the airspace of more than 40 countries across five continents. But Mr Wang insisted that the balloon over America was for research purposes, and called the Biden administration's response "absurd and hysterical".

The stakes of that squabble seem small compared with what is on the line in Ukraine. China does not care who controls this or that bit of territory. Its national interests lie in discrediting American-led defence alliances and sanctions, because its ➤

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► rulers could one day face a comparable American response over a Chinese invasion of Taiwan. Mr Xi calls Mr Putin his "best friend" and the pair share a common loathing of Western liberal democracy. But their partnership is based on a cold-eyed calculus of Chinese interests. Russia is making itself useful by tying up America in Europe and creating opportunities for Mr Xi to woo those leaders in the global south who wonder why their countries' woes do not receive as much attention as those of Ukraine. China also shares Russia's desire to see a world run not on the basis of what the West calls "universal values", but of the security interests of big states. Mr Putin may be brutal and his armies disarmingly incompetent, but China believes his invasion advances this worldview.

That will inform any peace initiatives put forward by China—and probably doom them. Officials in Beijing like to portray the conflict in Ukraine as "America's war", provoked by NATO expansion rather than Russian aggression, and paid for by Europe in the form of higher energy prices, larger armies and the burden of hosting Ukrainian refugees. In this way it has tried to divide America and Europe. In Munich Mr Wang made a pitch to European leaders that China wants to improve relations and play a constructive role in Ukraine. Some might be inclined to take him at his word.

But China does not want Mr Putin to pay any price for his invasion, lest that reaffirm the rules-based order that it seeks to break. This does not sit well with European leaders. Even the more cautious among them, such as Emmanuel Macron of France and Olaf Scholz of Germany, told the conference in Munich that Mr Putin cannot walk away from his war rewarded for his aggression. For all that some European leaders grumble about American moves to divide the world into blocs, or fret about isolating China, their view that Mr Putin cannot be seen to win his war puts them in close alignment with the Biden administration—and far from Chinese visions of a peace deal paid for with concessions and security guarantees for Mr Putin.

America, for its part, has warned against any ceasefire that would allow Russia to regroup, or that would lock its territorial gains in place. Tactically, the Biden administration is treating China much as it did Russia on the eve of its invasion, by publicising intelligence about its actions, such as Chinese aid to Russia, in the hope of increasing global scrutiny. It appears to be working. Ukraine's president, Volodymyr Zelensky, told German reporters that "if China allies itself with Russia, there will be a world war." The European Union's foreign-policy chief, Josep Borrell, said it would be a "red line" for the EU if China sends arms to Russia.

Mr Putin says that Mr Xi will visit him

in Moscow soon, as relations between their countries reach "new frontiers". Meanwhile, China is hunkering down. "It is the United States, and not China, that is endlessly shipping weapons to the battlefield," said Wang Wenbin, a spokesman for the foreign ministry in Beijing. "We urge the United States to earnestly reflect on its own actions and do more to alleviate the situation, promote peace and dialogue, and stop shifting blame and spreading false information."

#### Statesman or troll?

China wants to be seen as a peace-loving giant that sticks up for forgotten parts of the world and counters Western hectoring. Its argument that states should focus on economic advancement and poverty alleviation rather than civil liberties and hu-

man rights gets considerable traction in developing countries. So does China's portrayal of the war as the latest example of Western-inspired global disorder, sending food and energy prices higher. By offering a peace proposal, no matter how unrealistic, it can pose as a benign world leader with more legitimacy than America.

But that message is received differently in the capitals of liberal democracies. Europeans may not like everything about America's hawkishness on China, but they know a self-serving Chinese argument when they hear one. If China keeps putting out anti-American apologetics dressed up in Communist Party jargon about security, peace and development, it will only strengthen fears that a proxy conflict on the blood-soaked plains of Ukraine risks becoming a global confrontation. ■

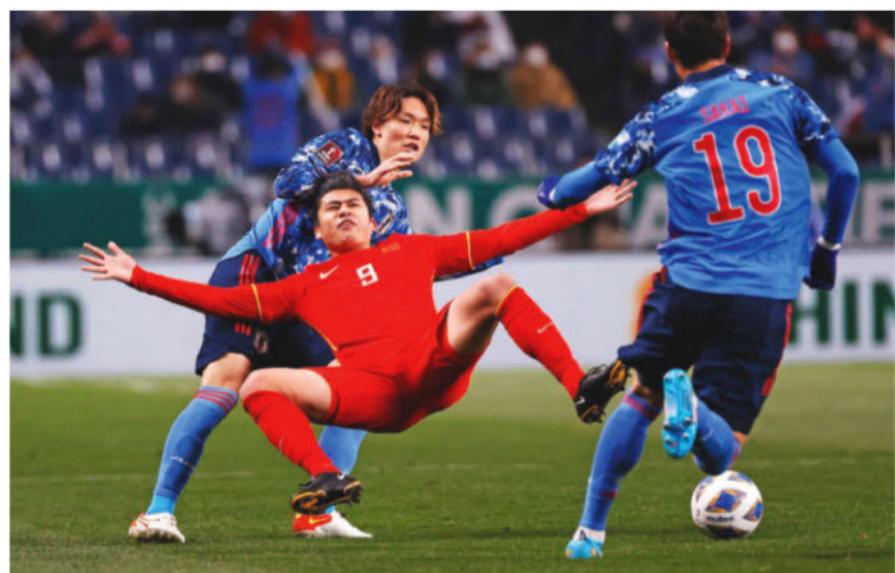
#### Corruption in sport

## In the net

#### A war on graft in Chinese football prompts soul-searching about a glaring national weakness

**M**OST OF THE time, Sima Nan is a cheerleader for his country and its ruling Communist Party. His posts on Weibo, China's equivalent of Twitter, are often venomous about the West. But on February 20th his ire was triggered by affairs at home. In a lengthy message to his nearly 3.2m followers he excoriated men's football in China, suggesting that "fundamental flaws" in the Chinese game were hampering the country's efforts to compete in the international political arena, too.

Many Chinese fans share Mr Sima's bleak assessment that football is letting China down. Their mood could hardly be more sour. At the finals of the football World Cup, which were held late last year in Qatar, China's team was absent yet again. It has qualified to take part only once, in 2002, and even then was knocked out after losing all three of its matches without scoring a goal. Now the sport is under another dark cloud thanks to a series of arrests at the highest levels of its admin- ►



He doesn't have far to fall

istration. It is by far the most sweeping campaign against corruption in Chinese football since China's leader, Xi Jinping, came to power in 2012 and set about trying to turn his country into a soccer giant.

The first high-level target was Li Tie, a former head coach of the men's national team, who was arrested in November. In January two more were taken into custody: Liu Yi, who had just been replaced as secretary-general of the Chinese Football Association (CFA), and Chen Yongliang, a serving senior manager of the CFA. Among the latest to be detained is Chen Xuyuan, the CFA's president. On February 14th the government agency in charge of sports said Mr Chen was being investigated for "serious violations of discipline and law". Also that day it was announced that an executive of a big property firm who had served on the board of a provincial football club was being questioned. Rumours swirl on social media that other "big fish" may be netted.

No details of any alleged offences have been released. But Chinese football is notorious for corruption involving match-fixing and "black whistles", as bent referees are known. State media are comparing this campaign with another big anti-graft effort in 2009 that led to the jailing of several CFA chiefs, referees, coaches and players. It also prompted much soul-searching about the root causes of the malaise. Many blamed excessive involvement by officials in a cash-flush business. In 2015 the government unveiled a reform plan. It aimed to reduce the role of the state in football's administration. The CFA was cut loose.

In 2019 the appointment of the recently detained Chen Xuyuan as the CFA's president was a sign of change. He was the first businessman to get the job. Mr Chen had previously worked as the boss of a state-owned port operator in Shanghai which had bought a local football club and made it successful. At the CFA, however, some of his decisions reflected the government's interfering style, such as capping salaries and transfer fees. He even required clubs to stop naming themselves after sponsors. These were blows to the football business, which has also suffered from the country's tough pandemic controls (they were scrapped in December).

#### Penetrating the defence

In China, where political debate is stifled, complaints about football can sometimes look like pokes at the way the country works. The post on Weibo by Sima Nan, the nationalist blogger, was blocked by Chinese censors. But the *Economic Observer*, a newspaper in Beijing, managed what could be construed as a gentle dig. "In the realm of football, a lack of separation between government and society, between government and business...inevitably breeds corruption," it said. ■



#### Agriculture

## Policy maize

BEIJING

### Is the government's attitude to genetically modified crops changing?

THREE DECADES ago, when it allowed the commercial production of virus-resistant tobacco plants, China was on the cutting edge of genetic modification in agriculture. Back then there was heady talk of growing most of the country's rice, wheat and maize using genetically modified (GM) strains by 2010. That did not happen. But China's supreme leader, Xi Jinping, renewed the optimism in 2013, when he argued that GM crops were needed to ensure the country's food supply. An official five-year planning document issued in 2016 called for commercial production of GM maize and soybeans to begin by the end of 2019. That did not happen either.

Is China, the world's largest soyabean market and second-largest maize market, at last ready to embrace genetic modification in agriculture? Not exactly. But according to Reuters, a news agency, the agriculture ministry is set to authorise the planting of 267,000 hectares of GM maize in selected counties across four provinces. If undertaken, the planting would cover less than 1% of the acreage China has earmarked for maize this year. Still, it would represent a rare loosening of China's strict controls on GM crops.

Though most scientists think GM crops are safe—and much of the world has been eating them for decades—they have faced stubborn opposition in China. Some of the concern is similar to that seen elsewhere. The public has expressed worries about "Frankenfood", the danger of toying with

nature and unverified health risks. But there is also a uniquely Chinese element to the opposition. Nationalists fear that a reliance on GM crops will leave China at the mercy of foreigners, especially Americans, who control much of the relevant technology and intellectual property.

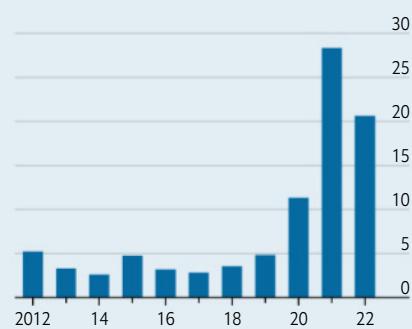
China's aversion to GM crops is causing other problems, though. As domestic meat consumption rises, and livestock and poultry breeding expands, the demand for feed grains such as maize and soybeans is growing. (Feed grains already account for much of the country's total grain consumption.) More GM crops would help. According to the Food and Agriculture Organisation, an arm of the United Nations, Chinese maize yields were 6.3 tonnes per hectare in 2020, compared with 10.8 in America, where GM varieties predominate. But instead of embracing the technology, China has increased maize imports from countries such as America, Argentina, Brazil and Ukraine (see chart). That carries risks of disruption resulting from tensions with America or the war in Ukraine.

Some in China see the government's rumoured move, small though it may be, as a turning-point. Zhu Zijun, the manager of an investment fund that focuses on agriculture, recently told a local trade publication that the debate over GM maize is all but finished. Regulators and grain companies, she said, have started to prepare for reforms. Also raising hopes is an emphasis on agricultural biotechnology in the official document outlining policy priorities in rural areas for 2023.

Opponents of GM crops may grumble, but in some ways they have already lost the fight. For years China has depended on imported GM soybeans for its animal feed and food oil. Much of the cotton grown in China consists of GM varieties. And investigations by reporters and NGOs have revealed that a good bit of the maize produced in China also comes from illegally sown GM seeds. Even if "Frankenfood" were a real problem, the monster is already on the loose in China. ■

#### Getting up in ears

China, maize imports, tonnes, m



# Chaguan | What protests mean in China

*Why Chinese pensioners are demonstrating, in their own words*



**I**N CHINA A show of discontent can matter without being a call to revolution. Currently, bold claims are being made for a spate of pensioner protests provoked by changes to a health-insurance scheme for city-dwellers. It is true that the demonstrations have lasted an unusually long time, and have spread countrywide. Since January old people have gathered, from Guangzhou in the south to Dalian in the north, massing near government offices or in public squares to accuse authorities of robbing them. The largest crowds were seen in the central city of Wuhan, where in mid-February hundreds of retirees confronted policemen twice in the space of a week. To some overseas Chinese commentators, this all amounts to a *baifa yundong* or a “white-haired movement”. That casts the unhappy pensioners as successors to the youngsters who protested against strict pandemic controls last November. Some of them held up blank paper to mock free-speech curbs, earning the label “white-paper movement”. Going further, some overseas Chinese outlets call today’s demonstrations a “white-haired revolution”, equating gatherings in Wuhan and elsewhere to a colour revolution, or anti-government revolt.

It is also true that the Communist Party’s machinery of repression is taking these displays of anger seriously. Censors have laboured to scrub protest videos from the internet. Social-media platforms have deleted comments by netizens that charge the authorities with inflicting austerity on old people, and that blame spending cuts on costly “zero-covid” controls that emptied local-government coffers and battered the broader economy. There are reports of police warning pensioners that their adult children will suffer if they protest again. In Wuhan residents posted screenshots of messages from schools asking parents to urge older relatives to shun demonstrations and to study official explanations of the new insurance rules.

Yet for all that, to cast unhappy pensioners as dissidents is to do them a disservice, twice over. For one thing, it mischaracterises the protests, whose roots are more economic than ideological. To simplify, in future a greater share of China’s (relatively stingy) health spending will be directed to a pooled fund that helps urban workers and retirees needing hospital care for serious conditions. Less money will go into a parallel system of personal-insurance

accounts covering minor ailments. It is those proposed cuts that are sparking pensioner protests, though officials argue that the planned redistribution will actually favour the oldest and sickest urbanites (they also insist that this restructuring of urban health insurance was planned many years ago, before zero-covid policies strained public budgets). Some demonstrators have sung the communist anthem, the “Internationale”, to emphasise that what they want is more socialism, not less.

Talk of a white-haired revolution does older protesters another disservice, too. It implies that dissenters must demand the party’s overthrow to be taken seriously. That is to ignore a less dramatic but important trend. Today a striking number of Chinese people are anxious and fed up, and are willing to say as much in public.

Chaguan flew to Wuhan to ask older residents to explain recent protests in their own words. His straw poll found unanimity on one point. Protests over insurance rules are not an anti-government revolt, locals agree. Instead, they fit into the Chinese tradition of petitioning authorities for redress. That some demonstrators now face police threats causes no surprise. China allows citizens to vent frustrations within limits, says a retired bus driver out walking her dog. “It is not like foreigners say, that Chinese don’t have any freedom,” she suggests. In her telling, China offers not total freedom, but “orderly freedom”, which is as it should be, though she hints that different limits apply to the rich and powerful. For her own part, she thinks older protesters have misunderstood insurance reforms that will bring them more benefits than harm. Still, she ventures, younger people understand why pensioners are unhappy, “because lots of old people died of covid.”

There is less consensus about whether petitioning helps. Speaking up about government policies “changes nothing”, say a couple in their 60s. A man heading home to cook for his son and grandson murmurs that opposing the party is a quick way to get arrested. In contrast, a former worker at a state-owned enterprise, sitting by one of Wuhan’s many lakes, is confident that the party will change course now that it knows that ordinary residents find the insurance reform “unreasonable”. A majority of those interviewed exempt President Xi Jinping and the central government from blame for recent protests, though in reality the insurance reform is a national policy. “Top leaders and the system itself are quite good,” says the former state-enterprise worker. “But how the local government acts now is not making people happy.”

## More talk of fairness than of freedom

Less happily for Mr Xi, a common explanation for the protests is that China has grown more unequal and unfair. In particular, Wuhan locals charge that senior officials and party cadres receive more generous pensions and health insurance than other workers. An 80-year-old woman in Zhongshan Park, scene of two protests, calls China a society of “two extremes”: government employees and ordinary workers on low incomes and pensions. She urges pensioners to leave public parks and shout outside municipal and provincial government offices so that leaders can hear them. “I am old and can’t walk fast, so I can’t join them,” she laments.

Unprompted, several people make the same point: that for all China’s faults, America is worse. Echoing lines heard each night on state television, Wuhan locals cite American gun violence, racism and inequality as evidence that Western-style democracy is harmful. That is a warning for the future. Should slower growth turn popular grumbling into anything approaching a colour revolution, China’s rulers will see nationalism as their best defence. ■

Ukraine's refugees, one year on

## Lives in limbo

BERLIN, KYIV, WARSAW AND WROCŁAW

**Many of Europe's 8m Ukrainian refugees are desperate to return. But some are putting down new roots**



**O**N A CLEAR day Bogdan Savchenko's 21st-floor flat offers panoramic views over Kyiv. One landmark is a high-rise office building left scarred by a Russian drone attack on October 10th. That was the day a fresh wave of strikes opened a new chapter in the Kremlin's war on Ukraine.

Last summer, when Kyiv was mostly quiet, Mr Savchenko's wife and daughter returned from exile in Austria and Poland, where they had fled after Russia's invasion in February. But the October attack sent the family fleeing for a second time, to Warsaw. (As a military-aged man, Mr Savchenko may not leave.) The family is desperate to be reunited in Kyiv. That has put their lives on hold: Mr Savchenko's daughter is not enrolled in a local school, has no Polish friends and is not learning the language. But with Russian missile attacks coming every week or two, they do not know when it will be safe enough to return.

Their dilemma is not uncommon. Russia's invasion has sparked the biggest wave of refugees in Europe since the second world war. Up to 8m Ukrainians have scattered across the continent. Many have even gone to Russia, though not all voluntarily. In smaller countries, such as Estonia, they have markedly boosted the population (see chart on next page). Hundreds of thousands have gone farther afield, to America, Canada, Israel and beyond. Millions more are displaced within Ukraine.

Europe has handled this influx much better than it did a similar, though smaller, wave of migrants in 2015-16. For the first time the EU has invoked the Temporary Protection Directive (TPD), which grants Ukrainians rights to residency and work for up to three years. The 4m or so who have registered under the TPD are almost all women and children. They are spared ➤

► the process of claiming asylum, which helps relieve stretched asylum systems.

But a year after the invasion, governments are lifting their eyes from the immediate emergency and beginning to think about the longer term. The biggest question they face is how to manage the integration of people who may wish to return home as soon as possible, but cannot know when that will be. A survey in September found that 81% of Ukrainian refugees hoped to go back eventually.

#### IMPOSSIBLE CHOICES

Talking to them, though, often reveals more complicated attitudes. An aspiration to return mingles with an acceptance that conditions in Ukraine may make it impossible. In the meantime new lives present their own demands, from finding work to seeking housing and schooling children. Some have decided to start anew in their countries of refuge. Others still plan to go back. (Millions have already done so.) Many remain caught between worlds, unwilling to contemplate a future in an unfamiliar land, but unable to return home.

Alla Teslia (shown in the bigger picture on the previous page) is from Kharkiv, a war-ravaged city in north-east Ukraine. She now lives in a repurposed hotel in west Berlin, along with 200-odd fellow Ukrainian Jews. After a Friday-night Shabbat dinner, she explains her dilemma. She has nothing but praise for the welcome offered by her German hosts. She uses her abundant free time to learn German and to care for her disabled husband. But Germany is not her home, she says, battling away tears: "I don't see a future here." And yet she cannot conceive of circumstances under which it would feel safe to go back.

Others manage double lives as they weigh their options. Aliona (also shown on the previous page) is a 32-year-old from Kyiv who fled to the Ukrainian countryside after the Russian invasion. In May she accepted her friends' entreaties to move to Berlin after realising that "my life was going nowhere". Like many refugees, she thought her stint abroad would last only a few weeks. But now she divides her time between the two capitals, her movements determined largely by the end of various rental contracts in Berlin's erratic housing market. She accepts she is not really integrating. And yet Germany's lively capital is starting to work its magic on her. "Every time I go back to Kyiv it's hard to leave," she says. "But when I'm [in Berlin] for more than a week I feel all these possibilities."

