The Economist

Why Putin hates the West

Can Europe stick together over Ukraine?

What Biden can learn from Truman

The business trip is back

MARCH 26TH–APRIL 1ST 2022

POWER PLAY

The new age of energy and security

#ModernMBA

It's Time for the Business School of the Future

"2022 will be business as usual," said no one, ever.

Luckily, there's a business school that's anything but usual. Quantic's highly selective **MBA and Executive MBA** teach business essentials and future-forward skills like blockchain.

Start your future today.

QUANTIC
SCHOOL of
BUSINESS &
TECHNOLOGY

Apply now at Quantic.edu
Applications close soon.

Contents

On the cover

The world's energy industry is about to be remade. But energy insecurity is here to stay: leader, *page 9*. Meet the commodities giants behind the energy transition, *page 67*. The oil market, *page 70*. The charm of small nuclear reactors, *page 74*. American clean tech: Lexington, *page 28*

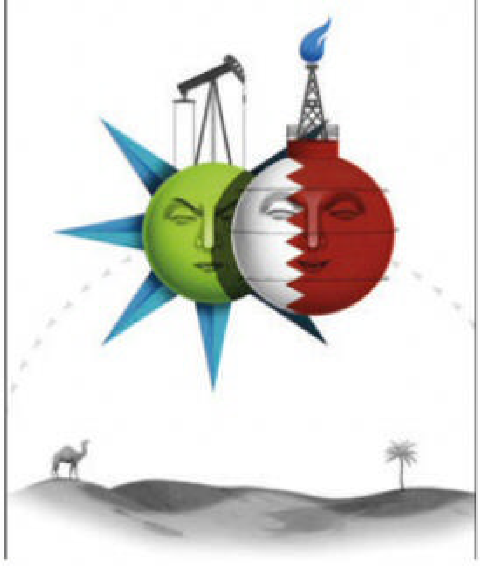
Why Putin hates the West
The Kremlin's cult of war, *page 17*. A Putin bibliography, *page 78*. Istanbul has become a Russian refuge, *page 49*

Can Europe stick together over Ukraine? The EU has united in response. But staying as one is getting harder, *page 48*. Weaning Europe off Russian energy: Charlemagne, *page 51*

What Biden can learn from Truman Like the 33rd American president, Joe Biden must strive to curb both Russia and China without blowing up the world, *page 21*. For all America's success in supporting Ukraine, hard times lie ahead: leader, *page 10*

The business trip is back
Business travel as you knew it isn't, *page 57*

→ *The digital element of your subscription means that you can search our archive, read all of our daily journalism and listen to audio versions of our stories. Visit **economist.com***



▸▸ Contents continues overleaf

The Economist

Volume 442 Number 9289

Published since September 1843
to take part in *"a severe contest between intelligence, which presses forward, and an unworthy, timid ignorance obstructing our progress."*

Editorial offices in London and also:
Amsterdam, Beijing, Berlin, Brussels, Chicago, Dakar, Dallas, Dubai, Johannesburg, Madrid, Mexico City, Moscow, Mumbai, New Delhi, New York, Paris, San Francisco, São Paulo, Seoul, Shanghai, Singapore, Tokyo, Washington DC

Subscription service
For our full range of subscription offers, including digital only or print and digital bundled, visit: **Economist.com/offers**

If you are experiencing problems when trying to subscribe, please visit our Help pages at: **www.economist.com/help** for troubleshooting advice.

To manage your account online, please visit my.economist.com where you can also access our live chat service which is available 24/7. To call us, contact our dedicated service centre on:

North America: +1 888 815 0215
Latin America & Mexico: +1 646 248 5983

Please recycle

PEFC certified
This copy of *The Economist* is printed on paper sourced from sustainably managed forests certified by PEFC
www.pefc.org

PEFC/29-31-58

© 2022 The Economist Newspaper Limited. All rights reserved. Neither this publication nor any part of it may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without the prior permission of The Economist Newspaper Limited. *The Economist* (ISSN 0013-0613) is published every week, except for a year-end double issue, by The Economist Newspaper Limited, 750 3rd Avenue, 5th Floor, New York, N Y 10017. *The Economist* is a registered trademark of The Economist Newspaper Limited. Periodicals postage paid at New York, NY and additional mailing offices. Postmaster: Send address changes to *The Economist*, P.O. Box 46978, St. Louis , MO. 63146-6978, USA. Canada Post publications mail (Canadian distribution) sales agreement no. 40012331. Return undeliverable Canadian addresses to *The Economist*, PO Box 7258 STN A, Toronto, ON M5W 1X9. GST R123236267. Printed by Quad/Graphics, Saratoga Springs, NY 12866

Delivering with advanced technology and equipment, so we can reach over 160 million addresses across the country. And our next-generation trucks will carry even more packages, so you can keep up with your customers' growing demands.

Get started at usps.com/everywhere

UNITED STATES POSTAL SERVICE ®

Delivering for America

Volodymyr Zelensky, **Ukraine's** president, said there was "nothing left" of Mariupol after three weeks of indiscriminate Russian shelling. The 100,000 remaining residents are desperately short of food. The Pentagon said that Russian soldiers had entered part of the port city. But defenders continued to resist. More than 3.5m people have fled Ukraine since Vladimir Putin's invasion began.

Elsewhere **Russia** struggled. NATO estimated that it had lost more than 7,000 soldiers in a month. Ukrainian troops went on the offensive in parts of the country, attempting to retake Kherson, a southern city. Russian forces near Kyiv, the capital, have not advanced for two weeks, though missiles continue to strike the city.

Mr Zelensky said that **any peace deal** with Russia would have to be approved by a nationwide referendum. He has also insisted on a meeting between himself and Mr Putin. Talks have so far made little progress. Russia wants Ukraine to declare itself neutral, give up Crimea and Donbas and largely disarm. It also wants the West to end sanctions. Ukraine fears such a deal would leave it nearly defenceless, and notes that Russia has broken previous promises to pull back its troops.

Jens Stoltenberg, **NATO's** secretary-general, said the alliance would send four new battlegroups to eastern Europe, doubling its military presence there. NATO currently has around 40,000 troops stationed on its eastern flank between the Baltic Sea and the Black Sea.

North Korea test-launched what appeared to be its largest intercontinental ballistic missile ever, according to South Korean officials. Japan called the launch "reckless".

Rishi Sunak, **Britain's** chancellor, announced giveaways including a cut in fuel duty, a higher threshold at which people pay national insurance (a payroll tax) and a lower standard rate of income tax from 2024. But living costs are soaring and Mr Sunak's new measures offset only around a sixth of previously announced tax increases as a share of GDP.

Madeleine Albright, the first woman to serve as America's secretary of state, died aged 84. An immigrant from Czechoslovakia, she served in the post from 1997 to 2001 during Bill Clinton's presidency. In 1999 she led calls for the NATO bombing campaign that helped end ethnic cleansing in Kosovo.