How do people choose to stay or go back? Surveys suggest that conditions in Ukraine matter more than those where people have taken refuge. "When we win the war" was the most common answer when *The Economist* asked refugees under what conditions they would consider go-

ing home. But the definition of victory stretched from the confinement of fighting to Ukraine's east to the dethroning of Vladimir Putin and even the dismemberment of the Russian Federation.

Calculations also change over time as new lives take on their own momentum. Lena (shown on the next page) is a television presenter from Mariupol, a city in south-east Ukraine now occupied by Russia. Last March, after spending two weeks in an underground bomb shelter, she and her family fled the city. Three days later, her apartment was levelled. They managed to reach Warsaw. Lena's daughter, who had secured a university place in Kyiv, was desperate to attend. But eventually Lena persuaded her that it was unsafe, and she began her studies in Krakow instead. A younger son is now enrolled in a Polish school. Now Lena thinks her family's future lies in Poland—at least for a while. "I don't think we'll go back in the next two years. We lost everything. There is nothing to go back to."

Many things weigh on refugees' decisions. Schooling is one. Most adults have come with their children. Parents must consider the timing of school years, in the host country as well as Ukraine. Many send their children to local schools during the day while home-schooling them in the evening with the Ukrainian curriculum. That is no small task for what, in most cases, are single-parent households.

And laws in host countries vary. In Germany Ukrainian children must attend local schools. But in Poland they can opt out of them in favour of online lessons with Ukrainian ones. That is a relief to parents with an eye on return who are keen to ensure their children do not lose touch with the Ukrainian curriculum—and to Ukrainian leaders, who fear losing a generation to what some have called "Polonisation".

Perhaps they need not worry. By one estimate, just 31% of Ukrainian refugee children in Poland attend local schools. The government prepared 400,000 extra places for Ukrainian children in September. But pupil numbers have actually fallen since then. Perhaps 200,000 children are unaccounted for, says Jędrzej Witkowski, an analyst at the Centre for Citizenship Education, and "no one is interested in knowing" how many of them are following Ukrainian lessons online. He fears the emergence in Poland of a generation of Ukrainian "NEETS" (young people not in education, employment or training).

A second factor is local labour markets. Reliable cross-country data are scant. But the OECD, a rich-country think-tank, says that Ukrainian refugees seem to be finding work more quickly than previous groups. In Britain, Denmark and the Netherlands, more than half of Ukrainian women have found work less than a year after fleeing. The typical refugee cohort can take ten years to reach that point.

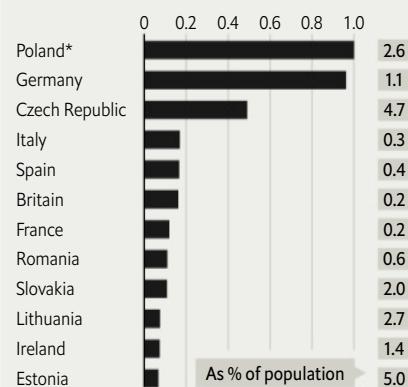
In part, that reflects the sorts of people that have arrived from Ukraine. Around two-thirds have some tertiary education, higher than the average in both the EU and Ukraine. Many have taken advantage of existing networks of expatriate Ukrainians, especially in Poland. Geographical and cultural proximity also helps. And "the willingness to work among refugees has been extraordinary," says Henri Viswat, who runs the Polish office of Randstad, an employment agency. Sympathetic employers in countries like Poland and Romania have tried to accommodate the new arrivals with perks such as free child care.

Refugees have also found themselves in drum-tight labour markets. Unemployment in Poland, Germany and the Czech Republic—which account for over half of Ukrainian refugees in the EU—is below 3%. Poland's fast-growing economy has long sucked in Ukrainian workers. Around 1.3m, mostly men, were there before the war began. And although many of Europe's economies are slowing, Mr Viswat says plenty of demand remains in sectors like manufacturing and logistics. Soon after Russia's invasion, representatives from Tönnies, a German meatpacking company, were spotted trying to recruit refugees at the Ukraine-Poland border. (After being accused of insensitivity the firm apologised, saying it was just trying to help.)

Still, many skilled refugees end up underemployed. Language is one barrier: nearly half of the Ukrainians that arrived in Poland last spring spoke no Polish at all. (Many are now learning, and the languages are closely related.) Others have found jobs where fluency matters less, often including off-the-books, cash-in-hand work. A lack of child care is a frequent issue. Qualifications earned abroad may not transfer

#### Searching for a home

**Ukrainian refugees living in selected countries, m**  
Feb 15th 2023 or latest available



Sources: Centre of Migration Research, University of Warsaw; Destatis; Eurostat; IMF; ONS; UNHCR

\*Estimate

► easily. Some regulated professions, such as pharmacy or architecture, seem likely to resist the idea of relaxing entry requirements for those who trained abroad.

Yet underemployment need not be a big problem for now, says Jean-Christophe Dumont, a migration expert at the OECD. Refugees can work below their skill levels as they find their feet. Take Olena from Marhanets, an industrial town on the Dnieper river close to the front line in southern Ukraine. After qualifying as an engineer she began technical work in a factory at home. But after fleeing to Warsaw last summer she took a job in a logistics warehouse, packing clothes and bags for export.

She is highly overqualified. But she takes great pride in her work, describing her satisfaction in presenting things beautifully and the sense of camaraderie among her (mainly Ukrainian) colleagues. Warsaw, with its diversified economy and high standard of living, has "changed my mentality," she says. When the war is over and she can return home, she hopes to apply the lessons she has picked up in Poland.

A third crucial issue is housing. The arrival of refugees sent rents rocketing in places like Warsaw and Wrocław. It is nearly impossible for those without local family or friends to find accommodation in popular cities like Berlin. The warm welcome received by Ukrainians is fraying in places. "Us renters understand, but we're not happy," says Kamil, a Warsaw local. "We hope that when the war is over [the Ukrainians] will leave and the prices will drop again." Some who gamely invited refugees into their homes last year are wondering how long their welcome must last.

Seeking to spread the burden, the German government encourages refugees to move to small towns or villages. In some cases eligibility for benefits is linked to a willingness to move. But while that may alleviate pressure on urban housing markets and public services, it is less helpful in integrating refugees. Towns and villages tend to have fewer amenities, language courses and, often, job opportunities.

Many areas are struggling to accommodate the newcomers. Migration from Ukraine to Germany was nearly 1m last year, on top of almost 220,000 other people who applied for asylum, the highest number since 2016. The strain is beginning to tell. Some German cities refuse to accept any more refugees. One state minister has warned that the public mood "threatens to tip over". The Polish government is about to start charging refugees living in state-provided shelters, in the hope of nudging more into jobs (and private housing).

One crucial question is how many Ukrainian men will choose to join their families once they are permitted to leave. Having lost a sizeable chunk of its working-age female population to its European neigh-



bours, Ukraine will be loth to shed its men too. But any patriotic commitment among Ukrainians to rebuild their shattered land may be more than countered by the lure of better professional and financial conditions in the EU—especially when that means joining wives and children who have begun to integrate.

Pawel Kaczmarczyk, director of the Centre of Migration Research at the University of Warsaw, speculates that the end of the war could see a second great migration when the extent of the damage is laid bare and Ukraine struggles to manage reconstruction. That would further deepen Ukraine's demographic woes, which were serious even before the war. By one estimate, the country's population shrank by 16% in the three decades after 1991.

#### WHAT THE FUTURE HOLDS

But predictions have founded before. Several EU governments braced for a fresh wave of refugees when Russia began bombing Ukrainian power stations in October. It never came, although many existing refugees heeded their government's warning to postpone a return—or even lost hopes of one. "It started with security, then came the power outages and the extension of the attacks—there's no safe place any more," says Tatyana, who fled to Gdańsk in northern Poland, from where she maintains her job with a multinational technology company. She had never planned to leave Kyiv, she says, but "that life is over for me now." If the fighting intensifies again in the spring, many more refugees may come to similar conclusions.

That complicates how host countries decide how to plan for the future. "It has dawned upon national and local governments that people are going to stay for much longer than originally conceived",

says Hanne Beirens of the Migration Policy Institute Europe in Brussels. Should governments invest in Ukrainian-language teaching, or oblige children to attend local schools, when they do not know how many will stay, and for how long? How much should they spend on language courses or retraining to help adults into work that matches their skills? When should they encourage refugees to seek asylum—or even full residency rights? Some private landlords are reluctant to let to tenants unable to commit to long-term contracts. Employers may not want to invest in workers who cannot promise to stick around.

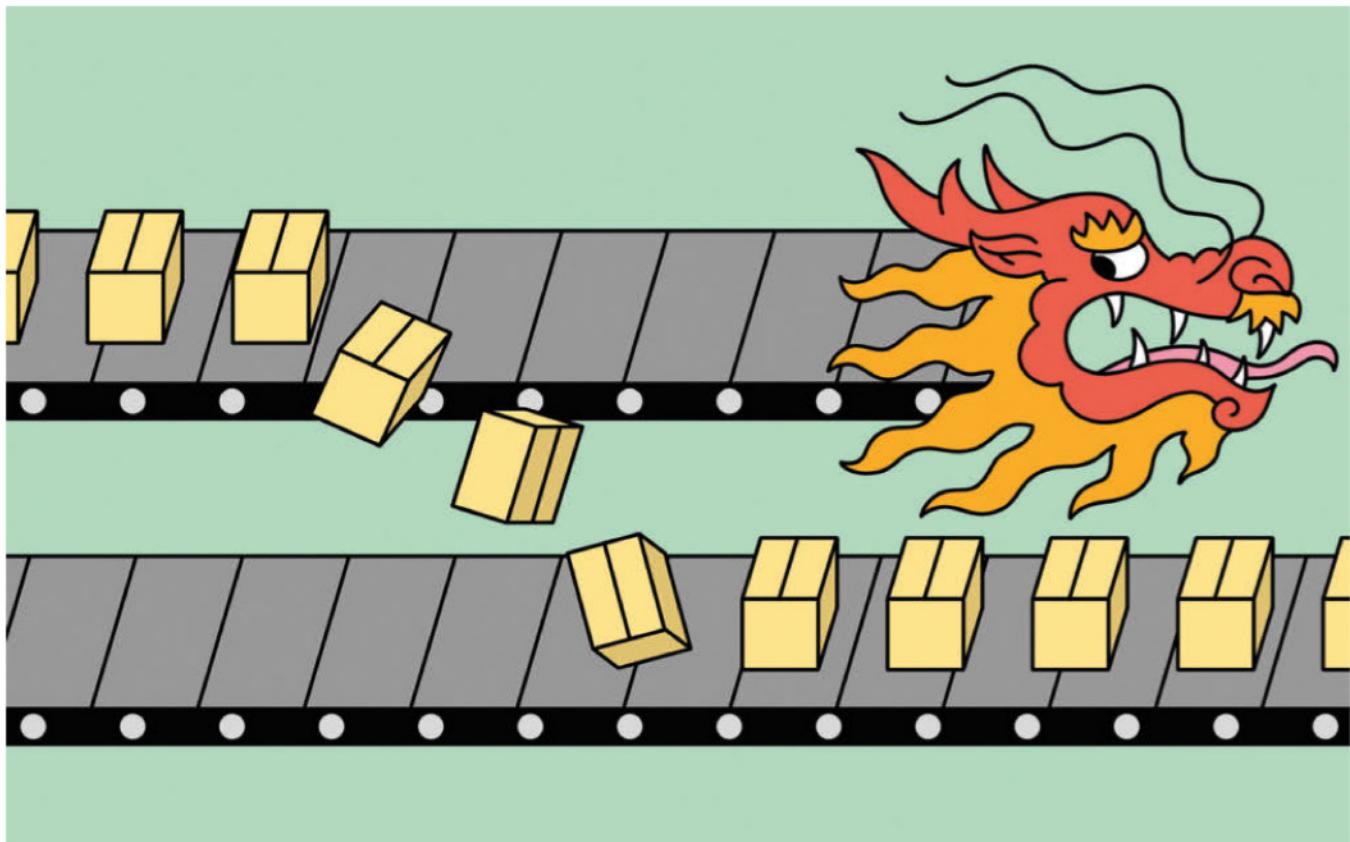
Trying to help with integration without influencing decisions on whether to stay or go is "a very fine line to walk," says Mr Dumont. France and Sweden have hesitated to offer Ukrainians full integration. Germany, by contrast, aggressively seeks to integrate Ukrainians, placing them in the same unemployment-benefit system as German citizens. Poland is starting to struggle, partly because, unlike most western European countries, the government has no formal immigration policy to guide decisions. Local governments, schools and NGOs have been left to improvise, usually on shoestring budgets.

In many cases, the distinction between Ukrainian labour migrants and refugees is blurred. Even before the invasion, networks of Ukrainians in Poland and elsewhere had established strong cross-border flows of labour, capital and remittances. The post-February arrivals have been helped by this diaspora and will contribute to it in turn. Plenty of Ukrainian migrant families include both (pre-invasion) workers and (post-invasion) refugees. And as the EU integrates Ukraine further into its single market, as seems inevitable, it will become yet easier for people, money and goods to travel across borders.

Not yet, though. In 2014 Anna was forced to flee the Donbas, in eastern Ukraine, when Russia sparked an insurgency there. Her family settled in Dnipro, in central Ukraine. But then, on February 24th, a Russian rocket blew Anna out of her bed. Forced to flee for a second time, she and her daughters have now settled in Wrocław. Anna has been astonished by the generosity of the Polish welcome, and yet, she says, life is not easy. She has struggled to set up a beauty-salon business, and desperately misses her husband. She hopes to reunite the family one day. But she does not know where, when or how. "Maybe on the Moon," she shrugs. ■

#### Go deeper

Watch and read more stories of the people forced to leave Ukraine at [economist.com/ukrainerefugees](http://economist.com/ukrainerefugees)



### Global manufacturing

## The Altasian option

SINGAPORE

**Can Asia's alternative supply chain steal China's thunder?**

**I**N 1987 PANASONIC made an adventurous bet on China. At the time the electronics giant's home country, Japan, was a global manufacturing powerhouse and the Chinese economy was no larger than Canada's. So when the company entered a Chinese joint venture to make cathode-ray tubes for its televisions in Beijing, eyebrows were raised. Before long other titans of consumer electronics, from Japan and elsewhere, were also piling into China to take advantage of its abundant and cheap labour. Three and a half decades on, China is the linchpin of the multitrillion-dollar consumer-electronics industry. Its exports of electronic goods and components amounted to \$1trn in 2021, out of a global total of \$3.3trn. These days, it takes a brave firm to avoid China.

Increasingly, however, under a weighty combination of commercial and political pressure, foreign companies are beginning to pluck up the courage if not to leave China entirely, then at least to look beyond it

for growth. Chinese labour is no longer that cheap: between 2013 and 2022 manufacturing wages doubled, to an average of \$8.27 per hour (see chart on next page). More important, the deepening Sino-American techno-decoupling is forcing manufacturers of high-tech products, especially those involving advanced semiconductors, to rethink their reliance on China.

Between 2020 and 2022 the number of Japanese companies operating in China fell from around 13,600 to 12,700, accord-

ing to Teikoku Databank, a research firm. On January 29th it was reported that Sony plans to move production of cameras sold in Japan and the West from China to Thailand. Samsung, a South Korean firm, has slashed its Chinese workforce by more than two-thirds since a peak in 2013. Dell, an American computer-maker, is reportedly aiming to stop using Chinese-made chips by 2024.

The question for Dell, Samsung, Sony and their peers is: where to make stuff instead? No single country offers China's vast manufacturing base. Yet taken together, a patchwork of economies across Asia presents a formidable alternative. It stretches in a crescent from Hokkaido, in northern Japan, through South Korea, Taiwan, the Philippines, Indonesia, Singapore, Malaysia, Thailand, Vietnam, Cambodia and Bangladesh, all the way to Gujarat, in north-western India. Its members have distinct strengths, from Japan's high skills and deep pockets to India's low wages. On paper, this is an opportunity for a useful division of labour, with some countries making sophisticated components and others assembling them into finished gadgets. Whether it can work in practice is a big test of the nascent geopolitical order.

This alternative Asian supply chain—call it Altasia—looks evenly matched with China in heft, or better (see map). Its collective working-age population of 1.4bn ➤

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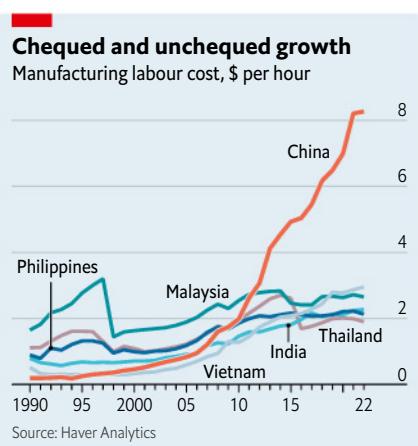
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dwarfs even China's 950m. Altasia is home to 155m people aged between 25 and 54 with a tertiary education, compared with 145m in China—and, in contrast to ageing China, their ranks look poised to expand. In many parts of Altasia wages are considerably lower than in China: hourly manufacturing wages in India, Malaysia, the Philippines, Thailand and Vietnam are below \$3, around one-third of what Chinese workers now demand. And the region is already an exporting power: its members sold \$634bn-worth of merchandise to America in the 12 months to September 2022, edging out China's \$614bn.

Altasia has also become more economically integrated. All of it bar India, Bangladesh and Taiwan has, helpfully, signed on to the Regional Comprehensive Economic Partnership (RCEP, which also includes China). By harmonising the rules of origin across the region's sundry existing trade deals, the pact has created a single market in intermediate products. That in turn has eased regulatory barriers to complex supply chains that run through several countries. Most Altasian nations are members of the Indo-Pacific Economic Framework, a newish American initiative. Brunei, Japan, Malaysia, Singapore and Vietnam belong to the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP), which also includes Canada, Chile, Mexico and Peru.

A model for the Altasian economy already exists, courtesy of Japanese companies, which have been building supply chains in South-East Asia for decades. More recently Japan's rich Altasian neighbour, South Korea, has followed its example. In 2020 South Korean firms' total stock of direct investments in Brunei, Cambodia, Indonesia, Laos, Malaysia, the Philippines, Singapore, Thailand and Vietnam—



which together with unstable Myanmar make up the Association of South-East Asian Nations (ASEAN)—and Bangladesh reached \$96bn, narrowly outstripping Korean investments in China. As recently as a decade ago the stock of Korean companies' investments in China was nearly twice as large as in Altasia. Samsung is the biggest foreign investor in Vietnam. Last year Hyundai, a South Korean carmaker, opened its first ASEAN factory, making electric vehicles in Indonesia.

#### For most a link

Now more non-Altasian firms are eyeing the region, often via their Taiwanese contract manufacturers. Taiwan's Foxconn, Pegatron and Wistron, which assemble gadgets for Apple, among others, are investing heavily in Indian factories. The share of iPhones made in India is expected to rise from around one in 20 last year to perhaps one in four by 2025. Two Taiwanese universities have teamed up with Tata, an Indian conglomerate with ambitious plans in high-tech manufacturing, to offer courses in electronics to Indian workers. Google is shifting the outsourced production of its newest Pixel smartphones from China to Vietnam.

More sophisticated manufacturing, especially of geopolitically fraught semiconductors, is also moving to Altasia. Malaysia already exports around 10% of the world's chips by value, more than America. ASEAN countries account for more than a quarter of global exports of integrated circuits, easily surpassing China's 18%. And that lead is growing. Qualcomm, an American "fab-less" chipmaker, which sells microprocessor designs for others to manufacture, opened its first research-and-development centre in Vietnam in 2020. Qualcomm's revenues from Vietnamese chip factories, many of which belong to global giants like Samsung, tripled between 2020 and 2022. Earlier this month the local government of Ho Chi Minh City announced that it was courting a \$3.3bn investment from Intel (though it later struck the American chip

giant's name from the statement online).

China's huge advantage has historically been its vast single market, knit together with decent infrastructure, where value could be added without suppliers, workers and capital crossing national borders. For Altasia to truly rival China, therefore, its supply chain will need to become far more integrated and efficient. Although RCEP has greased the wheels of intra-Altasian commerce somewhat, the flow of goods faces more obstacles than it does within China. Its member countries will need to play to their comparative advantage.

For now the infrastructure that connects them is shabby, at best. Finicky regulations and national ambitions can easily gum up the alternative supply chain. Altasia's poorer countries are not necessarily keen on the logical division of labour, which would see them play a bigger role in the more menial parts of the electronics supply chain. And forgoing all Chinese-made parts is next to impossible. Thamlev, an American electric-bike startup, moved production from China to Malaysia in 2022 in order to avoid a 25% American tariff, but still needed to import Chinese components. As a result, it took a month longer for its e-bikes to reach American riders.

Prospects for deeper integration are hazy, within Altasia and with big consumer markets in the rich world. India, on whose 1.4bn people Altasia's future may hinge, seems in no rush to join RCEP. Although India has, with its Altasian neighbours, signed up to America's Indo-Pacific framework, it has opted out of the initiative's trade provisions. These anyway lack bite: America is in a protectionist mood and has offered neither tariff cuts nor better access to its vast market. One ASEAN policymaker likens the pact to a doughnut, lacking substance in the middle.

Altasia will certainly not replace China soon, let alone overnight. In January, for example, Panasonic announced a big expansion of its Chinese operations. But in time China is likely to become less attractive to foreign manufacturers. Chinese labour is not getting any cheaper and its graduates are not getting much more numerous. America may yet realise that reducing its reliance on China in practice requires closer ties with friendly countries, including membership of the CPTPP, the precursor of which collapsed after America pulled out in 2017. And as a budding alternative to China, Altasia has no equal. ■



Measure	China	Altasia
Total labour force*	950	1,403
2021 or latest, m		
Prime working-age adults with tertiary education†	145	155
2021 or latest, m		
Goods exports to US Q4 2021-Q3 2022, \$bn	614	634

Sources: ILO; IMF

\*Aged 15-64 †Aged 25-54

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## Corporate governance

# Refurbishing the boardroom

### Cobbling together a good board has never been harder

**I**N THE POPULAR imagination, a corporate board seat looks like the cushiest sinecure in business. Board members appear to get paid—often handsomely—to attend a few meetings a year and to nod knowingly as the chief executive pontificates on strategy. They seldom make the news unless the occasional tut-tut results in the CEO being shown the door, or an activist investor campaigns for a seat at an iconic company (as has happened in recent months at Disney, Salesforce and Tesla). Once the errant boss is out or the activist campaign is over, either because it succeeded or, as in Disney's case, the challenger is placated with concessions, the board slinks back into comforting obscurity.

In fact, these low-key shareholder representatives have never been busier. They are expected to help bosses navigate war, geopolitical strife, the return of high inflation, climate change and technological disruption, all in the aftermath of a once-in-a-century pandemic. Stricter corporate-governance rules have forced company directors to be more accountable. They are also more likely than in the past to be compensated in stock, aligning their incentives with those of other shareholders.

### Hot seats

Perhaps as a result, they are working harder and longer than before, often on top of their demanding day jobs as executives at other firms. “It’s not uncommon to have two-day meetings,” says Crawford Gillies, who chairs the board of Barclays, a British bank. “That would have been very unusual ten years ago.” At least they get dinner.

All the new demands on directors are reflected in what counts as a desirable make-up of a board. Thirty years ago directors amounted to little more than window dressing, recalls Charles Elson, a boardroom veteran and corporate-governance expert at the University of Delaware. Management teams “basically ran the show”, he says. Boards were stuffed with friends of the managers or of other board members. These days a self-respecting board ought to contain an expert on supply chains, the Federal Reserve, China, ESG, AI—the list goes on. Layer on top of that requirements for “diversity, equity and inclusion”—ie, ensuring that not everyone is a white male—and cobbling together a board has become high-stakes corporate sudoku.

Many directors agree that board perfor-

mance is not up to snuff, according to a survey of more than 700 public company directors in America in 2022 by PwC, a consultancy. Asked to rate fellow board members, nearly half of directors said at least one needed to be replaced. One in five respondents would replace two or more. Less than half thought their peers had a strong grasp of environmental, social and governance issues (which is what ESG stands for) or cybersecurity. A fifth thought other board members were reluctant to challenge management, which is ostensibly one of their main jobs.

Boards have also been acquitting themselves without distinction in another critical task: ensuring that the right person sits in the corner office. Directors hit the brakes on successions in recent years, first amid the uncertainty of the covid-19 pandemic and then amid rising geopolitical and economic concerns. The share of CEOs ousted by boards in 2021 from the Russell 3000 index of American companies was 1.4%, down from a historical average of nearly 6%, according to data from the Conference Board, a research organisation, and ESGAUGE, an analytics firm. No boss in the S&P 500 index of America’s biggest firms got the boot that year. CEOs planning an exit were urged to postpone it.

Where new chief executives were named, insider appointments soared. As of June 2022 around nine in ten CEO appointments in the S&P 500 were of insiders, the highest rate since records began in 2011. In November Disney reappointed its retired longtime boss, Bob Iger, to bring some magic back to the Magic Kingdom (never mind that it was Mr Iger who hand-

picked his mojo-less successor).

For boards, dealing with such challenges requires new blood. Injecting it is no easy task. One problem is making room for the newcomers. Few companies are willing to impose term limits on directors; only 6% of firms in the S&P 500 do so. If anything, retirement policies are becoming a bit less popular: 67% of large American firms had them in 2022, down from 70% in 2018. Over a quarter of directors who left S&P 500 boards in 2019 had served for more than 15 years. Some stick around for decades. Charlie Munger, who last month turned 99, has served on the board of Berkshire Hathaway, an industrial conglomerate, since 1978. Easing out such old-timers is a delicate business.

An alternative is to increase the board’s size. Between 2018 and 2022 the share of S&P 500 companies with more than 12 directors has risen from less than 16% to nearly 18%. The obvious downside is that bigger boards can get unwieldy.

### Directors’ cut

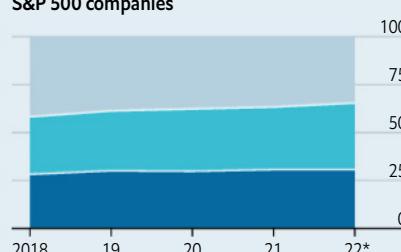
Where boards are actively recruiting substitutes or additions, they face another problem. Much of the newly relevant expertise concerns areas that are themselves, like ESG or AI, new. This means few prospective candidates possess it. Many companies therefore fish in the same talent pool. That may help explain why boards are getting more expensive: median compensation of Russell 3000 directors rose from \$177,000 in 2019 to \$205,000 in 2022. And more incestuous: around 65% of S&P 500 non-executive directors sit on at least one other board, up from 58% in 2018 (see chart); one in ten sits on at least three. Ann Mather, former chief financial officer of Pixar Studios, an animation firm, sat on eight boards at the start of 2022.

Experienced directors who are not white or male are in especially high demand. In Britain, a government-commissioned review into boardroom diversity at FTSE firms has found that most were still failing to appoint people of colour to ➤

### Going overboard

United States, non-executive directors serving on other for-profit company boards, % of total

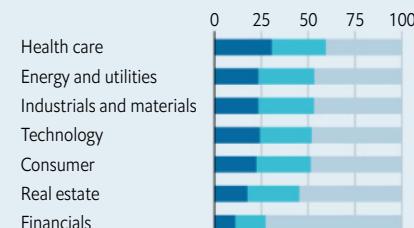
#### S&P 500 companies



Sources: The Conference Board; ESGAUGE

■ Two or more ■ One ■ No other seats

#### Russell 3000 companies, by sector, 2022\*



\*At November 10th

boards. Moni Mannings, a former lawyer who has held various non-executive positions in big British firms, says she was inundated with calls from recruiters for months after the murder of George Floyd sparked racial-justice protests in America—and caused a hiring boom for directors from ethnic minorities on both sides of the Atlantic. “Do they not know anybody else?” she would wonder in exasperation.

Investors are waking up to the risks of overstretched directors spreading their time too thinly. In May Twitter’s shareholders voted to strip Egon Durban, a ven-

ture capitalist, of his board seat after two proxy-advisory firms warned that the seven board positions he was juggling at the time may have been too many. (Twitter’s board problem was solved conclusively in October when its new owner, Elon Musk, disbanded it altogether.) In June BlackRock, the world’s biggest asset manager, voted against Ms Mather’s board appointment at Alphabet, Google’s parent company, as part of its campaign against “overboarding”. Ms Mather maintained her seat but has since stepped down from Airbnb, a home-rental service, and Arista Networks,

a computer-networking firm.

The upshot is that companies will have to cast their net more widely. Recruitment may take longer as a result, especially if you decline to enter a bidding contest with rival recruiters over directors’ compensation, notes Peter Voser, a seasoned chairman of multinational firms. ABB, a Swiss engineering giant Mr Voser chairs, took its time finding a director to fill one opening—two years to be precise. But in the end, it found the right person with the right skills and experience. And the board beavers away in the background. ■

## Bartleby Dullness and its discontents

*Unshowy competence brings benefits as well as drawbacks*

THE CHARISMATIC corporate climber is a common target for resentment in office life. He—and research suggests men are particularly given to such narcissism—hogs the spotlight in meetings, is adept at grabbing undeserved glory, and is a pro at self-promotion. More often than not, he is the boss’s pet. But he rises on the back of another, unsung, corporate archetype: the competent, diligent but unexciting achiever.

Studies find that plenty of confident egomaniacs, unsuited to the subtleties of management, get a leg-up for being, well, confident egomaniacs. Companies disproportionately promote narcissists. Perhaps a fifth of chief executives fit the description, researchers have found, a far higher proportion than within the wider population. Self-absorbed CEOs can sap morale and, evidence suggests, produce poor financial results.

A strong case for the dull striver was made by Tomas Chamorro-Premuzic, a psychologist at University College London, in an article for the *Harvard Business Review* in 2015 entitled “The best managers are boring managers”. Understated competence does not intuitively scream leadership. Many totemic bosses of the age, from bankers to tech founders, come with big egos, showy antics and volatile tempers. Elon Musk may be accused of many things. Dullness is not one of them. Even so, Mr Chamorro-Premuzic argued, conscientious but unprepossessing characters tend to have little-noticed but precious advantages. They can be depended on to make decisions calmly, manage teams deftly and be emotionally mature. They deserve promotion ahead of co-workers with “flash and vision, and bold displays of confidence”.

A seminal meta-analysis of research on leadership characteristics, published

in 2002 by Timothy Judge, then at the University of Florida, and colleagues, indeed found a link between managerial effectiveness and personality traits such as being stable, agreeable and dependable. One explanation is that level-headedness makes it easier to deal coolly with the many subtle problems thrown up by human beings (who may all too easily infuriate a more volatile manager). Emotional maturity is also an indicator of trustworthiness. Studies have found that managers with dysfunctional traits such as narcissism are likelier to get up to no good. Conscientious bosses, by contrast, score highly for integrity.

The dull but diligent could be especially valuable now. As companies claim increasingly to prize soft skills, such as being able to communicate well with all sorts of people, emotionally intelligent workers ought to be in demand. A volatile business environment in which firms face problems from recession to climate change, pandemics and war, favours the steady leader.

Chief executives face tricky decisions

about how much risk to take in pursuit of growth, as shareholders look on nervously. Startup bosses who proudly moved fast and broke things are now falling over themselves to look demure. “We are a very boring company,” Oliver Merkel, head of Flink, a grocery-delivery startup, bragged to the *Financial Times* recently. The trend is visible in politics, too. Joe Biden in America and Rishi Sunak in Britain rose to their countries’ top jobs partly because their boring dependability promised relief from their predecessors’ noisy incompetence. Testing times call for cool heads.

For all that, quietly competent types hoping for greater appreciation (and remuneration) should not sit still. To rise up the ranks, the boring would do well to raise their profiles, whether by speaking up in meetings or talking up their accomplishments. If they bag bigger jobs they will anyway need to master show-offy things like glad-handing clients, chairing meetings and holding forth on strategy. Though Mr Judge’s analysis revealed emotional stability and general diligence were crucial to managerial effectiveness, extrovert qualities such as sociability were also telling factors.

Companies’ penchant for promoting the wrong people is deeply ingrained, despite management theorists’ admonitions. By default, many of those dishing out promotions are themselves narcissists who advanced by wowing their superiors. And showy sorts’ shameless self-aggrandisement fulfils a convenient function for bosses, giving them a shortcut—no matter how misleading—to finding candidates for elevation. Many managers are too busy to patiently unearth genuine talent. After all, they have other important things on their plates—like impressing their own bosses.



**Retailing**

## Everyday low profits

**A warning from Walmart about the health of the American consumer**

**C**HOICEFUL, DISCERNING, thoughtful" is how Walmart's boss, Doug McMillon, described American consumers on February 21st, as he presented the retail behemoth's quarterly results. That may be so. What they aren't, at least in aggregate, is frugal. Last year consumer spending shot up even as real disposable incomes declined by more than 6%. America splurged on in January, shopping its way through a warm winter buoyed by 517,000 new jobs and a chunky inflation-linked bump in social-security cheques. Retail sales rose by 3% month on month, and consumer sentiment reached its highest level in more than a year. Those looking for evidence of a "soft landing", where the economy avoids a recession despite tighter monetary policy, found solace in the American consumer.

On the surface, Walmart looks like exhibit A for the optimists. Its comparable sales in America grew by a brisk 8.3%, year on year. Look closer, though, and its results are full of warning signs. A big reason for its market-share gains in groceries was cash-strapped consumers, including high-income ones, trading down from fancier supermarkets. Its higher-margin discretionary range—toys, clothes, homeware and the like—did less well, despite heavy discounting to clear inventories overstocked as a result of a post-pandemic miscalculation about demand for certain goods. Worst of all, Walmart forecast sales growth of 2.5-3% for the current fiscal year, below analysts' expectations.

Other retailers tell a similar story, more poignantly. The same day, Home Depot reported its seventh successive year-on-year drop in transaction volumes—and last quarter, for the first time, it was not offset by growth in the average size of transactions. The home-improvement firm's share price fell by more than 7% on the day. And shoppers' baskets may get lighter as the housing market wobbles: according to Barclays, a bank, the more the asking price for properties fall, the less consumers spend on an average trip to Home Depot.

Retailers' margins were always likely to narrow after the covid-era blow-out. Although the worst labour shortages have subsided, wages remain high. In January Walmart announced pay rises that will raise its average hourly wage above \$17.50. UBS, a bank, estimates that such moves will cost the company around \$1bn a year. Home Depot said it would spend an extra



**The shopping forecast**

\$1bn on higher hourly wages for workers.

A bigger worry is the potential drop-off in demand. The tailwind from strong household balance-sheets, fortified by covid-induced saving and government hand-outs, will not blow for ever. According to Goldman Sachs, another bank, households have spent a third of their excess savings and will have spent another third by the end of 2023. Firms that, like Home Depot and Walmart, flaunted their pricing power last year are now more careful, lest pricier wares scare shoppers away. Last week Kraft Heinz, a food giant, said it was mostly done raising prices this year. Even well-heeled buyers, who drove retailers' sales growth in 2022, are feeling the heat, as Walmart's success with them shows. It is all too easy to imagine Mr McMillon's discerning shoppers turning into dispirited ones. ■

### Social media

## Pay as you post

**Ad-driven platforms are toying with subscriptions**

**I**T'S FREE and always will be," Facebook vowed on its landing page for nearly a decade. The world's largest social network still is. But from this week its users and those of its sister app, Instagram, will have the option of paying \$11.99 a month for a "verified" account, buying them better customer service, more widely distributed posts and a blue badge next to their name.

The subscription is the latest example of a growing trend. Last June Snapchat, a messaging app popular among 20-some-

things, launched a \$3.99 plan called Snapchat+. In December Twitter relaunched Twitter Blue, an \$8-per-month service. Like Meta's offering, both offer an assortment of perks, the most significant being a more prominent place for the user's posts in the feeds of others.

It is hardly surprising that ad-supported networks are looking to diversify their sources of revenue. After years of non-stop growth the online-advertising business has hit a speed bump. The great one-off shift of ad budgets from offline locations, like newspapers, to the web is mostly complete. And since 2021 mobile advertising has been hampered by anti-tracking rules pioneered by Apple, which make it harder for apps like Facebook to target ads and measure their effectiveness.

The results have been painful. Meta, Facebook's parent company, has reported falling revenue in each of the past three quarters. Despite a recent rally its stock is trading at less than half the value at its peak in 2021. Snap, which owns Snapchat, has lost nearly 90% of its market value in the same period. Twitter, which was bought last October by Elon Musk, a mercurial self-styled "technoking", is "trending to breakeven" having previously faced bankruptcy, its owner tweeted this month.

Subscriptions are no substitute for ads. Snap said on February 17th that 2.5m people had signed up to Snapchat+, less than 1% of its app's 375m daily users. That implies annual subscription sales of no more than \$120m, or less than 3% of Snap's total revenue last year. Though Twitter has not said how many have joined Blue (its entire press office seems to have been sacked), a recent leak put the figure at below 300,000. The product remains a work in progress, with promised features such as fewer ads still billed as "coming soon". On February 17th Twitter adopted a new approach to driving sign-ups, announcing that two-factor authentication by text message, a security feature, would shortly be turned off for those who don't cough up.

Meta says its offering is aimed at "creators", who use its platforms for work and might be most willing to pay for verification and extra reach. Whereas "Elon has a plan for everyone to buy Twitter Blue (but has yet to give good reasons why), for Meta it is about a scalable way to prevent impersonation of businesses [and] celebs," suggests Benedict Evans, a tech analyst. Rob Leathern, a former Facebook executive, rejects the idea that the plan is a copy of Snap's and Twitter's efforts: Facebook has been working on verification for years, he says, citing its acquisition in 2018 of Confirm.io, a biometric-ID startup.

To the extent that social networks embrace subscription it will mean a windfall for the mobile platforms that host their apps. Google, which runs the Android op-►

erating system, and Apple, which runs iOS, make no money from apps' advertising revenue, but take a cut of consumers' in-app purchases, including recurring subscriptions. Having whacked the mobile ad business with new privacy rules, Apple and Google stand to profit from the resulting move to subscriptions.

There may be a sting in the tail. Whereas Meta's new service costs \$11.99 for those signing up on the web, the price if paying via the app is \$14.99. Similarly, Mr Musk, who has called Apple's fees "a 30% tax on the internet", charges \$8 for Twitter Blue online and \$11 in the app. Such two-tier pricing has proved controversial, with Apple blocking apps such as Fortnite, a video game which told users they could pay less in a browser. But as more large companies embrace differential pricing, consumers may learn that they can get a big discount by signing up outside Apple and Google's ecosystems. ■

**Axel Springer**

## Mathias in the middle

BERLIN

**A controversial German publisher is going all in on America**

MATHIAS DÖPFNER is a polarising figure in Germany. Lefties loathe him for leading Axel Springer, a publishing giant, because of the aggressive gutter journalism of *Bild*, its flagship tabloid that helps set the tone of the political debate. Conservatives take umbrage at his provocative pronouncements. And jealous types of all stripes envy his transformation from music critic to media mogul, who in 2020 received Springer shares worth a cool €1bn (\$1.1bn) from Friede Springer, widow of the firm's eponymous founder, as a gift.

Across the Atlantic Mr Döpfner does not provoke similar passions. That is about to change, because his ambition is to turn his company into America's top digital publisher, from number four today. "America has become the main heart chamber and the growth engine of our publishing business," says Mr Döpfner. Springer already owns *Politico*, an American website for political news junkies, *Insider*, another news site, and *Morning Brew*, which offers business news. It is all part of Mr Döpfner's plan to return to Springer's origins as a news publisher, except mostly American, not German—and all digital.

He can think boldly about expansion because Springer had a good 2022. Sales by the group, which owns 150 media brands in more than 40 countries, increased by 13% to €3.9bn, the second straight year of dou-

ble-digit growth. Operating profit edged up to €750m. Digital activities accounted for 85% of revenues and more than 95% of profits. While many American rivals were shedding staff, the group hired 400 journalists in America in 15 months to shore up its newsrooms.