Canada's prime minister, Justin Trudeau, looks likely to stay in power until 2025, after his Liberal party struck a "supply and confidence" deal with the New Democratic Party. The Liberals will continue to govern as a minority, with support from the other left-leaning party, whose goals on social issues, the environment and housing the Liberals promise to advance.

Judge dread

Erika Aifán, a **Guatemalan** judge, resigned and fled to the United States after attempts to strip her of immunity appeared close to success. Ms Aifán, who also faced death threats and lawsuits, was overseeing a case involving alleged corruption by the president.

Brazil's Supreme Court blocked Telegram, a messaging app, for several days. The court argued that the app had ignored its orders over battling disinformation ahead of October's presidential election. Separately YouTube said it would remove videos peddling lies about fraud in the 2018 election. President Jair Bolsonaro has claimed his margin of victory would have been bigger were it not for vote-rigging.

A trip to the Caribbean by the **Duke and Duchess of Cambridge**, intended to strengthen the British monarchy's links with Commonwealth countries after Barbados removed the queen as head of state, sparked protests. A group of Jamaican politicians, business leaders and activists called on the royal family to apologise for colonialism, and demanded reparations for slavery. The couple cancelled another engagement in Belize, which also saw demonstrations.

On March 23rd, when **Afghan girls** were supposed to go back to school, the Taliban said that female secondary-school pupils would have to stay at home. Officials said the girls' uniforms were immodest, and so violated Islamic law. When the Taliban previously ran the country, girls' education was entirely banned.

Imran Khan, Pakistan's prime minister, is facing a no-confidence motion as early as next week. Coalition partners as well as lawmakers from his party say they have lost faith in Mr Khan, owing to his economic mismanagement. His relationship with the armed forces, without whose blessing no Pakistani leader can survive, has deteriorated.

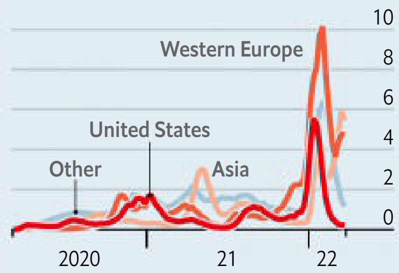
At least eight people were killed in **Mogadishu**, Somalia's capital, in an attack by suspected jihadists near the international airport complex. The complex houses foreign embassies and the headquarters of an African peacekeeping force.

After a decade of isolation from his fellow Arab rulers, President Bashar al-Assad of **Syria** came in from the diplomatic cold by visiting the United Arab Emirates. America expressed "profound disappointment" at his reception.

Coronavirus data

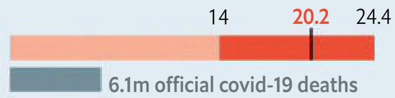
To 6am GMT March 24th 2022

Weekly confirmed cases by area, m



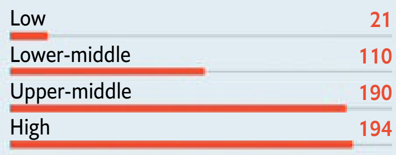
Estimated global excess deaths, m

With 95% confidence interval



Vaccine doses given per 100 people

By country-income group



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

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

Spain shifted its position on **Western Sahara**, its former possession, by backing Morocco's plan to give the territory limited autonomy. Algeria, which backs Polisario, the indigenous guerrilla movement that has been seeking independence for nearly half a century, was furious. Polisario said Spain had made "a grave error".

China battled to keep a wave of the Omicron variant of covid-19 under control. The country reported its first two covid deaths in over a year. Shenyang, a north-eastern city of some 9m people, has locked down and Shanghai Disneyland has closed until further notice.

New Zealand will scrap some vaccine mandates and ease other **covid-19** restrictions. Jacinda Ardern, the prime minister, called it "a new beginning". Meanwhile New York's mayor, Eric Adams, announced plans to end a school mask mandate for children under the age of five.

Moscow's stock exchange resumed partial trading nearly a month after it closed. The phased reopening began with trading in local bonds, followed by 33 equities including state lenders Sberbank and VTB. Russia's central bank said foreigners would be barred from selling local stocks or rouble treasury bonds until April 1st. It also banned short selling.

Western companies continued to cut ties with Russia. Nestlé, the world's biggest food company, pulled brands such as KitKat and Nesquik from Russia but said it would continue to sell essential items. BNP Paribas and Crédit Agricole became the latest banks to pull out. Renault, a carmaker, suspended operations at its Moscow plant and unveiled plans to exit its Russian venture, AvtoVaz. TotalEnergies said it would stop buying oil from Russia by the end of this year, though it stopped short of joining its peers in divesting its oil and gas assets in the country.

Big oil's comeback

Saudi Aramco, the world's biggest oil producer, said it would invest up to $50bn a year to boost production after more than doubling its annual net income in 2021 to $110bn. Aramco and its peers have profited from a sharp rise in oil prices, which topped $120 a barrel on March 23rd.

Gas prices surged by nearly a third after President Vladimir Putin ordered Russia's central bank to push for rouble payments for natural-gas purchases from countries it deems hostile, including America, Britain and members of the European Union. The decision comes as the Biden administration and European Union explore a deal to slash Europe's dependency on Russian gas.

The **Securities and Exchange Commission** (SEC), a financial regulator, proposed new rules forcing public companies in America to disclose climate-related risks and greenhouse gas emissions. If finalised, the rules would mark the first mandatory disclosures required by the SEC on climate risk.

Inflation in Britain rose to a 30-year high, pushed up by soaring global prices for energy, petrol, food and durable goods. Consumer prices were 6.2% higher in February compared with a year earlier, making it the fastest annual increase since 1992.

The **International Monetary Fund** said Egypt has asked for support as the war in Ukraine pushes wheat and oil prices higher. Egypt, the world's biggest wheat importer, is heavily reliant on supplies from Russia.

Evergrande, an indebted Chinese developer, delayed the publication of its annual results following a disclosure that lenders had seized around 13.4bn yuan ($2.1bn) of deposits from the group. The property giant, which has more than 1.97 trillion yuan ($305bn) in liabilities, said it had launched an independent investigation into the matter.

Share prices in **Boeing**, an American aircraft manufacturer, fell after one of its 737-800 jets crashed in southern China with 132 people on board, renewing concerns about the company's safety record. China Eastern Airlines said it would ground its 737 aircraft and India's aviation regulator placed the country's entire fleet of 737 jets under enhanced surveillance.

Credit Suisse, a Swiss bank, said it could be forced to pay more than $500m in damages in a lawsuit brought by the former Georgia prime minister, Bidzina Ivanishvili. The ruling will be decided in a Bermudan court. Credit Suisse will announce its first-quarter results on April 27th.