Mr Döpfner was an early convert to online business. He sold off some of Springer's print newspapers and magazines. He used the proceeds for digital acquisitions, such as StepStone, one of Germany's most-visited sites for jobseekers; Idealo, a price-comparison service; Awin, a marketing platform; and Aviv, a property portal.

The next step is to take StepStone public, maybe this year, followed by Aviv, Idealo and Awin. The money from the sales could then be used to buy out KKR, the American private-equity giant which took Springer private in 2019 and became its biggest shareholder, with a 35.6% stake. This would make Mr Döpfner, who owns 21.9% and exercises the voting rights of Ms Springer's remaining 22.5% stake, the firm's incontrovertible owner. That, in turn, would give him free rein to pursue his digital American dream.

"It's a big bet," says Douglas McCabe at Enders Analysis, a research firm. Digital news publishing is not yet a strong and sustainable business. Mr Döpfner paid more than \$1bn for *Politico*, Springer's biggest-ever acquisition, and top dollar for *Insider*, too. Although both made money last year, it may be a while before Springer sees a return on those investments.

As for party-neutrality, Mr Döpfner's strategy is a response to the perception, shared by many readers, that American publishers have in recent years nailed their colours to the mast not just in their outlets' opinion pages, which is nothing new, but in their reporting, too. There certainly is

room in America for non-partisan news. However, it is unclear whether Mr Döpfner can pull it off. His German journalists agree to abide by the five "essentials" of Axel Springer's constitution, which include support for the transatlantic alliance and the right of Israel to exist. In Germany he is renowned for his anti-woke, sometimes libertarian views, which in American eyes are bound up with the Republican Party. Mr Döpfner insists he does not interfere in the editorial process and encourages disagreements with his opinions. But his world view prevails both at *Bild* and *Welt*, a broadsheet.

Springer's American rivals will not cede ground to it willingly, either. Their journalists are already making him feel unwelcome. Two months after his *Politico* acquisition, the *New York Times* ran a story headlined "At Axel Springer, Politico's New Owner, Allegations of Sex, Lies and a Secret Payments", about trysts with employees of Julian Reichelt, editor-in-chief of *Bild*. Mr Döpfner sacked Mr Reichelt the day after the story was published. But the saga has damaged Mr Döpfner more than earlier controversies. In spite of evidence of Mr Reichelt's misdeeds unearthed by a compliance investigation, he hung on to the editor for months, and defended him privately as a courageous journalist who had the guts to rebel against woke conformism.

After months of fierce criticism about his handling of the affair, last November Mr Döpfner resigned as head of the German association of publishers. He put this down to the need to focus on his "contrarian bet" on non-partisan journalism in democracies around the world, America chief among them, at a time of polarisation and populism. Given the scale of the task he has set himself, the media baron certainly needs all the time he can get. ■



Springer in his step

# Schumpeter | Free the creators

*It's time for Alphabet to spin off YouTube*



**C**OMPARED WITH the attention heaped on Bob Iger's return to the helm of Disney and the stepping back of Reed Hastings at Netflix, news on February 16th that Susan Wojcicki would resign from YouTube after nine years as CEO caused barely a rustle in the media pages. That is a sign of two things. First, how little attention Wall Street analysts and entertainment-industry scribblers pay to the business of YouTube, even though it has become a hub—as well as a byword—for global video. Second, how overshadowed it is by the teetering ramparts of its parent company, Alphabet. Sundar Pichai, the tech giant's beleaguered boss, is fighting wars on so many fronts, from Microsoft's ChatGPT-inspired encroachment on Google search to trustbusters and the Supreme Court, that the goings-on at YouTube must seem like a sideshow.

That does a disservice to Ms Wojcicki. Her decision to hand over to her lieutenant, Neal Mohan, may not have come at the pinnacle of YouTube's success. A combination of an advertising slowdown and competition from TikTok, an addictive short-video app, has helped lead to its second consecutive quarter of year-on-year decline in ad revenues. Yet on her watch, YouTube has become so integral to the entertainment landscape that to many it is DIY handbook, cookbook, childminder, jukebox, yoga instructor, news channel and time sink, all rolled into one. It has 2.6bn monthly active users and a simple but effective revenue-sharing model that millions of creators rely on to keep pouring stuff out. Its response to TikTok, YouTube Shorts, averages 50bn views a day.

Data published this week by Benedict Evans, a tech commentator, underscored just how far the platform has gone beyond social-media video to more mainstream content. In America, YouTube's share of TV viewing has recently eclipsed Netflix. Last year, according to Mr Evans's estimates, it paid its creators almost as much as Netflix paid for its big-budget productions. Star YouTubers like MrBeast command similar audiences to a top Netflix hit.

It is an advertising juggernaut to boot. Though its \$29bn of ad sales last year were roughly a tenth of Alphabet's revenues, Richard Broughton of Ampere Analysis, a research firm, points out that they are equivalent to a "sizeable chunk" of the global \$140bn broadcast-TV advertising market. Moreover, YouTube gives Spotify a run for its money in music and podcasts, sells cablelike bun-

dles of channels on YouTube TV, and, like Amazon and Apple, takes a cut on subscriptions to other media companies' streaming services. And it has even just shelled out a reported \$14bn for the rights to stream live American football on Sundays. In short, putting China's great firewall to one side, it is hoping to become the stage door for all the world's small-screen video, from user-generated clips and streaming to sport.

Ms Wojcicki is as close to Mountain View aristocracy as you can get without being surnamed Brin or Page; Sergey and Larry first set up the search engine that would be Google in her garage. She no doubt helped bring Google's professionalism to bear on YouTube. After the freewheeling chaos of YouTube's early days—it had been founded only a year before Google bought it in 2006—she became the adult, and ad-executive, in the room. As she departs it is worth asking whether YouTube, now past adolescence, benefits from its attachment to the mother ship as much as it used to. Tim Mulligan of MIDIA, another research firm, thinks Alphabet may in fact be hindering YouTube more than helping it. Is it time for a spin-off?

For YouTube, there are many arguments in favour. One is focus. Such is the upheaval in the entertainment industry, from TikTok and the streaming wars to cord-cutting in pay-TV, that laserlike concentration is essential. Alphabet has too much else on its plate to give YouTube full attention. Then there is the business model. Without the hand of an advertising behemoth on its shoulder, it would have greater freedom to experiment with subscription revenues. A third argument has to do with regulators. A case heard on February 21st at the Supreme Court on whether YouTube violated anti-terror laws by using algorithms that recommended extremist videos was met with scepticism by justices. And Facebook has suffered plenty of political heat over content. But being part of a bigger firm than Meta, Facebook's parent, makes YouTube a juicier target, especially for trustbusters. Its ability to expand services like YouTube TV globally may be hindered by regulatory concerns about Alphabet's size.

Alphabet could reap benefits, too. Mr Pichai's panicky response to ChatGPT, an artificial-intelligence (AI) partnership between Microsoft and a startup called OpenAI, has raised doubts about his leadership. A spin-off of YouTube would send a strong signal that he is doubling down on such "generative" AI. It would also enable Alphabet to get ahead of the Department of Justice (doj), which in January sued Google over its alleged monopoly of digital-advertising technologies. Alphabet denies it is a monopoly. But if courts decide differently, a voluntary break-up, even loosely related to ad-tech, would be preferable to a doj-imposed half-Nelson.

YouTube's valuation as an independent public company could be eye-popping. Its ad sales are close to Netflix's revenues of \$32bn, not counting its 80m music and premium subscribers or TV revenues. Laura Martin of Needham, an investment bank, reckons that it could be worth at least \$300bn, more than half as much again as Disney and double Netflix's market capitalisation.

## Control freaks

If it all sounds too simple, that's because it probably is. Messrs Page and Brin control more than half of Alphabet's voting rights, and would not like to be the first titans of tech to start selling off the family silver. Yet with TikTok, which is Chinese-owned, in no apparent rush to go public, investors would probably relish getting their hands on the shares of an American equivalent—especially one taking on the world's TV giants. The freshly minted plutocrats of the creator economy might, too. ■



### Global debt (1)

## Time for the tab

The world's interest bill is \$13trn and rising. We calculate who will pay it

AFTER A RELAXING 2010s, in which interest rates hardly budged, rising prices are putting central-bank officials to work. Indeed, policymakers have rarely been busier. In the first quarter of 2021, policy rates in a sample of 58 rich and emerging economies languished at an average of 2.6%. By the final quarter of 2022, this figure had jumped to 7.1%. Meanwhile, total debt in these countries stands at \$298trn, or 342% of their combined GDP, up from \$255trn, or 320% of GDP, before the covid-19 pandemic.

The more indebted the world becomes, the more sensitive it is to interest-rate rises. To assess the effect of borrowing and higher rates, *The Economist* has estimated the interest bill for companies, households and governments across 58 countries. Together these economies account for more than 90% of global GDP. In 2021 their interest bill stood at a \$10.4trn, or 12% of combined GDP. By 2022 it had reached a whopping \$13trn, or 14.5% of GDP.

Our calculations make a series of assumptions. In the real world, higher interest rates do not push up debt-servicing costs immediately, except for those of floating-rate debt, such as many overnight bank loans. The maturity of government debt tends to be in the range of five to ten years; companies and households tend to borrow on a shorter-term basis. Therefore we assume that interest-rate rises feed through over the course of five years for public debt, and over a two-year period for households and companies.

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To project what might happen over the next few years, we make a few more assumptions. Real-life borrowers respond to higher rates by reducing debt to ensure that interest payments do not get out of hand. Nonetheless, research by the Bank for International Settlements, a club of central banks, shows that higher rates do raise interest payments on debt relative to income—ie, that deleveraging does not entirely negate higher costs. Thus we assume that nominal incomes rise according to IMF forecasts and debt-to-GDP ratios stay flat. This implies annual budget deficits of 5% of GDP, lower than before covid.

Our analysis suggests that, if rates follow the path priced into government-bond markets, the interest tab will hit around 17% of GDP by 2027. What if markets are underestimating how much tightening central banks have in store? We find that another percentage point, on top of that which markets have priced in, would bring the bill to a mighty 20% of GDP.

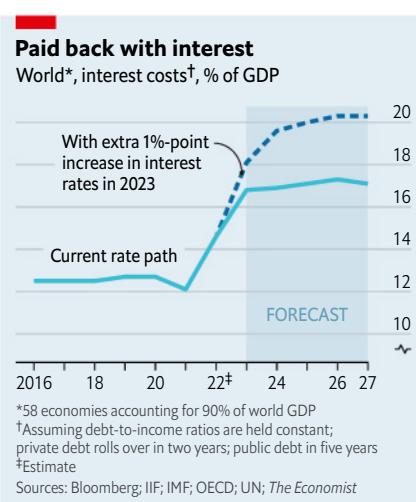
Such a bill would be big, but not without precedent. Interest costs in America exceeded 20% of GDP during the global financial crisis of 2007–09, the economic boom of the late 1990s and the last proper burst of inflation in the 1980s. Yet an average bill of this size would mask big differences between industries and countries. Ghana's government, for instance, would face a debt-to-revenue ratio of over six and ➤

▶ government-bond yields of 75%—which would almost certainly mean eye-watering cuts to state spending.

Inflation may ease the burden somewhat by pushing up nominal tax revenues, household incomes and corporate profits. And global debt as a share of GDP has fallen from its peak of 355% in 2021. But this relief has so far been more than offset by the considerable rise in interest rates. In America, for instance, real rates as measured by the yield on the five-year Treasury inflation-protected security sit at 1.5%, against an average of 0.35% in 2019.

So who is bearing the burden? We rank households, companies and governments across our 58 countries according to two variables: debt-to-income ratios and the increase in rates over the past three years. When it comes to households, rich democracies, including the Netherlands, New Zealand and Sweden, look more sensitive to rising interest rates. All three have debt levels nearly twice their disposable incomes and have seen short-term government-bond yields rise by more than three percentage points since the end of 2019.

Yet countries that have less time to prepare for rate rises may, in fact, face greater difficulties than their more indebted peers. Mortgages in the Netherlands, for instance, often have longer-term fixed rates, meaning the country's households are probably better protected from higher rates than our rankings suggest. In other countries, by contrast, households typically either have shorter-term fixed-rate loans or borrow on flexible terms. In Sweden floating-rate mortgages account for nearly two-thirds of the stock, which means problems may emerge more quickly. In emerging economies the data are patchier. Although debt-to-income ratios are lower, this partly reflects the fact that formal credit is hard to obtain.



In the business world, surging consumer demand has lifted profits. In 33 of the 39 countries for which we have data, the ratio of debt to gross operating profit has fallen in the past year. Indeed, parts of the world look surprisingly strong. Despite the woes of Adani Group, a conglomerate under fire from a short-seller, India scores well, thanks to a relatively low debt-to-income ratio of 2.4, and a smaller rise in rates.

Big debt burdens and tighter financial conditions may still prove too much for some companies. S&P Global, a research firm, notes that default rates on European speculative-grade corporate debt rose from under 1% at the start of 2022 to more than 2% by the end of the year. French firms are especially indebted, with a ratio of debt to gross operating profit of nearly nine, higher than any country bar Luxembourg. Russia, cut off from foreign markets, has seen short-term yields spike. Hungary, where the central bank has rapidly raised rates to protect its currency, could face a big interest bill relative to the size of its economy.

Last and most consequential is government debt. Daleep Singh of PGIM, an asset manager, says a variable to watch is the risk premium on debt (the extra return markets demand to hold a country's bonds over and above the yield on an American Treasury). Rich-world governments are mostly doing fine on this measure. But Italy, which has seen one of the biggest increases in bond yields among euro-zone countries in our sample, remains a risk. As the European Central Bank tightens policy, it has stopped buying sovereign bonds, and will begin to shrink its balance-sheet in March. The danger is that this prompts a crunch.

Emerging economies increasingly borrow in their own currencies, but those struggling with external debts may require help. Argentina recently reached a bail-out agreement, which will require uncomfortable belt-tightening, with the IMF. It sits near the top of this category, and already defaulted on its external debt in 2020. Egypt, which has medium-term government-bond yields around four to five percentage points above pre-pandemic levels, is trying not to follow suit. Ghana, which recently joined Argentina in the severely distressed camp, is now embarking on fiscal and monetary tightening in an attempt to secure support from the IMF.

The fate of some governments, as well as the households and firms that eventually need state support, may depend on the goodwill of China. Despite high debt levels, China itself sits near the bottom of our rankings because of its placid interest rates. Yet its importance to global debt stress is only growing. China is now the largest lender to the world's poor economies and gobble up two-thirds of their inflating external debt-service payments, complicating debt-relief efforts (see next story). Western governments must hope they can shoot down this balloon, too. ■

## Top of the pops

Interest-bill components, 2022 or latest available

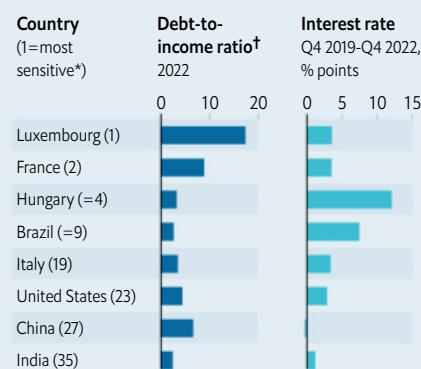
### Households (in 40 countries)



### Governments (in 54 countries)



### Companies<sup>‡</sup> (in 39 countries)





### Global debt (2)

## Changing cash flows

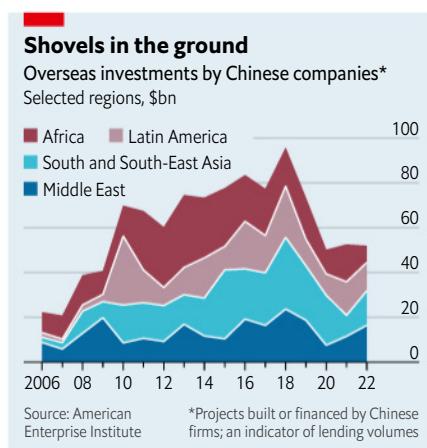
### Welcome to a new, more sophisticated era of Chinese overseas lending

CHINA HAS plastered slogans on its loans for as long as it has lent overseas. The “Going Out” strategy in 1999 gave way to the “Community of Common Destiny” in 2011, which was swiftly overshadowed by Xi Jinping’s “Belt and Road” vision two years later. Throughout this period, even as the slogans changed, one type of project dominated: overseas infrastructure funded by Chinese loans. The country’s banks have financed everything from the Mecca Metro, a railway in Saudi Arabia being built at a cost of \$16.5bn, by the same construction firm that once laid tracks for Mao; to the start of Bandar, a shiny new development in the Malaysian state of Johor, an attempt to establish a rival to Singapore.

By the time the covid-19 pandemic struck, and lending dried up, China’s approach had begun to seem unsatisfactory. According to our estimates, the world owed China’s eight biggest state-owned banks at least \$1.6trn, equivalent to around 2% of global GDP. Critics accused China of luring poor countries into debt traps to advance geopolitical aims. Technocrats worried about how to fit China into structures the rich world used to relieve poor countries’ debt. Chinese officials, meanwhile, were growing concerned that they would fail to get a return on an uncomfortable number of projects. As lending ticks up once again, China is changing tack. The system that is emerging is leaner and more sophisticated, but just as determined to reshape the world to Beijing’s advantage.

It is not the institutions that have changed. Poor countries borrow from the West via multilateral outfits, aid agencies, banks and bond markets. China’s overseas lenders, including the two biggest, Exim and China Development Bank, are state-owned, blurring the lines between lending for profit and aid. Whereas Western lenders entrust loans to borrowers, or charities in recipient countries, almost all of China’s lending finances infrastructure built by the country’s state-owned firms, meaning money may never leave the country.

In its early days, the system seemed to benefit everyone. In China, weak demand for some types of construction left the industry’s state-owned giants at a loose end. State-run banks had an overflow of dollars



from rocketing exports. The bosses of both not only won valuable business by looking abroad—they also scored points with officials. In return, these officials acquired diplomatic pull over borrowers. Loans flowed to Africa, in particular, which was home to receptive governments and a wealth of untapped resources. But the eight big state-owned banks lent everywhere. The stock of worldwide loans owed to China grew from \$390bn at the end of 2010 to \$1.5trn in 2017.

Cracks began to emerge towards the end of this period, however. Mr Xi’s orders, to focus on a “road” of global shipping lanes and a “belt” of land routes connecting remote China to the farthest tips of Africa and Europe, failed to transform lending. Belt-and-Road loans continued to flow to countries too hostile or far away to be useful. Poor countries struggled with repayments, meaning more and more projects were abandoned. State-owned construction companies, the part of the lending system that dealt most with borrowers, had little skin in the game. If a loan turned sour, banks lost money and officials were embarrassed, but the builders still got their cut. According to the American Enterprise Institute (AEI), a think-tank which keeps tabs on China’s lending, new construction projects began to dry up even before covid struck, suggesting officials were finally reining in lenders.

Western observers expected the brake applied at the start of the pandemic to last until China dealt with the restructurings left behind by earlier profligacy. Instead, policymakers are now instructing lenders to head overseas again, and senior diplomats are going with them to smooth the process. China never acknowledged the pandemic halt, which was only visible in figures from recipient countries. But these figures are now on the rise. Meanwhile, data from fdi Markets, a consultancy, show announcements of new projects, which indicate forthcoming loans, ticked up in the latter half of 2022.

The characteristics of this new era are starting to emerge. In 2020 officials told construction firms that future Belt-and-Road projects should resemble “meticulous drawings”. In a speech in 2021 Mr Xi reminded them that “small is beautiful”. Sinosure, a state-run insurer, now refuses to allow loans to countries already heavily indebted to China. Construction firms also have to take a small stake in projects they work on. According to the AEI, the value of the average construction project fell from \$526m in 2012-17 to \$423m in 2018-22. Another database, maintained by researchers at Boston University, shows that footprints are also shrinking, from an average of 90km<sup>2</sup> in 2013-17 to 16km<sup>2</sup> in 2018-21.