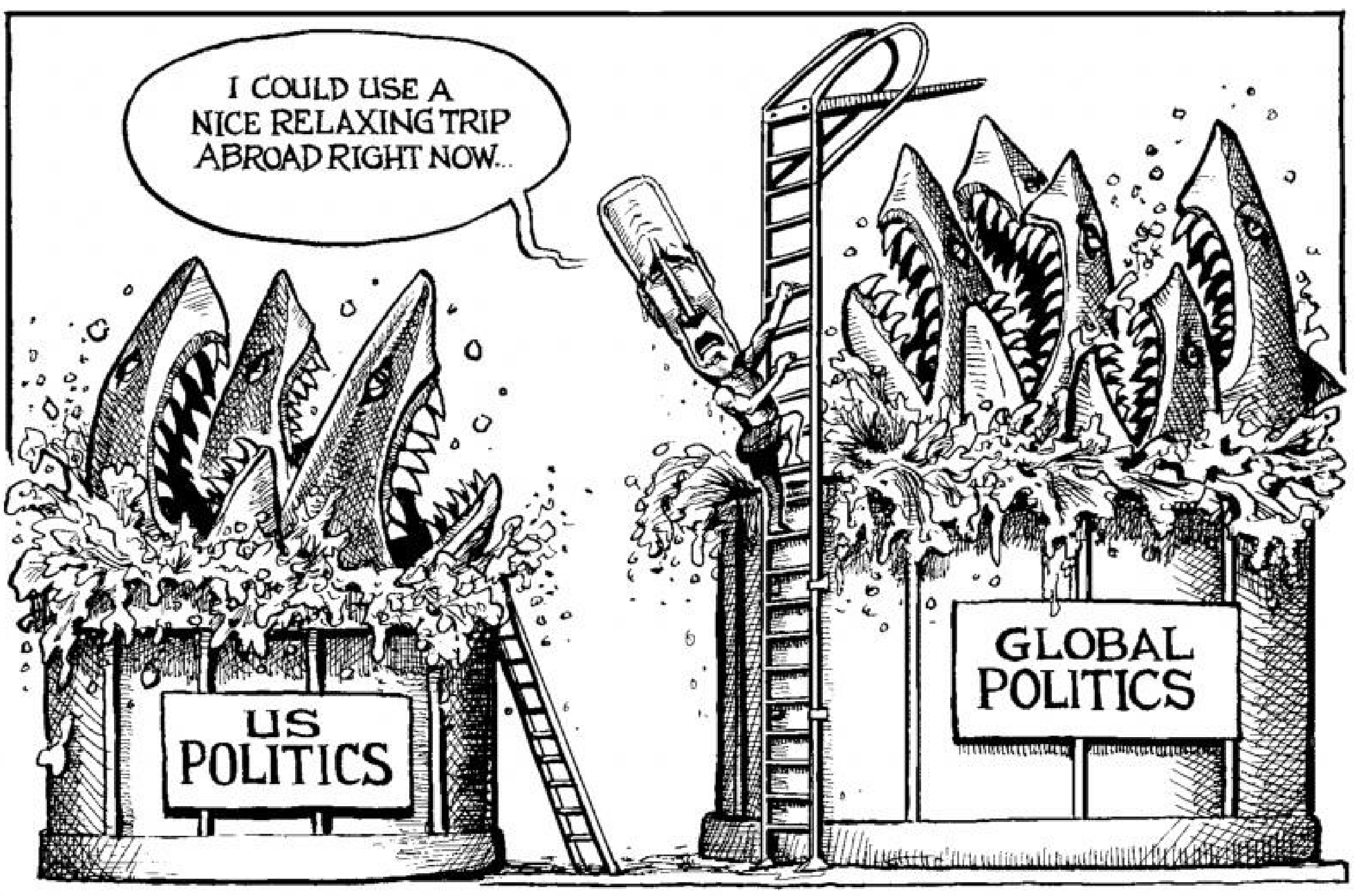
Alibaba, a Chinese e-commerce giant, increased its share buyback programme to a record $25bn after slowing growth and a crackdown by Beijing on the tech sector. China's tech stocks have been weighed down by volatile trading. Alibaba's share price has fallen by around half in the past year.

Warren Buffett sent Berkshire Hathaway's share prices soaring following an $11.6bn cash acquisition of Alleghany, an insurer, in the conglomerate's largest deal in six years. The purchase will dip into Berkshire's $147bn cash pile.

Ferretti Group, an Italian yacht maker, launched an initial public offering on the Hong Kong stock exchange to raise up to $300m. The company downplayed the potential fallout from sanctions against Russian oligarchs.

Kohl's, one of America's largest department stores, said it was reviewing offers from potential buyers following activist pressure to sell itself. The company previously rejected bids from investment firms that valued it at $9bn.

Two private islands that were owned by the late, disgraced financier, **Jeffrey Epstein**, went on sale for $125m. Proceeds will go towards resolving outstanding lawsuits and other costs incurred by the Epstein estate.



USA for
UNHCR
The UN Refugee Agency

Help refugees fleeing Ukraine.

Donate Today

UNrefugees.org/AidUkraine

Power play

The world's energy industry is about to be transformed. But energy insecurity is here to stay

Energy and commodities lie at the dark heart of Vladimir Putin's regime and the threat it poses to the world. Four trillion dollars of oil and gas exports over the two decades of his rule have paid for the tanks, guns and Grad missiles now killing Ukrainians. Natural-resource earnings have entrenched a rent-seeking elite that has created an offshore archipelago of yachts, nightclubs and Caribbean front companies, stifled representative politics and indulged Mr Putin's megalomaniacal fantasies.

As Russia supplies 10-25% of the world's oil, gas and coal exports, many countries, especially in Europe, are vulnerable to coercion by it. For them, the war in Ukraine has been a shock that adds urgency to the creation of an energy system which depends more on sun, wind and nuclear reactors than on derricks and rigs. Yet don't fool yourself that this new era will allow an easy escape from the curse of energy crises and autocrats.

Weeks of chaos in energy markets are beginning to hurt consumers. Petrol prices in Los Angeles are over $6 a gallon for the first time. As sanctions on Russia bite, traders predict, Europe will run short of diesel. Germany is preparing to ration natural gas next winter, in case Russia cuts off supplies. In Asia, oil importers are bracing for a balance-of-payments hit. In a tight market, shocks are hard to absorb. Oil spiked at $122 per barrel this week after a pipeline from Central Asia to the Black Sea suffered storm damage and Iranian-backed Houthi rebels attacked Saudi energy facilities.

The immediate reaction of governments everywhere has been to scramble to find more fossil fuels, however polluting to the environment or painful to their pride. With Western encouragement, Saudi Aramco, the world's biggest oil firm, is raising investment to $40bn-50bn a year (see Schumpeter). At one point, the Biden administration buttered up Nicolás Maduro, Venezuela's dictator, perhaps to get more oil from a state which in 2005 supplied 4% of the world's crude (see International section).