Chinese policymakers are taking greater control over disbursement, too. Before ➤

► the pandemic, equity funds owned by ministries, policy banks and other parts of officialdom were the fastest-growing source of overseas finance, according to Boston University's data. These help officials direct state money to where they want it, without having to go through state-owned construction firms. Some funds are partnerships between China and Gulf countries; others act in a manner akin to private-equity outfits. Fund managers make the big decisions. So far they have chosen to invest in fintech and green tech. In time, China could even use these channels to make investments in rich countries that have little desire for debt.

Many of the new generation of projects are in commodity hotspots that are crucial to the green transition. China's manufacturing industry used to demand oil and iron ore. Now it makes more electric vehicles than anywhere else in the world, and seeks enormous quantities of cobalt, copper and lithium. From 2018 to 2021, even as state-owned banks stopped lending elsewhere, they sent billions of dollars to partnerships between Chinese state-owned enterprises and local metal-mining operations in Latin America. This spurred a buying spree by state-owned enterprises and equity funds, three of which are dedicated specifically to the region.

#### Lend your money, lose your friend

In this leaner, more centralised system, money goes to two kinds of borrowers: those with a good chance of repaying (either because projects are likely to turn a profit or governments are sufficiently rich) or those for which any lost money represents a price worth paying for diplomatic or military advantage. Loans to friendly countries with limited geopolitical use, such as Angola and Venezuela, have dried up. But the China-Pakistan Economic Corridor, a label for \$60bn-worth of megaprojects in a country that already owes more than 30% of its external debt to China, appears to be an exception to Sinosure's new lending rule. The Centre for Research on Energy and Clean Air, a think-tank, reckons that there are at least four power plants in Pakistan which would have been scrapped had officials stuck to recently adopted climate policies.

Thus the map of Chinese overseas finance is being redrawn. Banks are offering fewer loans to Africa. Instead, they are going to nearer countries, fresh commodity sources and places where Chinese firms are able to dodge Western trade tariffs. Malaysia and Indonesia have benefited because of their proximity; Latin America owing to its minerals. A small but growing number of state-owned manufacturers are heading to countries that get on with both Beijing and Washington, making use of loans from state-run banks to set up shop



with local governments and firms. One such arrangement is Kuantan industrial park in Malaysia, the infrastructure for which cost at least \$3.5bn and was financed by a joint venture between the countries and their state-owned enterprises. The Middle East, where Oman and Saudi Arabia host Chinese manufacturing clusters, offers similar access to Europe.

The new era presents unknowns. One is about the scale of investment. Money from equity funds passes through places like Hong Kong and the British Virgin Islands, making it difficult to track. Although loans from state-owned banks are shrinking, they are also being doled out faster. Another unknown concerns decoupling. In the earlier era, China's overwhelming ambition was to plug itself into the global economy. Now it also wants to insulate itself from America's economic warfare. If relations continue to deteriorate, China may ramp up efforts to avoid tariffs, lock-in allies and secure global supply chains. A final unknown is whether such efforts will be hindered by the country's desire for a more sustainable approach to debt. Some question whether China's behaviour has truly changed. Over time, will it return to building and financing megaprojects, on top of its various new activities?

Previously Chinese banks lent to poor countries for massive, useless projects. But the same banks also lent for massive, useful projects, such as dams and roads, in countries that could not borrow from anyone else, because they could not really repay anyone. Oxford Economics, a consultancy, estimates that from now to 2040 there will be a \$15trn global "infrastructure investment gap", between the funding for construction that economies require and that which will actually be available to them. With its change of approach, China seems unlikely to step in, and other countries are no keener. China's new era of lending will be more focused, and better for its own public finances. Some countries, particularly in Africa, will nevertheless miss the old way of doing things. ■

#### Foreign-exchange intervention

## Reserve judgment

### SINGAPORE

**Big Asian economies take on the forces of international capital—and win**

BATTLING CURRENCY markets used to be considered unwise by central bankers and policymakers. Burning foreign-exchange reserves to take on the forces that push and pull a currency's value was foolish, so the thinking went, and almost certainly futile. Orthodoxy held that a country seeking to defend its currency should raise interest rates, not sell reserves.

This was put through a real-world test last year as America raised rates and the dollar climbed in value. Officials in many emerging economies deployed their holdings to defend local currencies. According to the IMF, global foreign-exchange reserves fell by \$1.1trn between the end of 2020 and the third quarter of 2022, with holdings of dollar-denominated assets accounting for half the decline.

During the past few months, however, the process has begun to reverse, as the dollar has fallen and pressure on countries that intervene to defend their currencies has abated. The combined holdings of large Asian reserve holders—China, Japan, South Korea and Taiwan—have risen by \$243bn since October, through a combination of revaluation and new purchases, to a total of \$5.6trn. India's foreign-exchange reserves are up by \$42bn since October, too, recovering more than a third of their decline in the preceding 12 months.

A recent paper by Rashad Ahmed of America's Office of the Comptroller of the Currency and co-authors suggests that big reserve accumulators may, in fact, have reason to rebuild. Countries that entered 2021 with larger reserves and greater credibility in their capacity to intervene saw smaller depreciations in their currencies, ►

#### Asia rising

Change in foreign-exchange reserves, \$bn  
Three-month moving sum



► all else equal. The authors calculate that additional reserves worth ten percentage points of national GDP were associated with 1.5% to 2% less depreciation in the domestic currency, relative to the dollar.

Meanwhile, a number of countries which began this period with modest reserves have suffered deep depreciations. The Egyptian pound, which traded at 16 to the dollar at the start of 2020, now trades at 31. The official exchange rate of the Pakistani rupee has also weakened, from 154 to the dollar at the start of the covid-19 pandemic to 278 more recently. In both places black

markets offer even weaker rates.

Mr Ahmed and co-authors note that healthy foreign-exchange reserves could have another benefit. Removing the need for interest rates to be used to defend the currency enables "domestic monetary policy to better target domestic objectives".

The danger, however, is that currency intervention comes to be seen as a way to avoid more painful interest-rate rises. Although the IMF is not as vehemently opposed to foreign-exchange intervention as it once was, it still draws some limits. As recently as October, around the time when

the dollar peaked, Gita Gopinath, the institution's deputy managing director, and Pierre-Olivier Gourinchas, its chief economist, warned developing economies not to use currency intervention in place of tighter monetary and fiscal policy.

The experience of large currency-reserve holders during the dollar's recent surge might give governments other ideas. Being able to resist the pressure to follow the Fed's interest-rate movements is a goal held by many developing economies—and the more reserves they hold, the more resistant they seem to become. ■

## Buttonwood Too much of a coin flip

*Despite the bullish talk, Wall Street has China reservations*

ANY FOOL, with a bit of luck, can make a spectacular return by betting on a coin flip. Yet they risk losing everything in the process. The ultimate outcome for investors is a high return adjusted for the risk associated with it, an idea most famously captured by the "Sharpe ratio". This divides the expected return of an asset, minus the risk-free rate that an investor could earn by parking their money in super-safe government bonds, by its standard deviation, a measure of the return's volatility. A ratio above one is considered good. The Sharpe ratio of a double-or-nothing coin flip is negative.

These sorts of calculations are on the minds of Western financiers who have made, or plan to make, investments in China. Over the past three years risks associated with the country have piled up. Power seems more concentrated than ever in the hands of Xi Jinping, China's leader. His attitude to business is capricious: he has kneecapped tech firms including Alibaba and Tencent; Ant Group, an affiliate of Alibaba, was forced to call off its American initial public offering in 2020. A string of top executives have vanished. The most recent disappearance is that of Bao Fan, boss of China Renaissance Holdings, who was reported missing on February 17th. The investment bank's shares plunged by 50%, before recovering a little.

Relations between China and the West continue to sour. America has introduced vast subsidies to boost home-grown industry. This month it shot down an apparent Chinese spy balloon. The prospect of China eventually invading Taiwan, and the West's readiness to impose sanctions, as illustrated by the measures imposed on Russia, raise the prospect of further economic estrangement between the two powers.

Yet China's rewards are tantalising. This has long been true, but not quite to the extent it is now. The country is opening up after years of hair-trigger lockdowns. Given its economic heft, a rebound in activity as Chinese people start visiting restaurants, travelling and shopping again means that the country alone could power much of global growth in 2023 and 2024. Maybe exposure to the growth juggernaut, adjusted for all of these risks, is worth it.

There are noisy proponents of both sides of the position. On February 15th Charlie Munger of Berkshire Hathaway, a conglomerate, who is famously bullish on China, praised local firms as being "better and stronger" than their American equivalents, and available at cheaper prices. He also downplayed the idea that China might one day invade Taiwan. In contrast, analysts at JPMorgan Chase, a bank, and Jeff Gundlach, a bond investor, have called China "uninvestable" (although JPMorgan's analysts later changed their minds).

In private, however, financiers are more cautious, and are cutting back their

exposure to the country. The boss of a private-equity fund says that, although their firm still sees opportunities in China, it is tailoring its approach; avoiding any businesses that could end up ensnared in, say, nasty supply-chain disputes. Berkshire Hathaway reduced its stakes in BYD, a Chinese electric-vehicle manufacturer, and TSMC, a strategically important Taiwanese semiconductor firm, in the last quarter of 2022.

The most comprehensive information on foreign investment is found in balance-of-payments data, which track financial and trade flows. These showed growing "portfolio flows", such as investments in stocks or debt securities, into China in recent years, before turning sharply negative in 2022. They are only published with a lag: the latest figures do not capture reopening. The real-time evidence on flows is mixed. While stocks are up and some evidence shows modest inflows to mutual funds, Bloomberg data suggest continued outflows from exchange-traded funds so far this year.

This indicates a certain trepidation among Wall Street's finest. Even if they do not like to say so in public, worries about Mr Xi and Taiwan prevent them from embracing China. Perhaps the best way for Western financiers to get rich is not by putting their capital at risk by investing in Chinese firms or stocks, which might get clobbered on a government whim, but by offering the investing services Wall Street does best to rich Chinese investors. Last month it was reported that the assets in China managed by Bridgewater, an investment firm which first launched onshore funds in 2018, had doubled to almost \$3bn. Such work has the added advantage that it does not need to be justified by calculations involving the Sharpe ratio.





**After the energy crisis**

## Wartime economics

**Europe dodges recession—but the continent's new normal looks grim**

AFTER THREE years of pandemic shutdowns, reopening booms, war, clogged supply chains and nascent inflation, European policymakers thought that 2023 would be the year the old continent returned to a new normal of decent growth and sub-2% inflation. Europe's economy is indeed settling down. Unfortunately, though, the new normal is considerably uglier than economists had expected.

Start with the positives. The euro zone has proved remarkably resilient, considering the shock of Russia's invasion of Ukraine and the energy crisis. Gas is now cheaper than it was on the eve of the conflict, after prices spiked last summer. Governments were not forced to ration energy as had been feared at first, in part thanks to unseasonably warm weather. Headline inflation, having reached a record 10.6% in October, is falling.

Nor, as doom-mongers predicted, has industry collapsed because of the cost of fuel. In Germany, energy-intensive factories have seen output drop by a fifth since the war started, as imports replaced domestic production. But production overall had fallen just 3% by the end of the year, in line with the pre-pandemic trend. The latest IFO survey shows manufacturers as optimistic as they were before covid-19.

Although Germany's economy shrank slightly in the fourth quarter of 2022, the euro zone defied expectations of recession. According to the European Commission's latest forecast, the bloc will avoid a

contraction this quarter, too. Recent sentiment surveys support this projection. The widely watched purchasing-managers' index (PMI) has risen in recent months, suggesting a rosier picture is emerging in manufacturing and, especially, services.

Economic stability keeps people in jobs. The number in work across the bloc rose again in the fourth quarter of 2022. The unemployment rate is at its lowest since the euro came into existence in 1999; in surveys, firms indicate appetite for new workers. And jobs keep people spending. Despite high energy prices, consumption contributed half a percentage point to quarterly growth in the second and third quarters of 2022. In many countries, "the energy shock takes time to affect consum-



ers because high prices are only passed on with a lag," says Jens Eisenschmidt of Morgan Stanley, a bank. "In the meantime, financial help from governments has helped households spend."

The question now is how long they will keep spending. Households began to tighten their purse strings in the fourth quarter of 2022. In Austria and Spain, for which detailed GDP figures are available, consumption dragged down quarterly growth by a percentage point. Retail trade in the euro zone fell by 2.7% in December, compared with the month before. State handouts and price caps will be withdrawn this year. Consumption could become a problem.

Meanwhile, inflation is proving stubborn. "In the EU we have 27 different ways in which wholesale energy prices are passed on to consumers, which is a nightmare to forecast," sighs a commission official. Some price pressure may still be on the way—as looks to be the case in Germany, where energy prices in January rose by 8.3% from December. Even if wholesale prices stabilise at current lower levels, household prices may prove erratic.

Europe's strong jobs market could add to inflation. High prices and labour shortages, which are likely to worsen as oldies retire and fewer youngsters enter the workforce, are pushing up pay demands. In the Netherlands wages jumped by 4.8% in January, compared with a year earlier, after increasing by just 3.3% in 2022 and 2.1% in 2021. Germany's public-sector unions are threatening more strikes. They want a whopping 10.5% raise, which could set the tone for comrades elsewhere.

Data from Indeed, a hiring website, show that wages in the euro zone tend to follow underlying, or "core", inflation. This shows no sign of softening. The consumer-price index, excluding food and energy, rose by 7% in the year to January. Services, in particular, face steeply rising costs, according to the PMI survey, which may lead to further price increases.

This leaves the European Central Bank with little choice but to keep interest rates high. Markets expect them to rise from 2.5% to 3.7% in the summer. Funding for firms and households is thus set to get more expensive, hitting investment. Credit standards are already tightening, according to the bank's lending survey. And most of the impact of monetary tightening, Mr Eisenschmidt argues, is yet to be felt.

The euro zone may have escaped recession so far, but its prospects—stubborn core inflation, high interest rates and a weak economy—are hardly pleasant. The IMF predicts 0.7% growth in 2023; the commission forecasts 0.9%. Even this might be optimistic. America faces equally stubborn inflation, and China's reopening has not provided much of a boost to the bloc. Welcome to the grim new normal. ■

## Free exchange | A new Bretton Woods

*What would the perfect climate-change lender look like?*



**I**MAGINE, FOR a second, that you are a guest at the Mount Washington Hotel in the ski resort of Bretton Woods, New Hampshire. You have arrived to enjoy neither the slopes nor the hotel's 18-hole golf course. Instead, you are here for the sort of conference that reimagined the international financial system at the end of the second world war. This time there is a green twist. Your job is to give the Bretton Woods twins—the IMF and the World Bank—a sister in the form of a perfect climate-change lender.

According to Nicholas Stern and Vera Songwe, two economists, by 2030 poor countries will need somewhere in the region of \$2trn-\$2.8trn a year of investment to combat climate change. The Climate Policy Initiative, a think-tank, estimates that in 2021 total climate investments, in both rich and poor countries, amounted to \$650bn. In the catchphrase of the climate-change world, the financial system needs to “turn billions into trillions”. Getting these funds to flow, somehow, is the mission of your new Green Bank.

The first question is a vexed one: who coughs up to pay for the lender? The struggle to create a climate-finance framework started at the so-called Earth Summit in 1992. The summit divided the world into two groups, the Annex II countries and the rest. Because of their historic emissions, the mostly rich Annex II countries were given the responsibility of paying up.

The problem with the division is not the principle—that polluters should pay—but that it is stuck in the past. Israel, Singapore and Qatar are now affluent, and more responsible for emissions than many of the original Annex II gang. According to analysis by the ODI, another think-tank, Kuwait, the United Arab Emirates and South Korea are also candidates for a revamped Annex II-style grouping. The new climate lender should establish a clear threshold for historic emissions per person. Once a country breaches this, it should have no choice but to pay up.

Next on the agenda: how to get the most out of the Green Bank's balance-sheet. The initial capital subscription, however generous, will never be enough for the vast scale of climate change. The Green Bank will have to turn to leverage. Too much borrowing, though, and the lender could find itself in hot water. A group of poor countries has railed against the idea that the World Bank could borrow more to tackle climate change. Such a policy risks

undermining the rationale for the development bank, by raising its own cost of capital to the point where its loans can no longer be made on advantageous terms. The AAA-rating of the World Bank, higher than the American government, may be a tad too cautious for our new climate lender. The Green Bank can afford to lever up.

This big balance-sheet will have to be used well. One option to get the most out of its firepower is to offer debt relief, allowing poor countries fiscal space to invest themselves. But just as the IMF does when it provides assistance to highly indebted countries, the new climate lender would have to insist on some degree of reform in exchange. Instead of measures to right the fiscal ship, the Green Bank would want to ensure the firepower is used for environmental good, not giveaways or political patronage.

One model could be “debt-for-nature” or “debt-for-climate” swaps, which currently excite donors, and involve offering debt relief in exchange for environmental protections or climate-change pledges. The problem with such arrangements is that they are inefficient: they in effect subsidise creditors which do not take part in the swap, since these creditors benefit from a borrower with more resources to repay them. Instead, the Green Bank should focus on “unlocking private finance”, to return to the phraseology of green wonks. Clean-tech investment is capital-intensive; the problem is that poor countries face a much higher cost of capital. The Climate Policy Initiative calculates a solar farm in cloudy Germany needs a return of 7% to be viable, compared with 28% for one in sunny Egypt. Exchange-rate fluctuations and the riskier investment climate offset gains offered by better weather.

Here is where the toolbox of the World Bank may be able to help. The Green Bank could offer concessional loans. Or perhaps the new lender could even take on a bit more risk, by taking stakes in projects. This would mean accepting the “first loss” if things did not work out, but also gaining some of the upside if they went well. Financiers are often frustrated that the World Bank has not done more to seize the opportunity of such “blended finance”, which combines high-minded philanthropy with a degree of old-fashioned money-grubbing.

### Green dreams

The most radical option, though, would be to give up on the Green Bank entirely. When it comes to cutting out carbon dioxide, the perfect climate lender may well be no climate lender at all. For the benevolent social planner, who does not have to worry about political constraints, the most efficient way to get to net zero would be some sort of global carbon tax, with the proceeds distributed to countries based on their population. Emissions reductions would not be dictated by a Bretton Woods-style institution but by the logic of the market: going to the lowest-cost opportunities to reduce emissions, whether in Somaliland or Sweden. The proceeds of the tax would mostly flow to the populous poor world, which could use them to adapt to a warmer planet, if it desired.

Such a vision might sound more utopian than a new Bretton Woods institution, or reforming ones already in existence. Yet talks over Article 6 of the Paris agreement, which would create a version of an international market in carbon offsets under the UN's auspices, are ongoing. The EU, China and India—three of the world's four big emitters—already have an emissions-trading scheme in place, or will implement one this year. According to the World Bank, nearly a quarter of the world's emissions are covered by some form of carbon pricing. Even without a new institution, climate-change dreams are fast turning into reality. ■



## Scientific fraud

# Doctored data

**There is a worrying amount of fraudulent medical research—and a worrying unwillingness to do anything about it**

**I**N 2011 BEN MOL, a professor of obstetrics and gynaecology at Monash University, in Melbourne, came across a retraction notice for a study on uterine fibroids and infertility published by a researcher in Egypt. The journal which had published it was retracting it because it contained identical numbers to those in an earlier Spanish study—except that that one had been on uterine polyps. The author, it turned out, had simply copied parts of the polyp paper and changed the disease.

“From that moment I was alert,” says Dr Mol. And his alertness was not merely as a reader of published papers. He was also, at the time, an editor of the *European Journal of Obstetrics and Gynaecology*, and frequently also a peer reviewer for papers submitted to other journals. Sure enough, two papers containing apparently fabricated data soon landed on his desk. He rejected them. But, a year later, he came across them again, except with the fishy data changed, published in another journal.

Since then, he has teamed up with other researchers to investigate groups of papers

by authors he has spotted as data fabricators. Wherever he saw smoke, he found fire. There were tables on patients’ characteristics that contained only even numbers. There were values that were clinically unlikely. There was an implausible 40:60 sex ratio of babies when the mothers-to-be had, purportedly, been selected at random. Eye-popping speeds of completing clinical trials were common.

### The fabrication of unreality

Dr Mol and his colleagues have sent their concerns about more than 750 papers to the journals that published them. But, all too often, either nothing seems to happen or investigations take years. Only 80 of the studies they have flagged have so far been retracted. Worse, many have been included in systematic reviews—the sort of research round-ups that inform clinical practice.

Millions of patients may, as a consequence, be receiving wrong treatments. One example concerns steroid injections given to women undergoing elective Caesarean sections to deliver their babies.

These injections are intended to prevent breathing problems in newborns. There is a worry that they might cause damage to a baby’s brain, but the practice was supported by a review, published in 2018, by Cochrane, a charity for the promotion of evidence-based medicine. However, when Dr Mol and his colleagues looked at this review, they found it included three studies that they had noted as unreliable. A revised review, published in 2021, which excluded these three, found the benefits of the drugs for such cases to be uncertain.

Partly or entirely fabricated papers are being found in ever-larger numbers, thanks to sleuths like Dr Mol. Retraction Watch, an online database, lists nearly 19,000 papers on biomedical-science topics that have been retracted (see chart 1, on next page). In 2022 there were about 2,600 retractions in this area—more than twice the number in 2018. Some were the results of honest mistakes, but misconduct of one sort or another is involved in the vast majority of them (see chart 2).

John Carlisle, a British anaesthetist and journal editor, has uncovered hundreds of problematic papers. He reckons “almost all [clinical] guidelines will be affected in some way by false data that is currently unrecognised”. Fabricated studies also send those who try to build on them down blind alleys, wasting millions of dollars.

Yet journals can take years to retract, if they ever do so. Going by these numbers, roughly one in 1,000 papers gets retracted. ►

That does not sound too bad. However, Ivan Oransky, one of Retraction Watch's founders, reckons, based on various studies of the matter and reports from sleuths, that something more like one in 50 papers has results which are unreliable because of fabrication, plagiarism or serious errors.

Most fabricated papers come from one of two sources. Some, particularly those claiming to report clinical trials, are the products of prolific individual fraudsters or groups of fraudsters. Those uncovered by Dr Mol fall into this category. Others, more often purporting to be about basic science, such as molecular biology, are written, for a fee, by outfits known as "paper mills". Frequently, these are fabricated by copying published papers and substituting the gene or disease a legitimate paper refers to with another.

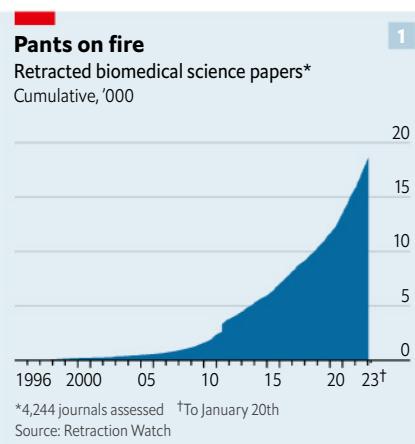
According to the Retraction Watch database, the 200 authors with the most retractions account for over a quarter of all 19,000 retractions. Many of the most prolific fraudsters are senior scientists at big universities or hospitals. Few have spoken openly about their motives for making up research. But the confessions of those who have speak volumes about what may push others down the same path.

### Cheats ever prosper

Scientific research is a hard slog, and the results are often disappointingly equivocal answers to a researcher's bold hypothesis. Diederik Stapel, once a psychology professor at Tilburg University in the Netherlands, had 58 papers retracted after revelations that he fabricated studies. He did so, he said in his confessional memoir, "Faking Science", because they otherwise failed to provide a solution that was "simple, clear, beautiful and elegant". Like many similar fabulists, however, he was also driven by career incentives. The aphorism "publish or perish" reflects an academic truth. A long publication list is crucial for promotion, or for switching institutions to get a better job. But journals prefer studies that show strong, positive results—meaning much of a researcher's effort is, in terms of career advancement, wasted.

Publishing lots of studies has enabled some fraudsters to be perceived as leading experts in their fields, with the perks of professional prestige which go with that—at least until things unravel. As Dorothy Bishop, a retired experimental psychologist from Oxford University who volunteers her time identifying problematic studies observes, such fraudsters often run research groups or have collaborative networks with other research centres. When the fabrication is discovered, those colleagues are affected by the aftermath. "Quite often", she says, "junior people get their careers completely derailed by this."

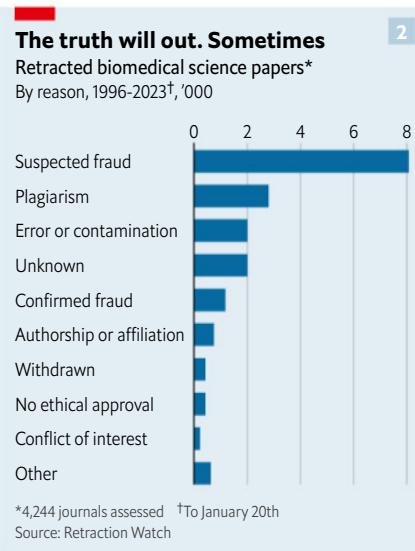
It is a particular problem in China. Un-



realistic publication quotas are often needed to obtain the best jobs in hospitals, and those who publish in top journals also get big cash bonuses. Not surprisingly, China is thus a country that has developed a thriving paper-mill industry. Indeed, almost all retractions linked to paper mills list Chinese authors. Of papers submitted to journals, about a fifth have at least one contributor from a Chinese institution, yet this fifth accounts for nearly half of papers subsequently retracted.

A review of submissions to two journals specifically aimed at by paper mills does, however, show that the problem stretches way beyond China. It found that the fakes had authors from more than 70 countries. And, though those from middle income countries (China included, see chart 3) are the most numerous, some of the most consequential fabrications of clinical trials which have come to light were concocted in America, Canada, Europe and Japan.

How much cheating is never caught is anyone's guess. As Dr Bishop notes, "The only ones we know about are the ones that are not very good at it. If somebody is very good at fraud, you're not going to detect it."



And it is not just a few bad apples. In 2009 *PLOS ONE* published a round-up of 18 surveys of scientists, mostly in America, that had asked about fraud. Though only 2% of respondents admitted falsifying data themselves, 14% said they knew someone who had. Similarly, a third of those asked confessed to other questionable research practices, such as dropping inconvenient data points based on "gut feeling", or making important changes to a study's protocol while it was in progress. But they pointed the finger at 72% of their colleagues.

America is not exceptional in this. In a survey of academics in Britain, published in 2016, nearly one in five reported having fabricated data. And in a recent survey of researchers in the Netherlands, 10% of those in the life and medical sciences admitted they had falsified or fabricated data.

Many fake papers are me-too studies, supporting treatments already backed by other work. For the most part, these are unlikely to sway clinical practice. But some fraudsters have been the inspiration for specific medical interventions which have turned out to be useless, or even harmful.

For example, critically ill patients undergoing surgery were once sometimes given starch infusions to boost their blood pressure. This was based in part on seven now discredited studies by Joachim Boldt, a German anaesthesiologist. A revised round-up of the evidence published in the *Journal of the American Medical Association*, in 2013, after his fabrications were discovered, concluded that giving starch infusions in these circumstances caused kidney damage and sometimes killed people.

Likewise, for more than a decade cardiac patients in Europe were given beta-blockers before surgery, with the intention of reducing heart attacks and strokes—a practice that rested on a study from 2009 which was eventually determined to have been based, at least in part, on fabricated data. By one estimate, this approach may have caused 10,000 deaths a year in Britain alone. And a systematic review showing that infusion of a high-dose sugar solution reduces mortality after head injury was retracted after an investigation failed to find evidence that any of the trials included in it, which were all ascribed to the same researcher, had actually taken place.

### Bricks without straw

Spotting fabricated papers often starts with catching one by chance and then looking at others by the same hand, as Dr Mol did. "A lot of the problems are only apparent when you look across publications by an author. So if you had one paper, you wouldn't necessarily identify them," says Alison Avenell of the University of Aberdeen, who is part of a team that has raised concerns about hundreds of clinical trials published by several research groups.►

Common patterns in dodgy papers, she opines, include unusually big effects of the reported treatments, peculiar drop-out rates among participants, or the same data appearing in different trial reports. "You see things that are virtually statistically impossible," she says.

Dr Carlisle and others have devised various statistical checks to catch unusual numbers in single papers. As an editor of *Anaesthesia*, he used such checks on all 526 clinical-trial studies submitted to the journal between 2017 and 2020. When he looked at papers for which the authors had not submitted individual patients' underlying numbers, he found that 2% included false data. This jumped to 44% for those for which he could also examine such individual numbers, including 26% which he judged as "fatally flawed".

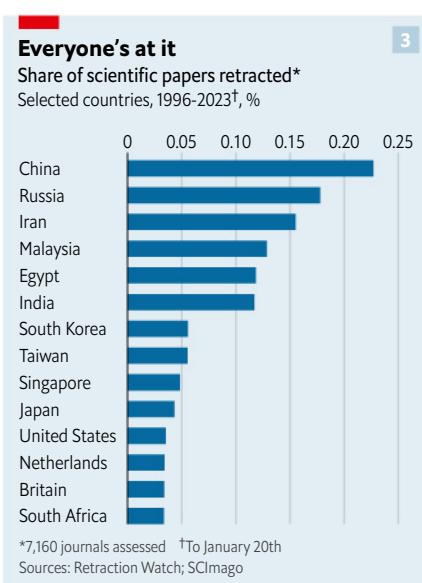
Doing checks like these routinely could stop a lot of fake papers being published. Yet, though reviewers who vet journal papers for publication "get all of these supplemental files and links to data sets", says Lisa Bero, of Cochrane, "most of them don't look at it." Moreover, though authors often say that the backup data for their papers will be made available on request, a study conducted in 2022 reported that 93% fail to provide them when so requested by other researchers. "You ask for the original data and then, my goodness, you realise we live in a dangerous world," says Ian Roberts of the London School of Hygiene and Tropical Medicine. Floods, earthquakes, termites, stolen laptops—he has seen all sorts of excuses for lost data.

### BLOTS ON THE LANDSCAPE

Cochrane maintains a database of retracted studies, and its systematic reviews are revised as needed. But that is rare for these types of reviews, partly because retracted papers are often not flagged prominently as such in online libraries and so continue to be cited as if they were valid research. Indifference plays a role too, with many researchers reluctant to set things straight even when told their reviews included fabricated studies. The attitude is, "it was right at the time", says Jack Wilkinson, a biostatistician at Manchester University.

For example, Dr Avenell and her colleagues assessed the impact of 27 retracted clinical-trial papers, covering several medical conditions. These papers were included in 88 systematic reviews and clinical guidelines. The researchers reckoned that in half of those the conclusions were likely to change if the retracted trials were removed. They notified the authors of all the reviews about the retractions. Only half of them bothered to reply. A year later, in 39 of the 44 reviews that would have been affected, no action was undertaken.

Similarly depressing discoveries have been made in recent years for paper-mill



articles. Though lots of these are so sloppy that any serious researcher would consider them a joke, and they are thus often published in obscure periodicals which would print anything for a fee, some look solid enough to be accepted by leading scientific journals. These are now discovering they have published hundreds of them. One analysis of 53,000 papers submitted to journals in a variety of disciplines, spanning six publishers, flagged between 2% and 46% of them as suspicious.

Molecular-biology articles, those paper-mill specialities, often include pictures of Western blots—a laboratory technique used to study proteins. Such images can be found, for example, in papers that investigate how a given drug affects human cells. No two Western blots should look the same, so a sharp pair of eyes can spot duplicates. Elisabeth Bik, a Dutch microbiologist turned full-time detective hunting for fabricated papers, has an exceptional talent for doing just that. Using her "pattern-matching eyes and lots of caffeine", as she put it in a recent opinion piece, she has analysed more than 100,000 papers, and found blot-based evidence of error or cheating in 6,500 of them.

Studies with falsified Western blots may seem less consequential than fabricated clinical trials. But consider a recent controversy concerning a series of influential papers on the causes of Alzheimer's disease of which the lead author is Sylvain Lesné of the University of Minnesota (which is investigating the matter).

Dr Bik and others have recently found what they say is evidence of image-manipulation, including of pictures of blots, in these studies. And other scientists have tried and failed to replicate the results of a landmark study Dr Lesné published in *Nature* in 2006, which appeared to provide crucial evidence concerning a hypothesis

that links the disease with so-called amyloid plaques in the brain, and which is one of the most cited papers in Alzheimer's research. This particular article may have sent an entire line of scientific inquiry into that hypothesis in the wrong direction, by pointing a finger at one particular form of amyloid beta, the plaque-forming protein. In July 2022 *Nature* published an expression of concern, while it investigates.

Similar patterns are emerging in genetics. In a study published last year Jennifer Byrne, a cancer researcher at the University of Sydney, led a team that screened nearly 12,000 papers using Seek & Blastn, a piece of software they developed themselves, to check details of substances called nucleotide-sequence reagents (NSRs).

NSRs are short pieces of DNA or RNA that form part of many studies of genes. They are intended to bind to specific bits of natural genetic material. Seek & Blastn extracts the sequences of these reagents from papers and compares them with those in Blastn, a public sequence database, to check whether they match their supposed genetic targets. The team found that 6% of papers contained errors suggestive of paper-mill production.

The consequences of fake genetic studies such as these could be as far-reaching as those involving dodgy Western blots. Dr Byrne and her co-authors estimate that as many as 100,000 published papers about human genes may emanate from paper mills, and that a quarter of these are such that they "may misinform the future development of human therapies".

### DISCIPLINING THE DISCIPLINE

It is often asserted that science is self-correcting. And it is true that, if a claimed result is important enough, an inability to replicate it or of subsequent work to conform to it will eventually be noticed. In the short term, though, it is easy to hide in the shadows. Even co-authors of a data-fabricating scientist—those, in other words, who are closest to him or her—may not notice what the culprit is up to. In complex studies of a particular disease, several types of researchers will be involved, who are, by definition, not experts in each other's fields. As Dr Bishop observes, "You just tend to take on trust the bits of data that somebody else has given you."

Moreover, even after a published paper is flagged as containing fabricated data, self-correction often fails to kick in. There is a "massive variation" in how journals and publishers react when alerted to problems, says Dr Wilkinson—whether they investigate at all, how long it takes to reach a decision, and what they do after that.

Dr Avenell avers that in her experience it usually takes two to three years to get an expression of concern or a retraction published. "The only way we get retractions is ➤

► to repeatedly badger the journals over and over and over again", she says. "If you just send them a one-off email with details of all of your concerns, it's very unlikely that anybody is ever going to do anything." Dr Bero says that many Cochrane reviewers think it a waste of time to alert journal editors about problematic studies they have identified, so they don't bother. "Many of our authors have written to editors and just gotten no response, or the editor doesn't do anything to retract the article or doesn't investigate at all," she observes.

One problem is that journals rarely have staff, such as statisticians, with the expertise needed to deal with such matters. Publishers, for their part, make profits from publishing more, not from investigating potential retractions. They also fear being sued by belligerent fraudsters. They therefore often pass the ball to the institutions that employ the suspected miscreants.

In America, institutions accepting federal grant money (which is almost all of the serious ones) are required to follow government rules which say that they should investigate allegations of research misconduct within 60 days. But many take more than a year or two, says C.K. Gunsalus, an ethicist at the University of Illinois, who has conducted such investigations.

#### Just do it

In some cases, there are good reasons for delay. The difficulty of finding experts competent to conduct complex analyses is one. Another is that an investigation of one paper may turn up further suspicious publications. All too often, though, "there is very little sense of urgency", says Dr Gunsalus. The goal is to decide whether a researcher should be fired, rather than a desire to protect the integrity of the scientific literature. Until an employment decision is made, the university usually stays mum.

Even in America, the quality of such investigations often leaves a lot to be desired, says Dr Gunsalus. And many places have no relevant regulations. In Western countries people fired for research misconduct have sometimes gone on to do the same thing elsewhere, says Dr Bishop. And in their list of concerns with 172 papers published by a group led by Zatolleh Asemi at the Kashan University of Medical Sciences, in Iran, Andrew Grey of the University of Auckland, in New Zealand, and his colleagues note that five of the seven vice-chancellors at his university are co-authors of at least one affected submission.

Nor do universities provide incentives for whistle-blowers to act, though that can stop fabricated studies being produced in the first place. Their rules usually say lots about the consequences of spurious allegations, but little or nothing about any duty to raise the alarm about fraud.

Few whistle-blowers have Dr Bik's per-

severance. After she raised concerns about more than 60 papers by Didier Raoult, a now-retired professor at a university hospital in Marseille, she received online threats and her home address was posted on Twitter by one of his colleagues. Dr Raoult also filed a legal complaint against her for attempted blackmail and harassment, an action the French National Centre for Scientific Research, a government agency, condemned as "judicialisation of scientific controversy and criticism". In 2021 she won the John Maddox prize—awarded jointly by Sense about Science, a British charity, and *Nature*, of which Maddox was, for many years, editor—for "courage and integrity in standing up for sound science and evidence".

There are some signs of hope. Besides scanning retraction databases for new additions, and redoing the analyses that include them, Cochrane has also started to check papers for integrity. A recent Cochrane review of research on drugs intended to prevent pre-term labour excluded 44 studies on such grounds, which was one in four of those on the starting list.

In a similar vein, Britain's National Institute of Health and Care Research pays for INSPECT-SR, a project run by Dr Wilkinson that is developing integrity-checking tools for systematic reviews like those conducted by Cochrane. STM, a publishing-industry association, is working on a similar system to detect fabrications in submitted papers. The idea, says Joris van Rossum, who leads this work, is that the system will give editors signals about suspicious features commonly used by paper mills, such as duplicated images, the same paper being submitted simultaneously to several journals, authors with no record of having expertise in the subject, and so on.

Both Dr Wilkinson and Dr van Rossum

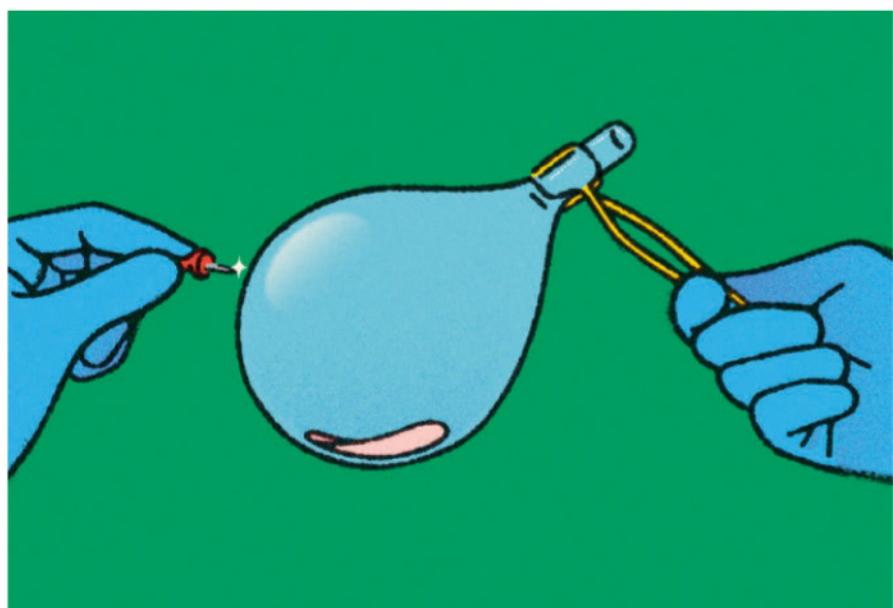
worry about an arms race between fabricators and those employed to catch them. Such fears are amplified by the growing sophistication of artificial-intelligence (AI) tools like ChatGPT. In a recent study for which this was asked to generate 50 medical-research abstracts, both human reviewers and an AI-output detector failed to identify a third of the bot's papers as such.

#### Trust. But verify

In the end, however, keeping fakes out of the scientific record depends on the willingness of publishers to stump up more resources. Statistical checks of clinical-trial papers often involve laborious manual work, such as typing up specific data in spreadsheets. This would require journals to hire dedicated staff, cutting into profits.