The longer-term question being asked by many is: how fast can they abandon fossil fuels altogether? The energy strategy announced this month by the EU envisages independence from Russia by 2030—in part by finding new sources of gas, but also by doubling down on renewables. As the folly of relying on Russia becomes clear, nuclear power is back in fashion. France plans to construct six new plants and is aiming for "total energy independence". On March 21st Britain said it would build a new generation of reactors at "warp speed". A redesigned energy system that will belch out less carbon also promises an escape from the 20th century's great game of relying on energy from despots.

Yet although geopolitics will hasten the climate-driven energy transition, they will not make it risk-free. The transition will disrupt some economies and cause new dependence on others. To gauge this we have simulated spending on a basket of ten natural resources, including oil and coal, and the metals used in power generation and the electrification of industry and transport (see Finance & economics section). As the world decarbonises, spending on this basket will fall from 5.8% of GDP to 3.4% by 2040. Yet in our simulation over half of that will still go to autocracies, including new electrostates that provide green metals such as copper and lithium. The top ten countries will have a market share of over 75% in all our minerals, which means production will be dangerously concentrated.

Two problems therefore stand out. First, the geopolitics of shrinking the oil industry are fraught. As Western firms withdraw for environmental reasons and in response to high costs, the market share of OPEC plus Russia will rise from 45% to 57% by 2040, giving them more clout. Higher-cost producers such as Angola and Azerbaijan face a shock as they are squeezed out. The world map will be peppered with distressed ex-petrostates.

Second, the emerging electrostates face their own battle with the resource curse. Spending on green metals will surge amid a two-decade-long build-out of electric infrastructure. The windfall may be worth over $1trn a year by 2040. Some beneficiaries, such as Australia, are well-equipped to deal with this. More fragile states, including Congo, Guinea and Mongolia, are not. Mountains of cash distort economies and feed grievances. Mining was a source of discord in recent elections in Chile and Peru. Global mining firms are nervous that their property rights will be buried. A resulting lack of investment has sent the price of a basket of green metals up by 64% in the past year. All this is compounded by China, which is hunting for the same resources, but is more tolerant of bad governments.

As with all commodities, soaring prices will eventually trigger a market response. Tight supply gives firms a huge incentive to step up recycling and to innovate. New kinds of small-scale nuclear reactors are emerging (see Science & technology section). Tesla, which uses minerals to make electric cars, is developing new battery designs. It has also struck a supply deal with New Caledonia, a Pacific territory of 277,000 people you will hear more about because it has a tenth of the world's nickel reserves. This month Barrick, a Canadian firm, took a deep breath and agreed to develop a $10bn copper mine in Pakistan.

High-voltage rewiring

Yet even as markets respond, governments must also redouble their efforts. Because self-sufficiency is rarely an option, diversification is the goal. That means new partnerships. On March 20th Germany began talks with Qatar for gas. The invigoration of the rich world's nuclear industry is key, not least because it frees everyone else from relying on Chinese and Russian technology. Governments must catalyse mining investment. Firms should not be free to blow up sacred caves or endanger workers, but the transition requires more mining projects in high-risk countries at a cost to the local ecology. Governance rules in wealthy countries need to acknowledge the trade-off. Finally, rich-world governments should help electrostates prepare by, for example, helping design model contracts for a fair split of revenues and establishing sovereign-wealth funds to save the bounty.

Building a cleaner and safer energy system is an epic, risky and daunting task. But whenever resolve flags, ask yourself: would you rather rely on Mr Putin's Russia? ■

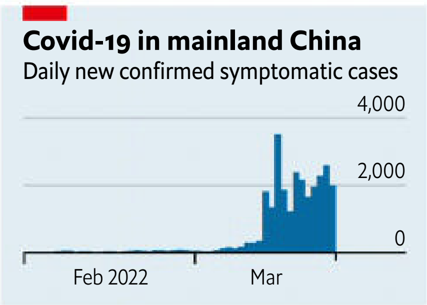
China

Escaping zero-covid

It will eventually have to live with the coronavirus. But China has a lot of work to do first

An outbreak of covid-19 on the scale China is experiencing would barely register in most countries. Much of the world has decided to live with the virus. Not China, though. So far in March it has recorded around 27,000 new local symptomatic cases—and each one is viewed as a threat to the government's "zero-covid" policy. For two years China has smothered outbreaks using mass-testing, strict lockdowns and by tracking its people in ways that would make Mark Zuckerberg blush.

Chinese leaders think their policy a huge success. *The Economist* estimates that the country's death rate from covid is 5% of America's. The Chinese economy has expanded by 10.5% in the past two years, compared with 2.4% in America and 0.4% in advanced economies generally. China's covid controls "demonstrate the advantages" of the Chinese Communist Party's leadership and the socialist system, boasts Xi Jinping, the president. All the signs are that his people tend to agree.



Yet the party hid the start of the pandemic, and seemingly failed to anticipate the difficulty of crushing a highly transmissible variant like Omicron (see China section). China's leaders have acted as if they could close off their country until covid went away. Instead, sketchy preparation for an Omicron-type outbreak has put China at risk of a catastrophe.

The experience of Hong Kong shows what could happen. Like the mainland, Hong Kong once boasted a very low case-count. But Omicron has overwhelmed the city, which now has the highest daily death-rate in the world from the virus. Hospitals have left patients waiting in loading bays and car parks. The vast majority of the dead have been unvaccinated old folk. When the outbreak began, around 65% of over-80s had not been jabbed.

The risks are similar on the mainland. Among those 80 and older, only 51% have received two jabs, and less than 20% have had a booster. Many Hong Kongers were given Western vaccines. The Chinese government, apparently for political reasons, refuses to allow these on the mainland. Three doses of the home-grown kind do offer some protection against severe disease and death, but it seems to wane more quickly than the protection provided by Western vaccines.

For now, China has little choice but to stick with its covid controls. The problems go beyond vulnerable old people. China's skimpily funded health system is ill-equipped to handle a big wave. Using Hong Kong's mortality rates as a guide, a large outbreak on the mainland would result in millions of deaths. The lingering trouble is that Chinese officials lose their jobs if an outbreak occurs on their watch. Fear of the sack creates incentives to invent sometimes cruel and irrational local rules.

In the longer term, though, change is inevitable. More transmissible variants like Omicron make the cost of enforcing zero-covid very high. Today tens of millions of people are locked down. Morgan Stanley, a bank, thinks China's GDP may not grow at all this quarter compared with the last. That could affect the global economy. Restrictions in Shanghai and Shenzhen, accounting for more than 16% of China's exports, raised alarm once again about supply chains.

China needs to help its people live with covid. It has made a start by allowing at-home tests, and sending patients with mild symptoms to isolation centres, not hospital. Mr Xi has urged officials to cut the economic impact of covid controls. More must be done. The elderly and vulnerable need vaccinating and boosting, fast. China has approved an antiviral pill, Paxlovid, from an American firm, Pfizer: why not use Western vaccines, too?

But Mr Xi still seems attached to zero-covid in the longer term. Having staked its legitimacy on keeping cases near zero, the party is loth to change strategy. Soon it will have no choice. Even if China succeeds in seeing off this wave, another will follow. The government needs to devote as much energy to charting a path out of the zero-covid policy as it has to enforcing it. ■

Ukraine

Unfinished business

For all America's success in supporting Ukraine, hard times lie ahead

Vladimir Putin's epoch-changing miscalculation over Ukraine was the outcome of a trio of mission-defining misjudgments. One was that Ukraine's government would collapse quickly. Another was that his modernised army would be dominant. The last was that America, in irreversible decline, was no longer capable of leadership. For Ukraine to be defeated, Mr Putin had only to get one premise right.

The first two misjudgments have caused general surprise. The third has stirred up general interest, among allies and foes alike. In recent years America has seemed less committed to the institutions it created after the second world war, largely as a result of its own disastrous occupation of Iraq following the attacks of September 11th 2001. Barack Obama chose to "reset" relations with Russia after it invaded Georgia in 2008 and failed to enforce a red line against the use of chemical weapons in Syria. Donald Trump accused his allies of duping America and called NATO "obsolete". After America's humiliating flight from Kabul last summer, Mr Putin seemed to have concluded that Joe Biden would be unable or unwilling to do much for Ukraine.

Today, as Mr Biden lands in Europe for NATO, G7 and EU summits, it is clear that America has confounded Mr Putin by being innovative, agile and resolute (see United States section). It ▸▸

understands that the security of Europe is at stake in Ukraine. The question is whether that success can survive the tests that lie ahead. At home, destructive political partisanship is once more rearing its head. In Europe, the coalition that America so carefully stitched together is beginning to fray.

America's innovation began before the war, with the unprecedented release of intelligence. Along with Britain, the Biden administration issued detailed, up-to-the-minute warnings about Russian troops massing on Ukraine's borders, would-be provocations, the plan of attack and a blueprint for a puppet government. This robbed Mr Putin of the power to disorientate that served him so well in the seizure of Crimea in 2014. The supply has continued in battle. Information from intercepted communications, NATO aircraft and satellites is rapidly given to Ukrainian forces, who use it for targeting.

The agility was on display when America changed course in the opening phase of the war. Mr Putin was not alone in thinking that Kyiv would fall within days. The Biden administration offered Volodymyr Zelensky safe passage out of the capital. Ukraine's president vowed to stay even as his forces repelled Russian paratroopers. America and its allies responded with more weapons and fresh sanctions.

And NATO has demonstrated resolve. In 2019 Emmanuel Macron, France's president, warned that it was suffering "brain death". Today it is reinforcing its eastern flank. Germany, its second-wealthiest member, has overturned decades of timid defence policy by agreeing to give Ukraine arms and pledging to increase spending. In its wholehearted leadership of NATO, American diplomacy has recovered from the lows of the Trump years.

The fact that the war has lasted so long is an endorsement of Mr Biden's support. But, as it drags on, sustaining that support is becoming harder. At home some Republicans have taken to blaming Mr Biden for the war, arguing however implausibly that the real cause of the invasion was Kabul and American acquiescence over a German gas pipeline coming from Russia. They accuse Mr Biden of being weak.

In the long run, partisanship is a grave threat to American influence abroad. Mr Biden's best riposte to his critics is to throw his efforts into dealing with the other, far more urgent political problem, which lies in Europe. This is the first sign of weariness in the coalition helping Ukraine withstand the Russian army (see Europe section).

Ukraine says it is short of arms. There have been pledges, including this week from Britain, but supplies could arrive too late. Ukraine also complains that NATO's distinction between defensive weapons, such as anti-tank missiles, and offensive weapons, such as aircraft, is meaningless when the invader is bent on destruction. Diplomatic sources accuse Germany and Hungary, in particular, of standing in the way of extra sanctions.

All this is becoming an urgent problem. Mariupol, a city with a population of 400,000 before the invasion, is being razed to the ground by Russian artillery. Civilians, including children, have been deported to Russia. Mr Biden has warned that Mr Putin may be about to order the use of chemical or biological weapons. As Russian atrocities mount, Ukraine will need more help. When Mr Biden meets European heads of government he will have to stiffen their resolve. If he fails to unite his allies, his good work will have been squandered. ■

Fuel taxes

When duty falls

Rather than cutting taxes on fuel, governments should support household incomes

GOVERNMENTS THAT are trying to shield voters from soaring energy and fuel costs are coalescing around a simple idea: help people buy petrol. This week Rishi Sunak, Britain's chancellor, cut fuel duty by 5p ($0.07) per litre, a 9% reduction, for a year—the most ever in cash terms. From April 1st France will rebate 15 cents ($0.16) per litre of fuel for four months. Many other European countries including Italy and Sweden have also announced cuts. Last year Japan introduced a fuel subsidy of ¥5 ($0.04) a litre, which was recently raised to ¥25. In America two states have suspended their petrol taxes and a bill has been introduced in Congress to do the same to the federal levy.

These tax cuts are a mistake. They will waste money and make it harder to wean the rich world off fossil fuels. There are better ways to help people cope with rising energy prices.

Petrol taxes, like all levies on transactions, affect both buyers and sellers. When taxes fall, buyers pay a lower total price. As a result they demand more fuel, which encourages sellers to push pre-tax prices higher. The exact division of the benefits between consumers and producers is debated, but one study of a petrol-tax holiday in Illinois and Indiana in 2000 found that consumers enjoyed only 70% of the upside.

That means today's fuel-tax cuts are wasteful. Governments could spend the same amount of money on other policies to help households without suffering a 30% leakage. It also makes the policies perverse, because the producers who benefit include Russia, whose oil Europe continues to buy, despite its invasion of Ukraine. Although the tax policies of any one small country are unlikely to affect global oil prices much, many countries cutting fuel levies at once will boost demand on a global scale, helping to fill Russia's coffers.

Governments should be trying to reduce the demand for fuel, not stoke it. The price of petrol tends not to have a rapid effect on how much people drive, because many trips are unavoidable (see Free exchange). But that may be changing as working from home has given many people a daily choice about whether to commute to the office. In the short term, maintaining fuel taxes would help wean Europe off Russian oil, starving Russia's economy of foreign currency (see Charlemagne). Even with sanctions as they are, the energy industry is warning that Europe may soon need to ration diesel, which is becoming scarce.

In the long term fuel duties lead people to switch to electric cars or public transport, reducing carbon emissions. They also mean that driving bears more of the other costs it imposes on society, such as congested roads and dirty air. These goals are ▸▸

less pressing than the energy crisis, and today's cuts are presented as temporary. But fuel duties are notoriously difficult to raise because they are so unpopular, meaning that the cuts may become permanent. Nobody believes that Mr Sunak will implement the big rise he has pencilled in for a year's time. In 2011 Britain put off a planned rise in fuel duty for seven months. It was repeatedly postponed and now Mr Sunak has cut instead. America's federal tax on petrol has been 18.4 cents per gallon since 1993.