Many academics who have spent years trying to get fabricated papers retracted are pessimistic that better ways to detect fraud will, alone, make a big difference. Dr Roberts and Dr Mol want journals to be regulated in the way that social media and the news business are in some countries, with standards on what they publish. Peter Wilmshurst, a British cardiologist who has raised the alarm about numerous cases of research misconduct in his field, thinks there should be criminal penalties for those who fabricate data. Dr Gunsalus wants universities to make public the reports from their research-fraud investigations. And everyone agrees that publish or perish is a recipe for disaster.

None of these solutions will be quick or straightforward. But it is now clear that choosing to look the other way is causing palpable harm to patients. As Stuart Richie of King's College, London, notes in his book, "Science Fictions": "For the sake of the science, it might be time for scientists to start trusting each other a little less." ■





Rap in court

## The singer and the song

### The use of rap lyrics in trials raises issues of prejudice and free expression

**R**EAD ALOUD in court, the words sound-red like a confession: "Fuck the judge...this that mob life...cookin' white brick." Not long ago the defendant, Jeffery Williams, was rapping these lines on stage. Now the songs that propelled him to fame as "Young Thug", earning him a Grammy award and an appearance on "Saturday Night Live", are being used against him. Prosecutors in Atlanta allege that his record label, ysl, which stands for Young Stoner Life, is both a music collective and a violent gang. They say Young Thug (pictured) is its kingpin—and cite his lyrics as evidence. Mr Williams denies criminal wrongdoing of any kind.

The trial, which began in January and could last several months, involves numerous other defendants associated with ysl who also protest their innocence (though some have taken plea deals). It is far from the first to enlist rap music as evidence. In both America and Britain the

practice has become increasingly common. But most cases involve amateur artists, usually young black men. Young Thug's is the most high-profile yet, crystallising questions of freedom of expression, racial bias and the place of art in court.

Rap music first went on trial in the 1980s when gangsta rap, a new genre, was the sound of America's streets. In a break from some early hip-hop artists, whose lyrics rarely mentioned crime, gangsta rappers evoked drugs and violence in provoc-

tive songs, such as NWA's "Fuck Tha Police". At first some such lyrics were themselves considered a crime: 2 Live Crew, a rap group, were tried under obscenity laws. The music became only more popular, so authorities found a different way to stigmatise rap, says Erik Nielson, co-author of "Rap on Trial": using lyrics as evidence against artists charged with other offences, typically relating to drugs or violence.

The number of trials involving rap lyrics has surged since the late 2000s, boosted partly by social media. More rappers can now reach a wide audience online, but in doing so they unwittingly provide material for the authorities. In America and Britain police monitor social media for lyrics and music videos, which are sometimes used in trials (in London the Metropolitan Police has a unit partly dedicated to that task). Belonging to a rap "crew" is sometimes conflated with membership of a criminal gang, says Jack Lerner of the University of California, Irvine School of Law.

Meanwhile the internet and streaming data have affirmed the appeal of violent themes in rap music. To stand out, artists must "sound as real as possible", said Loski, a British rapper who makes drill, a genre that uses grisly lyrics, at a recent trial. "If rapping about a sunny day in the neighbourhood made the most money, many young African-Americans would," says ➤

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► Mac Phipps, who spent 21 years in jail for manslaughter after a trial featuring lyrics.

Atlanta, home to Young Thug and YSL, produced trap, the most popular rap sub-genre of recent years. Drugs and crime are staple themes: "I told them to shoot a hundred rounds," runs a line in Young Thug's track "Anybody". As Atlanta became a hip-hop capital, and as its music grew gorier, gang violence surged, says George Chidi, a local crime journalist. The authorities think rappers have fuelled gang disputes, including between YSL and a rival group known as YFN, headed by YFN Lucci, another popular rapper.

Prosecutors say Young Thug's lyrics mention real crimes committed in that gang rivalry; he stands accused of conspiracy to commit racketeering, along with weapons-related charges and others (all of which he denies). One line included in the case against YSL is "She getting robbed by Tick", a possible allusion to a YSL artist previously arrested for robbery who has taken a plea deal in the current trial. "If you decide to admit your crimes over a beat, I'm going to use it," said Fani Willis, district attorney for Fulton County, which includes most of Atlanta. She thinks lyrics should be treated in the same way as other evidence that, according to prosecutors, implicates Young Thug in serious crimes.

Others disagree. Politicians including Stacey Abrams have expressed concern about the use of lyrics as evidence. "Rappers are storytellers," protested Drake, Coldplay and other recording artists in a joint open letter; the trial, they maintained, is "an attempt to criminalise black creativity and artistry". Young Thug's lawyer says his lyrics should be barred from court and that they are written from the perspective of a fake persona. That is a common trope in rap, which is replete with metaphor, exaggeration and violent motifs—yet in court, generic or fictional lines are sometimes presented as facts, or as if they refer to specific crimes.

Other art forms are rarely treated in this way. A recent *New York Times* investigation found just four American cases since 1950 in which other kinds of lyrics or fiction were enlisted as evidence of assault or violence. Hundreds of criminal cases involved rap. Murder ballads are common in country music; country stars are not arraigned for them. Then again, says Mr Chidi—invoking a famous country song about a killing—"there was no dead body in Reno to track to Johnny Cash." By contrast, "people in Atlanta were murdered."

Jurors, who may not know much about rap, are often told little about its conventions. Prosecutors may employ "experts" to parse lyrics, typically police officers. Some reportedly use the online Urban Dictionary or Wikipedia to translate slang. One told a jury that "bredrin" meant "associate" in a

gang, when it usually just means "brother", says Richard Bramwell of Loughborough University, who has defended rappers as an expert witness in Britain.

Some argue that even if lyrics do refer to real crimes they should be kept out of court. The term "rap music" can itself invoke racial biases, prejudicing jurors against defendants and leading them to misconstrue other evidence, says Mr Lerner. A recent study showed that people were more likely to consider lyrics to be threatening, and drawn from life, when told they came from rap rather than country. If a case is strong, critics say, guilt can be proved without involving music.

Lawyers, artists and activists have called for restrictions on the use of lyrics in

trials. In 2022 California passed the first such law, which requires judges to consider whether "creative expression" would "inject racial bias" and "undue prejudice" before admitting it as evidence. It applies to all forms of art, but was inspired by rap. In New York a proposed bill—backed by Jay-Z, a hip-hop star—would ban rap lyrics from court if they do not have factual links to the case. A federal bill has been mooted. Others believe making more use of genuinely expert witnesses would make trials of amateur rappers fairer.

Mr Nielson will soon be performing that service for Young Thug. In court in Atlanta, he will attempt to put into context such lines as: "I never killed anybody but I got something to do with that body." ■

### Modern Europe

## Continental drift

A distinguished commentator travels across Europe and back into history

**Homelands.** By Timothy Garton Ash. *Yale University Press; 384 pages; \$28. Bodley Head; £22*

HISTORY CAN be found not only in books and archives, but in people, too. Take the white-haired Jewish lady whom Timothy Garton Ash, a British historian, met at an art gallery while living in Berlin in the 1970s. Hailing from the Soviet-controlled eastern part of the city, she had first-hand experience of not one, but two totalitarian regimes. After a hasty departure from Ber-

lin in the 1930s, she had ended up in one of Stalin's labour battalions while her husband languished in a gulag. Mr Garton Ash praised her in his diary; later he learned she had informed on him to the Stasi, the East German secret police.

Personal memories matter in Europe, where the remembrance of recent horrors has shaped modern politics—notably the (nearly) continent-wide push towards ever-closer union in the aftermath of the second world war. A prolific essayist who teaches European studies at Oxford, Mr Garton Ash has over five decades' worth of ►



Striking the empire back

► other people's recollections to add to his own. "Homelands" is a trip down memory lane on a continental scale.

The period he describes starts, roughly, with his first solo visit to the continent in 1969 (to France, for a language exchange). The mainland was different from its off-shoot island—then, as now, on the sidelines of European institutions. Still, Mr Garton Ash describes the curious feeling of being "at home abroad". Every trip to the continent, including stints living there, reinforces his notion that as a European you can have more than one homeland.

Unusually, Mr Garton Ash grasps the mood not just in France or Germany, but in bits of Europe farther east (speaking Polish, his wife's mother tongue, helps). He is most insightful in recounting travels in the 1980s to the then-communist bloc to meet striking Polish dockers (pictured on previous page) or Czech revolutionaries. His book can be downright chilling, too. In 1994 he came across a little-known aide to the mayor of St Petersburg. Few listened as Vladimir Putin, a "short, thick-set man with an unpleasant, vaguely rat-like face", railed about former Soviet territories that "belonged to Russia". The rest is not so much history as current affairs.

The book's tone shifts as it describes more recent times. Mr Garton Ash notes how, in the wake of the cold war, and particularly after the terrorist attacks of 2001, his homelands gradually disappeared from the front pages of newspapers, often in favour of rising Asia. "Europe led only in the Style pages," he bemoans. Historians like big-ticket events, and Europe for many years became in large part a story of the dull grind of building a single market, and expanding the EU eastwards. Then came Brexit, which Mr Garton Ash treats as a personal affront. And finally, the unwelcome return of events as that rat-faced fellow turned his attention to Ukraine.

"Homelands" is not an organised chronicle of modern Europe. Led by anecdote, there is no sweeping narrative that explains why the continent is the way it is. That is occasionally frustrating. Stories of protests, revolutions and chance encounters are gripping, but often the reader is assumed to know the wider context in which they happen. The manner in which once-poor parts of the continent have converged with the world's richest countries in record time features too little.

There have been other personal histories of Europe. During a more extreme bout of continental turmoil, the Austrian writer Stefan Zweig fused memoir and history in "The World of Yesterday". The day after he submitted the manuscript in 1942, he and his wife committed suicide in Brazil. Despite the tragedy of Ukraine, Mr Garton Ash remains more hopeful about the place he still calls home. ■



### World in a dish

## Some like it hot

### The rise of chilli crisp is a case study in how foods become fads

FOR SOME, cooking during lockdowns was a chance to try out the kind of time-consuming, intricate food preparation that the rush of ordinary life makes impossible. Endless loaves of sourdough were produced, along with bubbling kombucha. For others, it was an experience of drudgery. Making three meals a day, especially if your diners included small children, was tedium defined—an endless loop of eggs and beans and eggs and toast and beans and toast and eggs.

Enter condiments. They satisfied both tribes. For the enthusiasts, it was a chance to make the dips and drizzles usually provided by the local deli. For the weary, a jar of something spicy or sour was an easy way to enliven the umpteenth cheese toastie. Chilli crisp—a glowing red oil, heady with chilli and heavy with crisp fragments of garlic and shallots as well as fermented black beans and sesame—became the sauce of the moment. The place it has secured in many fridge doors since then hints at how foods become fashionable.

People in China may have been bemused by the revelatory joy with which those in countries such as America seized on chilli crisp. They have been eating varieties of the stuff for centuries. Lao Gan Ma, made in the south-western province of Guizhou, is the most famous brand. Its founder, Tao Huabi, started selling noodles coated with the sauce in 1989, setting up a factory a few years later. Her face peers out sternly from every label on the 1.3m bottles the company says it now produces a day. (Heinz's plant in the Netherlands makes

about 10m bottles of ketchup a week.)

It took a pandemic to bring the delicacy to the rest of the world's attention. Chilli crisp had many of the necessary characteristics to be a hit. It is spicy, but not overly so. It is delicious slathered on noodles, as originally intended, but it can also be added to fried eggs and other dishes familiar to Americans. It satisfies humans' love of crispy foods, rooted in an evolutionary preference since crunchiness is often an indicator of freshness.

Usually tastemakers visit restaurants and interview chefs to immerse themselves in what people are cooking and eating, says Kevan Vetter of McCormick's Flavour Forecast, which predicts and influences which tastes become popular. In lockdown that was no longer possible. Instead they had to watch what cooks, both home and professional, were making via social media. The answer, along with banana bread, was chilli crisp.

Today's question is not whether people will keep eating it. The liberation of post-pandemic dining has not dulled the delight of the condiment. The East Asian population in America and Britain is growing. Many new brands have joined Lao Gan Ma. Like salsa, which once seemed exotic, chilli crisp is set to become a pantry staple.

The question is whether amateurs will keep making it. Nobody bothers making ketchup: as a condiment is assimilated, people develop a taste for the mass-produced version. And in the case of chilli crisp, Ms Tao might argue that the commercial option is as authentic as it gets. ■

## America's Federal Reserve

**The finite Fed**

**Limitless.** By Jeanna Smialek. Knopf; 384 pages; \$30

**T**HREE'S AN INFINITE amount of cash at the Federal Reserve." This comment, made in March 2020 by Neel Kashkari, president of the Fed's branch in Minneapolis, was intended to provide reassurance. As covid-19 struck, markets were in meltdown and economic disaster loomed. The central bank swung into emergency mode, injecting vast, if not quite infinite, sums of cash into the financial system in order to avert a crisis.

The actions worked a little too well. Before long, growth was recovering, markets were booming and price pressures were building. The Fed ended up having to fight America's worst outbreak of inflation in decades—a fight that is ongoing.

This sharp duality poses a dilemma for any appraisal of the Fed's record during the pandemic. Should the focus be on the potential chaos early on and its courage in devising unprecedented solutions? Or on the aftermath of its rescue operations and the bank's slowness to realise that its new and formidable foe was inflation? In the thick of the inflation battle, it is tempting to emphasise the Fed's missteps. "Limitless" by Jeanna Smialek of the *New York Times* is a useful corrective. She provides a bracing account of just how badly things could have turned out when covid shutdowns led millions to lose their jobs over-

night—and pushed the financial system to the brink of collapse.

In one passage she describes a meeting in late February 2020, a couple of weeks before most Americans started paying close attention to the pandemic. Jerome Powell, the Fed's chairman, asked Richard Clarida, his second-in-command, whether this might turn into a repeat of the global financial crisis of 2007-09. "No," Mr Clarida replied, "the worst-case scenario means it basically looks like the Great Depression."

That warning soon seemed prophetic. Global commerce ground to a halt, stocks plunged and long queues formed at food banks. A deep freeze in credit markets portended a still graver calamity, striking at core parts of the financial system that had remained safe even in the darkest days of 2008. By the end of March 2020 the central bank had announced that it would buy corporate bonds for the first time in its history. Ultimately, the Fed's balance-sheet swelled to nearly \$9trn, a breathtaking increase, and more than double its size at the start of the pandemic.

It only got to that point because of the institution's rapid evolution over the previous two decades—a history crisply laid out by Ms Smialek. It was Ben Bernanke, the Fed's chairman during the global financial crisis, who pioneered many of the tools deployed and enlarged by Mr Powell. More than that, though, an intellectual shift had persuaded officials that they could let the labour market run hotter than once believed without triggering an inflationary spiral.

Ms Smialek paints nicely textured portraits of the main participants in these debates, spanning the gamut from one near-libertarian regulator to his more interventionist sparring partner. In late 2020 Mr Powell ushered in a new policy

framework which, in effect, committed the central bank to keeping interest rates lower for longer than it might have previously done. In retrospect critics have singled that out as a dangerous mistake.

The title of the book refers not just to the Fed's seemingly endless support for the economy when disaster strikes but also to its mission creep over the years. Some want it to aim for greater racial equality or to treat climate change as a financial risk. Others think it should craft a new digital currency. These are important issues. But contrary to the perception of boundless powers, the fact is that the Fed faces two kinds of very real constraints.

The first are political: central-banking independence is a precious inheritance from hard experience and can be preserved only by staying, as far as possible, above the ideological fray. The second are economic: stubbornly high inflation is a stark reminder that loose monetary policy can go too far. From today's perspective, the Fed looks more limited than limitless. ■

## Fiction from Trinidad

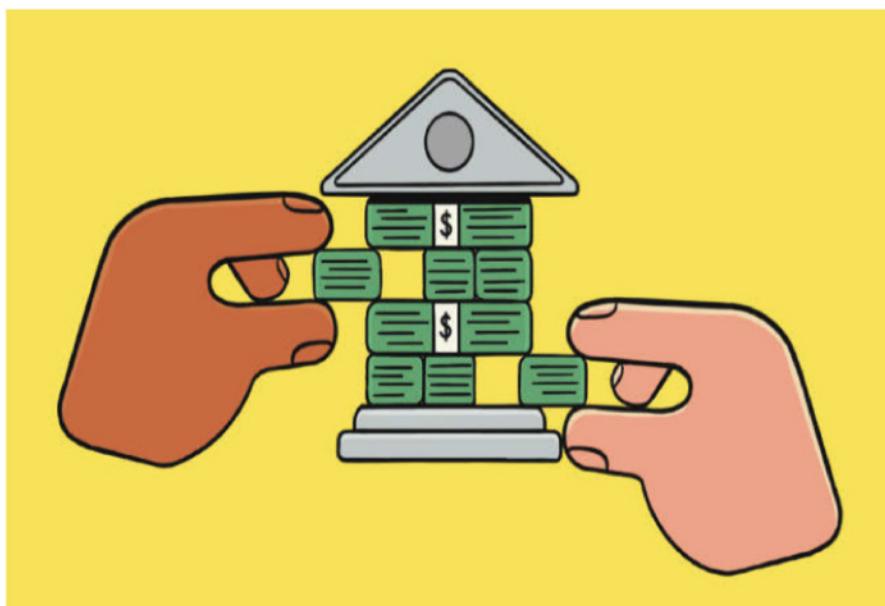
**The dead shall rise**

**Hungry Ghosts.** By Kevin Jared Hosein. Ecco; 336 pages; \$30. Bloomsbury; £16.99

**V**ULTURES DO NOT have an enviable reputation. The upside, from their perspective, is that they can survive on carrion that would poison most other animals. "Knowing to savour bowels and maggoty flesh," each scavenger that swoops into Kevin Jared Hosein's novel is "hated by the world that it will eventually eat".

Ghosts, it turns out, have similar powers. The dead consume the living much as vultures devour corpses. Grief engulfs people, resentments harden and trauma echoes across generations. The ravenous ghosts in Mr Hosein's novel are spectres of the Indian labourers shipped to Trinidad to toil on sugar plantations after the abolition of slavery in 1833. Along with their offspring they haunt the dilapidated barracks on the island's defunct estates.

Mr Hosein joins a line of Indian-Trinidadian writers, including V.S. Naipaul and Sam Selvon, who have grappled with the country's history of indentured labour. He connects this past to Trinidad today. "Passage", his short story of 2018, told of a Trinidadian family who illegally cremated a dead child in the early 2000s. "Hungry Ghosts" darts back to the 1940s to explore the ancient Indian mythology that under-►



## Back Story Buried treasure



*The dramatic tale of an Ethiopian prince is a parable of colonial-era looting*

**I**N A CORNER of St George's Chapel at Windsor Castle, beside a 500-year-old chantry, is an ornate bronze plaque inscribed in English and Amharic. Nearby, it explains, lies buried Alamayu—the son of Tewodros II, Abyssinia's king of kings—who died in 1879. "This tablet is placed here to his memory by Queen Victoria," the plaque records, sentimentally concluding: "I was a stranger and ye took me in."

That is one way of putting it. The story of how Alamayu came to be buried at Windsor Castle is a wild, sad saga of violence and looting. Today Ethiopia (as Abyssinia became) wants his remains back. Unusual as his case is, it cuts to the heart of the wider, ongoing row over the restitution of colonial-era plunder.

A sometime moderniser and now a hero to many (though not all) Ethiopians, Tewodros became irked with Britain and held several dozen Europeans captive at Maqdala, his highland citadel. In 1868 an Anglo-Indian military force, complete with elephants and artillery, freed the prisoners and killed hundreds of Tewodros's men. He shot himself as his fortress fell. Crowns, robes and jewellery were pillaged by the British, along with sacred artefacts and manuscripts.

As Andrew Heavens relates in his vivid new book, "The Prince and the Plunder", they also grabbed Alamayu, then seven years old. Photos of him taken soon after his father's demise suggest a heartbreakingly glum child. His mother died on the march from highlands to coast, having supposedly requested that he be cared for in Britain.

Alamayu means "I saw the world". He did, but it was an unhappy odyssey with no homecoming. Back in Britain, Queen Victoria took a shine to him. He crossed paths with Tennyson and Darwin. After

brief stints in India, Singapore and Malaysia, he had testing spells in British boarding schools, then a miserable one at Sandhurst military college—officialdom having decided he should join the British army, which, writes Mr Heavens, had "invaded his country, killed his father and blown his first home to pieces". He died of pneumonia at 18 and, at Victoria's behest, was buried in the catacombs at Windsor.

As for the rest of the Maqdala loot: in 1871 Gladstone, then Britain's prime minister, decried the pillage in Parliament. A few items have trickled back to Ethiopia, including hair cut from the king's corpse. But much of the booty remains in British institutions such as the Victoria and Albert Museum (V&A) and the British Museum (BM), which in 1868 even sent a collector on the raid. The BM holds—but does not display—11 tabots, plaques that are supremely sacred to the Ethiopian Orthodox church, itself a pillar of national identity for many Ethiopians.

All this is part of "the history and story of Ethiopia", comments its embassy in London, which has asked for its treasures,



too, to be returned. Both the V&A and BM say that, as it stands, British law prevents them releasing the objects from their collections—as with other contested items such as the Benin bronzes and Parthenon sculptures. As for the tabots, the BM says it aspires to lend them to an Ethiopian Orthodox church in Britain.

The basic problem, thinks Frezer Haile, a former adviser to the Ethiopian government, is that there is no effective international mechanism for resolving claims over colonial-era plunder. The UN's culture agency, UNESCO, has a sleepy committee on the subject, but redress tends to come through ad hoc concessions by individual countries or museums. The widely agreed principles on dealing with art stolen by the Nazis offer a model, he reckons.

That is a sensible if ambitious aim. Yet quite apart from the bureaucracy and the rules, there are other hurdles, emotional and political, in this and similar discussions—hard, unpalatable truths to which poor Alamayu testifies.

The authorities at Windsor say it would be difficult to exhume him without disturbing the resting places of others (some hope Britain's new king will take a different view). While his remains are there, though, immured in the walls of the royal chapel with English monarchs, Alamayu embodies a key historical fact: responsibility for the sins of empire goes right to the top. Museums like the BM take a lot of flak for retaining looted goods, but the ultimate culprit, in this and other ransackings, was the state.

Alamayu bears another message too. Many objects taken from places such as Maqdala are precious and revered. But the pain and debt of imperial exploits are measured not just in artefacts but in people; not in treasure, but in blood.

► pins such rituals. The narrative unfolds in a sugar-cane barrack, beside a river "black with the ashes of babies".

The ghost of Hema Saroop, an infant cremated by her mother, Shweta, after dying from a waterborne disease, leads a cast of immaterial characters. She is "a preta—a hungry ghost", her spirit cursed with an insatiable appetite. She eats her mother so ferociously that Shweta never utters her daughter's name again. But the baby still hungers for company, and brings other ghosts with her.

What follows is a deft merging of the

dead and the living. Shweta's "sunken eyes" struggle to fend off a fatal slumber. Her husband, Hansraj, impersonates his wealthy boss after he is murdered. Her son, Krishna, joins a gang of boys who are fascinated with death. Vultures circle overhead. Life is liminal, Shweta thinks, "all shall breathe in death and breathe out death onto everybody they meet."

Gloomy as all this may sound, the author's bravura style illuminates the story. A passage describing the landscape around the barrack, a "place of lesser lives", is luminously sketched in "shades of green

soaked with vermillion and red and purple and ochre". A dead rabbit seems almost to be reanimated in Mr Hosein's staccato sentences, its bones snapping like the "stalks of sugar cane", as if "the body refused to surrender to death."

The hungry ghosts in this story refuse to succumb to oblivion too. The barracks are ramshackle palimpsests of their histories and hopes. In the Trinidad of the 1940s, it seems, it is the imperialists who are on their way out. By contrast, the shades of the indentured feed and grow, like "bright pink lotuses in night soil". ■

# Economic & financial indicators

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## Economic data

	Gross domestic product			Consumer prices			Unemployment rate		Current-account balance		Budget balance		Interest rates		Currency units	
	% change on year ago latest	% change on year ago 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 \$ Feb 22nd	% change on year ago	
United States	1.0	Q4	2.9	2.1	6.4	Jan	8.0	3.4	Jan	-3.4	-5.5	3.9	199	-	-	
China	2.9	Q4	nil	3.0	2.1	Jan	1.9	5.5	Jan‡	2.2	-5.3	2.7	§§	14.0	6.89	
Japan	0.6	Q4	0.6	1.4	4.0	Dec	2.5	2.5	Dec	1.4	-6.1	nil	-8.0	135	-14.5	
Britain	0.4	Q4	0.1	4.0	10.1	Jan	7.9	3.7	Nov††	-3.0	-5.3	3.6	210	0.83	-10.8	
Canada	3.9	Q3	2.9	3.4	5.9	Jan	6.8	5.0	Jan	-0.6	-2.3	3.4	144	1.35	-5.9	
Euro area	1.9	Q4	0.4	3.5	8.5	Jan	8.4	6.6	Dec	0.9	-3.6	2.5	230	0.94	-6.4	
Austria	1.7	Q3	-3.3‡	4.8	11.1	Jan	8.6	5.0	Dec	-0.4	-3.6	3.2	257	0.94	-6.4	
Belgium	1.9	Q3	0.8	2.9	8.0	Jan	10.3	5.5	Dec	-2.7	-4.7	3.2	245	0.94	-6.4	
France	0.5	Q4	0.5	2.6	6.0	Jan	5.9	7.1	Dec	-2.1	-5.1	2.9	224	0.94	-6.4	
Germany	1.1	Q4	-1.0	1.9	8.7	Jan	8.7	2.9	Dec	3.9	-2.4	2.5	230	0.94	-6.4	
Greece	2.1	Q3	-2.1	5.0	7.0	Jan	9.3	11.6	Dec	-5.8	-4.5	4.5	190	0.94	-6.4	
Italy	1.7	Q4	-0.5	3.9	10.0	Jan	8.7	7.8	Dec	-0.6	-5.4	4.5	253	0.94	-6.4	
Netherlands	3.0	Q4	2.5	4.3	7.6	Jan	11.6	3.6	Jan	6.5	-1.5	2.8	236	0.94	-6.4	
Spain	2.7	Q4	0.9	5.5	5.9	Jan	8.3	13.1	Dec	0.5	-4.6	3.5	229	0.94	-6.4	
Czech Republic	1.6	Q3	-1.2	2.5	17.5	Jan	15.1	2.2	Dec‡	-1.8	-4.7	4.8	193	22.3	-3.1	
Denmark	3.2	Q3	4.5	3.0	7.7	Jan	7.7	2.7	Dec	9.4	1.5	2.8	221	7.00	-6.3	
Norway	1.3	Q4	0.8	3.2	7.0	Jan	5.8	3.2	Nov‡‡	27.0	13.2	1.4	76.0	10.3	-13.9	
Poland	4.5	Q3	9.3	4.9	17.2	Jan	14.4	5.5	Jan§	-3.4	-3.7	6.7	274	4.47	-10.3	
Russia	-3.7	Q3	na	-2.3	11.8	Jan	13.7	3.7	Dec§	10.9	-2.3	10.8	5.0	75.7	4.8	
Sweden	0.6	Q4	-2.4	2.8	11.7	Jan	7.7	7.6	Jan§	2.1	0.2	2.7	208	10.4	-10.4	
Switzerland	0.5	Q3	1.0	2.0	3.3	Jan	2.8	1.9	Jan	7.0	-1.0	1.4	122	0.93	-1.1	
Turkey	3.9	Q3	-0.5	5.1	57.7	Jan	72.4	10.4	Dec§	-6.1	-1.0	10.3	-1073	18.9	-26.8	
Australia	5.9	Q3	2.6	3.5	7.8	Q4	6.6	3.7	Jan	2.0	-1.9	3.9	169	1.47	-6.1	
Hong Kong	-4.2	Q4	nil	-3.5	2.0	Dec	1.9	3.4	Jan‡‡	5.5	-3.5	3.8	210	7.84	-0.5	
India	6.3	Q3	19.3	6.9	6.5	Jan	6.7	7.1	Jan	-2.9	-6.4	7.4	68.0	82.8	-9.6	
Indonesia	5.0	Q4	na	5.1	5.3	Jan	4.2	5.9	Q3§	1.0	-2.4	6.8	26.0	15,202	-5.5	
Malaysia	7.0	Q4	na	7.3	3.8	Dec	3.4	3.6	Dec§	2.4	-5.3	3.9	26.0	4.44	-5.6	
Pakistan	6.2	2022**	na	6.2	27.6	Jan	19.9	6.3	2021	-3.2	-7.8	15.0	†††	419	262	
Philippines	7.2	Q4	10.0	7.6	8.7	Jan	5.8	4.5	Q4§	-4.0	-7.7	6.3	94.0	55.2	-6.7	
Singapore	2.1	Q4	0.3	3.8	6.5	Dec	6.1	2.0	Q4	19.6	-1.0	3.2	131	1.34	0.8	
South Korea	1.3	Q4	-1.5	2.6	5.2	Jan	5.1	3.6	Jan§	1.6	-3.4	3.6	93.0	1,305	-8.6	
Taiwan	-0.4	Q4	-1.5	2.4	3.0	Jan	2.9	3.6	Jan	12.7	-1.4	1.3	53.0	30.5	-8.7	
Thailand	1.4	Q4	-5.9	3.2	5.0	Jan	6.1	1.2	Nov§	-3.3	-2.7	2.7	69.0	34.6	-6.3	
Argentina	5.9	Q3	7.0	5.7	98.8	Jan	72.4	7.1	Q3§	-0.7	-3.8	na	na	195	-45.0	
Brazil	3.6	Q3	1.6	2.8	5.8	Jan	9.3	8.1	Nov§‡‡	-2.9	-4.7	13.3	205	5.18	-2.5	
Chile	0.3	Q3	-4.6	2.8	12.3	Jan	11.6	7.9	Dec§‡‡	-8.0	1.1	5.8	-13.0	800	-0.9	
Colombia	2.9	Q4	2.7	7.6	13.3	Jan	10.2	10.3	Dec§	-5.7	-5.0	13.0	385	4,927	-20.2	
Mexico	3.5	Q4	1.6	3.1	7.9	Jan	7.9	3.0	Dec	-1.4	-2.5	9.4	155	18.4	10.5	
Peru	1.7	Q3	1.8	2.6	8.7	Jan	7.9	8.8	Jan§	-4.8	-1.5	7.9	186	3.83	-2.1	
Egypt	4.4	Q3	na	6.6	25.9	Jan	13.9	7.2	Q4§	-4.6	-7.4	na	na	30.6	-48.7	
Israel	2.9	Q4	5.8	6.1	5.4	Jan	4.4	4.2	Dec	3.5	0.5	3.9	206	3.63	-11.0	
Saudi Arabia	8.7	2022	na	8.9	3.4	Jan	2.5	5.8	Q3	12.6	3.3	na	na	3.75	nil	
South Africa	4.1	Q3	6.6	2.3	7.2	Jan	7.0	32.9	Q3§	-1.4	-5.5	10.2	99.0	18.2	-17.3	

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

## Markets

In local currency	Index	% change on:			index	% change on:				
		Feb 22nd	one week	Dec 31st 2021		Feb 22nd	one week	Dec 31st 2021		
United States S&P 500	3,991.1	-3.8	na	-16.3	Pakistan KSE	41,167.6	-0.4	-7.7		
United States NAScomp	11,507.1	-4.7	na	-26.4	Singapore STI	3,300.0	0.6	5.6		
China Shanghai Comp	3,291.2	0.3	na	-9.6	South Korea KOSPI	2,417.7	-0.4	-18.8		
China Shenzhen Comp	2,159.8	-1.3	na	-14.6	Taiwan TWI	15,418.8	-0.1	-15.4		
Japan Nikkei 225	27,104.3	-1.4	na	-5.9	Thailand SET	1,659.5	0.7	0.1		
Japan Topix	1,975.3	-0.6	na	-0.9	Argentina MERV	244,719.1	-4.0	193.1		
Britain FTSE 100	7,930.6	-0.8	na	7.4	Brazil BVSP*	107,152.1	-2.2	2.2		
Canada S&P TSX	20,193.3	-2.5	na	-4.9	Mexico IPC	53,180.0	-0.5	-0.2		
Euro area EURO STOXX 50	4,242.9	-0.9	na	-1.3	Egypt EGX 30	16,777.2	-4.3	40.9		
France CAC 40	7,299.3	nil	na	2.0	Israel TA-125	1,765.9	-4.0	-14.8		
Germany DAX*	15,399.9	-0.7	na	-3.1	Saudi Arabia Tadawul	10,269.7	-2.9	-9.4		
Italy FTSE/MIB	27,101.5	-1.6	na	-0.9	South Africa JSE AS	78,170.1	-1.6	6.1		
Netherlands AEX	756.6	-1.7	na	-5.2	World, dev'd MSCI	2,730.9	-3.0	-15.5		
Spain IBEX 35	9,172.7	-1.3	na	5.3	Emerging markets MSCI	982.1	-2.3	-20.3		
Poland WIG	58,700.7	-3.1	na	-15.3	US corporate bonds, spread over Treasuries					
Russia RTS, \$ terms	929.4	1.6	na	-41.8	Basis points	latest	Dec 31st 2021			
Switzerland SMI	11,300.3	0.2	na	-12.2	Investment grade	148	120			
Turkey BIST	5,071.4	2.4	na	173.0	High-yield	467	332			
Australia All Ord.	7,517.0	-0.6	na	-3.4	Sources: Bloomberg; CME Group; Cotlook; Refinitiv Datastream; Fastmarkets; FT; ICCO; ICO; ISO; Live Rice Index; LME; NZ Wool Services; Thompson Lloyd & Ewart; Urner Barry; WSJ. *Provisional.					
Hong Kong Hang Seng	20,423.8	-1.9	na	-12.7						
India BSE	59,745.0	-2.5	na	2.6						
Indonesia IDX	6,810.0	-1.5	na	3.5						
Malaysia KLSE	1,464.0	-1.6	na	-6.6						

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

## Commodities

The Economist commodity-price index	% change on		
	2015=100	Feb 14th	Feb 21st*
Dollar Index	158.9	161.2	0.9
All Items	144.8	144.5	4.8
Food	126.9	126.2	-5.0
Industrial	185.4	191.8	-1.2
Metals	172.0	176.8	-1.8
Sterling Index	199.4	202.7	2.4
All items	164.4	167.3	2.8
Euro Index	164.4	167.3	-5.6
Gold	\$ per oz	1,850.2	1,835.6
Brent	\$ per barrel	85.7	83.1

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

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## What madness looks like

**Gradually, the besieged Ukrainian city is being abandoned by everyone**

THE PHRASE had recently become a staple of President Volodymyr Zelensky's nightly addresses to the people of Ukraine: "Bakhmut holds!" The city, at the edge of the Donbas region in the east, was his "Fortress Bakhmut", stout-hearted and unconquerable. Then, in an interview published on February 19th, the president's tone slightly changed. Bakhmut was "not a particularly big town". It must still be defended against the Russian invaders, but not "at any price". He had already conceded that there was "almost no life left", and added: "This is what madness looks like."

Russia's main onslaught had begun in August, and had grown in intensity ever since. This was both close-contact shooting and trench warfare, as in early-20th-century conflicts. Artillery duels to the south-east of the city often prevented advance or retreat. Into this inferno the Russians, headed by the mercenaries of the Wagner group, threw all the troops they could, most of them new conscripts. They died in such numbers that Bakhmut was called "the meat-grinder". But the defenders, too, were losing men in the high dozens every day. At least they took away their dead and wounded; the Russians did not bother.

By mid-December, explosions and gunfire shook the city every few seconds. Metre by metre the Russians were advancing. By one estimate, 60% of the city's infrastructure had been destroyed. The streets were empty save for rubble, burnt-out cars and foraging dogs. Since late summer there had been no power or piped water, and only rare internet connection. The main bridge across the Bakhmutka river had been blown up, replaced by planks. By February the two highways into town were within range of Russian fire; only a back road remained to bring supplies in or, when they had endured enough, to take people out.

Several times they had been ordered by the government to leave. By February, almost all had. From a city of 70,000 people, around 5,000 remained. They were rarely spotted, on the dash to a

rare open shop or to the lifeline of the mobile food vans, scooping water from streams, or cooking over firewood outside their shattered homes. They spent most of their time in "invincibility centres", buildings with sandbagged windows and wood stoves, huddling to recharge their phones. At night many slept in unventilated cellars, regularly climbing the stairs to get a gasp of air.

Those who stayed were almost all the old, the ill, their carers, the poor and, especially, the stubborn. A number felt safe while Ukraine still controlled the city. Some, though, were hoping hard for the Russians to come. For Bakhmut was a border city, used to being tussled over. It had begun life as a fort, then a fortified town: Fortress Bakhmut, indeed. There was a spell under Serb frontiersmen, a shorter period of Cossack rule, and an engrained habit of resisting, then accommodating to, both Kyiv and Moscow. With Russia's revolution it was renamed Artemivsk, in honour of a communist revolutionary, and acquired a large statue of Lenin, a Soviet tank on a plinth and roads lined with dismal apartment blocks. Even after the fall of the Soviet Union, the statues and Soviet street names remained; people did not mind them.

In 2014 pro-Russian separatists from the Donetsk People's Republic took over parts of the city. After Ukrainian forces drove them out later that year, Lenin's statue came down and the Soviet street-names were changed: Bakhmut was Bakhmut again. Yet its identity was still fluid. Two-thirds of the citizens thought of themselves as Ukrainians, but most had Russian as their first language. What they spoke was a blend of the two. Many had family in Russia, or business connections. The recent fighting had established a no-man's-land at the edge of town, and this forced separation from Donetsk felt like losing a part of themselves.

They were mystified too, by the way the war in Ukraine was now focused on their city. It was not famous. Some thought it beautiful, with the golden-domed church of St Vladimir, the Palace of Culture and views over fields and woods. But the main attractions lay underground, in the huge salt mines at neighbouring Soledar and the gypsum caves of the Artwinery, where 50m bottles of sparkling wine were laid down to mature. Salt and wine had made Bakhmut rich once the railway came, in the late 19th century. But by 2023 work had stopped in the glistening salt mines, the Artwinery was back under Russian control and the Palace of Culture had been fire-bombed. As for the views, they were now of smoke rising from Soledar and a wilderness of blasted trees.

The city was not especially strategic, either. Two main roads crossed there, but it was not a logistics hub of any size. It opened the way, if Russia won it, to bigger cities in the Donbas; yet there were other routes. The Soledar salt mines were vast enough to run tanks and armoured cars around in, and for troops to infiltrate for miles underground; there were myths, too, of great stockpiles of weapons there. But mines could be blockaded from outside. To most strategists, the fierceness of the onslaught on Bakhmut far outweighed its military importance. It baffled them, to the point where some joked that the head of the Wagner group, Yevgeny Prigozhin, must have his eyes on those 50m bottles of wine and hopes of a quick fortune.

All Mr Prigozhin wanted, though, was to take Bakhmut for Vladimir Putin; or simply for his own glory, once he had dared to publicly criticise the ineptitude of the men in charge of the war. The city had become an unlucky pawn in Kremlin power-politics. But for both sides, now, its value was almost entirely symbolic. For Mr Putin, victory there would mean the end of a humiliating run of defeats. For Mr Zelensky, Ukraine's whole resolve had been summed up in his phrase, "Bakhmut holds."

For the sake of national morale, therefore—and for the sake of spurring Western allies to keep sending weapons—the city could not fall. As one weary Ukrainian soldier put it, "What sense to hold all these months if you need to retreat?" And yet, to all intents and purposes, Bakhmut was already dead. Whichever side prevailed, ghost-citizens in burnt ruins would be their only prize. ■