In both cases the tax has stayed constant even as inflation has eroded its real value and the increasing fuel-efficiency of cars has made driving cheaper. In January motor fuel accounted for little more than $1 in every $50 the American consumer spent. Adjusted for today's higher price at the pump, the share of spending is still lower than the average since records began in 1959. Drivers notice dearer fuel, and American consumer-confidence is its lowest in over a decade. But today's high oil price will not hurt motorists as much as the oil embargoes of the 1970s.

There are better ways to help struggling households than to lean against the price mechanism. Governments should temporarily support the income of the poor in ways that do not encourage the consumption of fuel. Mr Sunak has cut taxes on low and middle earners, which is a start, but he should also have made universal credit, Britain's stingy main welfare benefit, more generous (see Britain section).

Calories and joules

What is more, support for incomes, unlike tax cuts for motorists, helps offset the full spectrum of forces that are eroding living standards. The biggest blow to Europe's wallets is coming not at the pump, but through the cost of heating and electricity. Food prices have soared, too. Not everyone drives, but everyone needs warmth and sustenance. ■

African economies

Long walk to free trade

African countries need to put more effort into tearing down trade barriers

In 1963, as decolonisation swept through Africa, politicians heady with pan-African ideals called for a common continental market. They saw it as a way to transcend colonial economic models based upon extracting and exporting natural resources. Sadly there has been all too little progress since. Intra-African trade remains small compared with the continent's external trade. Primary commodities account for more than 70% of Africa's exports. Just 18% of exports by African countries are to others on the continent—a lower share than equivalent figures for Asia (58%) and Europe (68%).

The African Continental Free Trade Area (AfCFTA) is meant to help change this (see Middle East & Africa section). This ambitious pact has been ratified by 41 of Africa's 55 countries. Making it easier for them to trade with one another should boost manufacturing, incomes and growth. The World Bank estimates that, if implemented, by 2035 the AfCFTA would enable an additional 30m people to escape extreme poverty, increase intra-African exports by 81% and boost wages by 10%. Although the AfCFTA has in theory been operational since the beginning of this year, in practice no trade has happened under its terms because of continued political wrangling. Africa's leaders risk squandering the promise of freer trade.

Some of the potential benefits of the AfCFTA come from lower tariffs. To realise these, the continent's trade negotiators still have work to do in agreeing on rules of origin, the bedrock of any trade area. They need to get their skates on.

The biggest prize, however, will come not from lower tariffs but from lower "non-tariff barriers"—by pulling down more of the other obstacles that make it hard for, say, a Ugandan farmer to export chickens to Kenya or for a Beninese weaver to sell fabric to Nigeria. These barriers include corruption, shoddy infrastructure, red tape at border crossings, sloth-like customs bureaucracies and expensive logistics. Because of them, transporting goods within Africa can be three to four times as costly as in other parts of the world. In 2017 it took an average of 251 hours to ensure paperwork was in order when importing goods into sub-Saharan Africa, versus nine hours in rich OECD countries.

Many of these problems can be fixed. Potholes could be filled; ports expanded. Paperwork could be digitised and sent in advance of time. More countries could build one-stop border posts, instead of making lorry drivers queue separately for migration, road taxes, vehicle inspection and customs clearance. In east Africa such streamlining has cut crossing times from 12 hours to four. Not requiring covid-19 tests would let lorries spend more time ferrying and less time tarrying. Countries should make it easier to establish logistics startups, such as firms that cut costs by matching loads with empty vehicles. Cheaper transport means cheaper goods in shops.

Yet all this is easier said than done. One obstacle is that vested interests, such as trucking cartels and customs bureaucracies, profit from inefficiency. Ghana has shown that these can be weakened. Another problem is that for all their homilies about free trade, many African politicians are protectionists at heart. No country seems to want to move first in ongoing talks about implementing the free-trade deal. Even though they stand to benefit the most, the largest economies in each region—Egypt, Kenya, Nigeria and South Africa—are proving pitifully slow to embrace the trade pact.

A third political challenge relates to outsiders, including America, China and the European Union. Though they say they want to support the AfCFTA, they often undermine it by signing bilateral deals which then complicate Africa's efforts to harmonise its own trade rules.

Each of these problems requires the sort of leadership that has so far been in scant supply. But if politicians seize the opportunity, the AfCFTA can help the continent climb out of the economic slump it has been pushed into by the pandemic and the war in Ukraine. It would also send a message to the rest of the world. At a time when protectionist noises are growing louder, Africa has a chance to be an inspiring outlier. ■

Chief Executive Officer

The International Science Council (ISC) is a leading non-governmental organization with a unique global membership striving to advance science as a global public good. It is the largest global science organization of its type and the only such bringing together the natural and social sciences.

The ISC is now seeking to appoint an innovative and dynamic Chief Executive Officer (CEO) to lead the organization from its headquarters in Paris through its next stage of development. Reporting to the President and Governing Board, the CEO will develop and deliver a compelling shared vision for the future of the ISC, enhancing its profile and maximizing its impact. This is a unique opportunity for an experienced leader to play an important and highly visible role in the continued development of science and its contribution to society.

For more information on the ISC, the role, and how to apply please visit: **www.perrettlaver.com/campaigns/ISC-CEO**

International Science Council

Perrett Laver

AMERICAS ASIA PACIFIC EMEA

Unique Access to Confidential Opportunities

InterExec is the global leader in enabling Top Executives to access £200k/$300k to £2m/$3m+ unadvertised vacancies worldwide.

We act discreetly through a 15,000 strong international network.

InterExec

UNIQUE NETWORK ♦ OUTSTANDING TALENT

london@interexec.net www.interexec.net +44 (0)20 7256 5085

EUROPEAN CENTRAL BANK

EUROSYSTEM

Call for research proposals Wim Duisenberg Research Fellowship Programme

Fellowship position

The European Central Bank (ECB) is seeking applications from leading researchers for the Wim Duisenberg Research Fellowship. Fellowships are awarded annually. Successful candidates will conduct economic research in the ECB's Directorate General Research (DG/R) for a period of two to twelve months during 2023. The aim of the Wim Duisenberg Research Fellowship Programme, which was established in 2006, is threefold:

- promote policy-relevant research that meets the highest academic standards;
- expose ECB research staff to recent advances in economic research;
- give scholars the opportunity to gain an insight into the policy-making environment of the ECB.

Further information can be retrieved at: **http://www.ecb.europa.eu/pub/economic-research/programmes/duisenberg/html/index.en.html.**

Service to provide

Due to the evolving pandemic the Research fellows will conduct their activities in a combination of remote and onsite working at the ECB in Frankfurt and will be encouraged to interact with ECB staff members from both DG/R and other business areas. While at the ECB, research fellows will be expected to complete a research paper for presentation at internal seminars and for publication in the ECB's Working Paper Series. Successful candidates will be offered a monthly allowance in line with the seniority of the described profile.

Qualifications and experience

Selected candidates shall hold a PhD from a leading university and have an outstanding publication record in top academic journals.

Application

Applications should include:

- a detailed curriculum vitae including publication record;
- a one-page research proposal;
- preferred time period.

Applications should be submitted by e-mail to **WDFP@ecb.europa.eu.**

Deadline for applications: 31 May 2022

The war is not the West's fault

Russia is not an innocent victim of NATO's expansionist policy, as John Mearsheimer claims (By invitation, March 19th). On the contrary, it is the Kremlin's policy that forces Russia's neighbouring countries to seek effective alliances. The problem with Mr Mearsheimer's argument is the assumption that had NATO not expanded, Russia would be a different place today. The historical evidence does not support that.

Moreover, his arguments deprive Ukrainians of any agency. He consistently ignores the possibility that Ukrainians might choose democracy and seek membership of the European Union of their own free will (in this, he echoes Kremlin talking points). He draws a false equivalence between a liberal, wealthy economic bloc on the one hand and an authoritarian gas station run by a mafia on the other. Mr Mearsheimer should consider the distinct possibility that Russia's long history of attempted dominance over Ukraine, and other central and eastern European countries, is what helped drive many Ukrainians, and Poles, towards the EU.

PIOTR ARAK
Director
Polish Economic Institute
Warsaw

Mr Mearsheimer's attempt to understand the root causes of the conflict suffers from a deeply flawed methodology: he does not understand that world politics are made by real people, rather than figments of abstractions. Thus, Russia's security concerns are ultimately defined by Vladimir Putin, and his pre-eminent security concern is about staying, and surviving, in power. What threatens that is not NATO expansion but a "colour revolution" in Russia. A prosperous, democratic Ukraine would surely encourage popular opposition to the Putin regime in Russia, and therefore in his view it must be prevented at all costs.

Amazingly, Mr Mearsheimer suggests that Ukraine's Maidan uprising in 2014 and the flight of Viktor Yanukovych was a "coup". This is not only a morally murky statement because it airily dismisses the concerns and the dignity of the vast majority of 44m Ukrainians who do not want to be ruled by Mr Putin's Russia. It also fails to understand that sometimes it is not only leaders who shape politics but also ordinary people. If Mr Mearsheimer were right, European and German unification should never have happened.

Western institutions may well have put Mr Putin "into a rage", as Mr Mearsheimer says. NATO enlargement is not, however, at the root of the war. What happens in Ukraine is not a "direct threat to Russia's future": it is a direct threat to Mr Putin's future.

PROFESSOR HANNS MAULL
Senior distinguished fellow
German Institute for International and Security Affairs
Berlin

Having grown up in communist Romania I take particular offence at Mr Mearsheimer's notion that eastern European countries are merely a buffer zone or some kind of geopolitical pawn. Russia does not own eastern Europe. These are sovereign countries who desire nothing more than to relinquish their ties to Russia and join the free world. Eastern Europeans asked, begged, to join NATO having made enormous strides towards political reform. Should we have allowed Russia to drag them back into the abyss?

MONICA FRIEDLANDER
Cambria, California

Mr Mearsheimer writes: "The mainstream view in the West is that he [Putin] is an irrational, out-of-touch aggressor bent on creating a greater Russia in the mould of the former Soviet Union. Thus, he alone bears full responsibility for the Ukraine crisis." That mainstream view is absolutely correct.

NICK DEYCHAKIWSKY
Brighton, Michigan

Clarity in private equity

One way to rein in private equity's predatory behaviour (Special report, February 26th) would be to pass the Stop Wall Street Looting Act, revived in the Senate last year by Elizabeth Warren. This is far from the only campaign for more transparency in the industry.

Leaked documents show that the opacity that defines the private-equity industry, including investors' identities, source of funds and often even the assets under ownership, has the FBI deeply concerned that the industry is a soft target for money launderers. Anti-corruption campaigners are calling for the Financial Crimes Enforcement Network at the Treasury to finalise a stalled rule from 2015 requiring investment advisers to establish effective anti-money-laundering programmes.

No less than national security and the integrity of elections is at stake. In 2015 a software company that managed much of Maryland's voter-registration system was bought by a private-equity fund in which a Russian oligarch with close ties to Vladimir Putin was the largest investor (the fund no longer owns the voter system).

Bringing more transparency to private equity would also be a good investment in safeguarding future public spending in a crisis. Our analysis has identified more than $1.2bn in loans for small businesses that went to companies backed by private funds. Most of these can be written off. The legislation that left open this loophole should be counted as another "dividend" of the industry's extensive lobbying operation.

If private equity is coming into the mainstream and out of the shadows it should be prepared to play by mainstream rules and stop operating under a shroud of secrecy.

DAVID SZAKONYI
Co-founder
Anti-Corruption Data Collective
Washington, DC

Tricky Dick

The attempt to defend or exonerate Richard Nixon by Dwight Chapin, an aide to the former American president, ("Watchdog barking", February 26th) brought to mind Hunter S. Thompson's obituary, which, as it happens, I read whenever I feel a little blue. But that is besides the point; what isn't, is that Mr Chapin's book sounds like a terrible casting of the past. For a more reasonable and balanced view, I feel a refresher of what Mr Thompson wrote about Nixon is in order:

> If the right people had been in charge of Nixon's funeral, his casket would have been launched into one of those open-sewage canals that empty into the ocean just south of Los Angeles. He was a swine of a man and a jabbering dupe of a president. Nixon was so crooked that he needed servants to help him screw his pants on every morning.

The recently departed Mr Thompson had many more things to say, but I believe that will suffice.

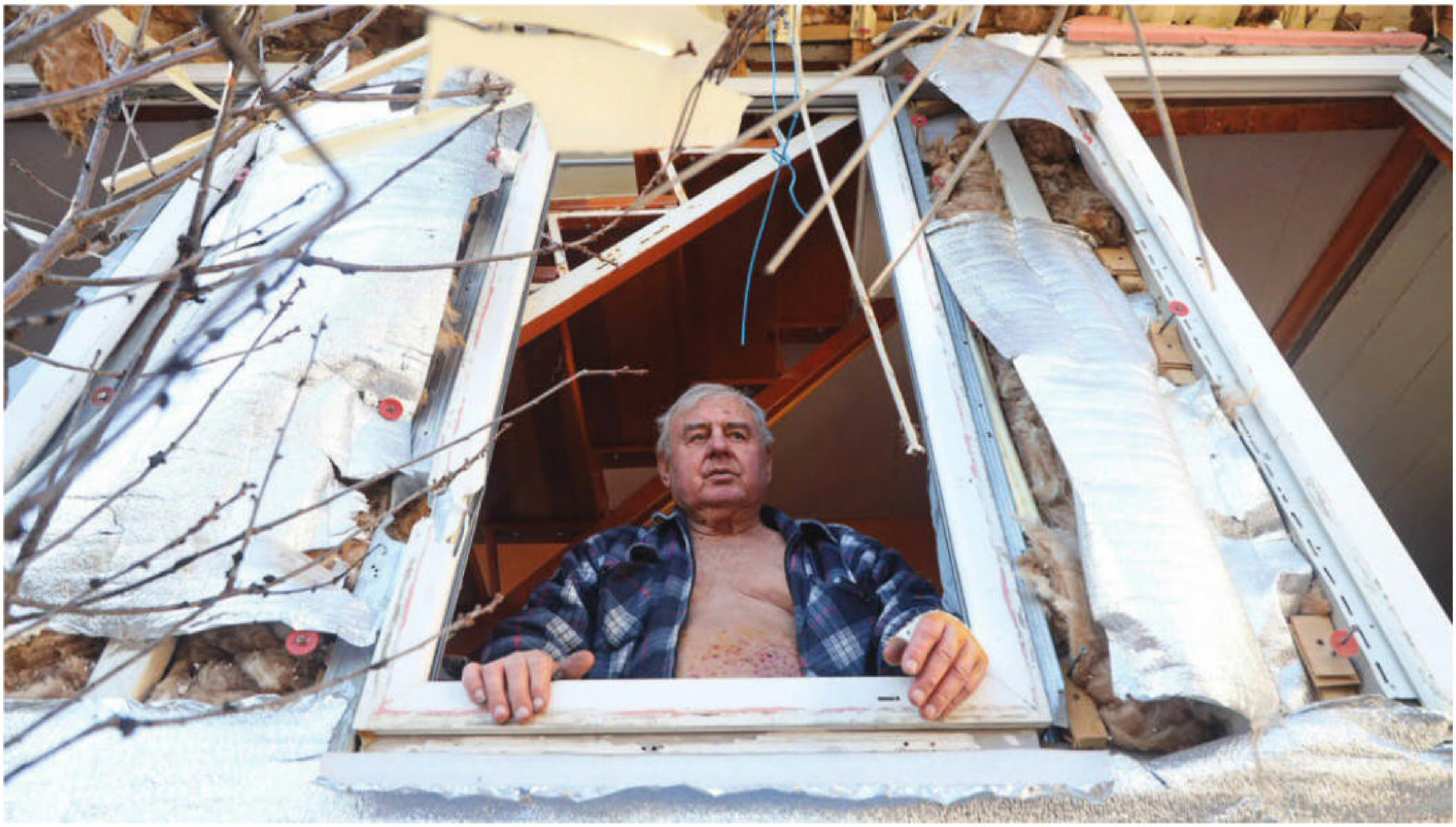
MATT TURNER
Hope, Canada

You will conform

Bartleby's column on the common characteristics of cults and companies (March 5th) brought back fond memories of my time working for Ross Perot's Electronic Data Systems (better known as EDS) back in the late 1980s. Company indoctrination started with a ten-week electronic boot camp with rules such as "no facial hair" and "no tassels on your shoes". It continued after through motivational trinkets, like fluorescent erasers emblazoned with the words "rub out non-conformance".

ANDREW VANBERKEL
Toronto

Letters are welcome and should be addressed to the Editor at
The Economist, The Adelphi Building, 1-11 John Adam Street, London WC2N 6HT
Email: letters@economist.com
More letters are available at:
Economist.com/letters



An uncertain outlook

KYIV AND ZAPORYZHZHYA

Russia's atrocities in Mariupol have not brought it closer to victory. But they have not yet spread farther afield, either

IN GEOPHYSICS, an epicentre is the place on the surface of the Earth closest to the point in its depths where intolerable pressure has triggered an earthquake. In war-torn Ukraine, the Epicentr hypermarket in Zaporyzhzhya is the rallying point in government-held territory closest to the intolerable pressure Russian forces have imposed on Mariupol, some 220km away.

Many of those fleeing the violence—some on foot, some in wheelchairs—have nothing but the shopping centre's address to guide them. Some make it only to intervening villages. But 2,000-5,000 a day are reaching the hastily organised gathering point, as shocked as the survivors of earthquakes and tsunamis. More shocked, perhaps: the destruction they escaped was not some sudden act of God, but a protracted, deliberate and horribly human assault.

You can sense the arrival of a new convoy before you encounter any of the survivors on board—they carry the smoky smell of the burning city even after days of travel. On arrival they get soup and bread—which they hold to their noses before devouring—fresh clothes and first aid delivered by local volunteers. They fight back tears, not always successfully, as they work out if friends and relatives have managed to escape. They are the lucky ones, they keep saying; the ones who found cars and petrol. They are not still trapped in basements. They are not the old women begging for a lift on the edge of town, money in one hand and icons in the other.

Mariupol, once a city of 400,000, was surrounded by Russian forces from Crimea and Donbas in the first week of the war. It has fared far worse since than the other cities around which the Russians are encamped, in part because of its strategic importance—it is crucial to the establishment of a land bridge from Donbas to Crimea—in part because, unlike Kharkiv or Kyiv in the north, it is entirely encircled.

The Russian forces close to Kyiv have been held at bay for the past two weeks. Kira Rudik, a member of the Ukrainian parliament, says the capital is the "best defended place in Ukraine". No one in the city now believes that Russian forces have the fighting power needed to take and occupy it. There are even some areas where Ukrainian troops are reported to have pushed back the invaders, though at least some of those reports have turned out not to be true. In Makariv, 50km west of the capital, the Ukrainian authorities claimed the Russians had been "driven back". When your correspondent tried to visit he found a different situation. Fierce fighting made it impossible to get into the town. The local mayor said the Russians had seized 15% of it at the end of February and had neither advanced or been pushed back since then.

In the centre of Kyiv, however, life is improving. Petrol is no longer rationed, and there is more traffic on main roads than at any time since the invasion began on February 24th. Bread is back on supermarket shelves. Trains enter and leave the city.

But the signs, sounds and horrors of war persist. Every day since around March 14th the capital has been struck by a handful of missiles, with the north-west hit particularly badly. Late in the evening of March 20th a Russian missile pulverised a gym, a shopping centre and an office building, hurling debris for hundreds of metres. According to the Russian Ministry of Defence, which produced a video to support its claim, there were Ukrainian missile launchers in a parking area underneath the gym. If true, their detonation in the blast could explain the force of the explosion.

→ Also in this section

17 Russia's cult of war

Oleksiy Arestovych, an adviser to Volodymyr Zelensky, Ukraine's president, says that of every four incoming missiles one is intercepted, one hits a military target and two hit civilian targets. "I can't say that in Kyiv they are trying to hit civilians on purpose but a lot of times they miss," he says, adding that elsewhere residential areas have been knowingly targeted.

Mariupol exemplifies that savagery. On March 10th Russian aircraft started to bomb the city; unlike Kyiv, it has no air defences. Soon a few bombs a day became a few dozen bombs a day. On March 16th Russian missiles fell on a swimming pool, a cinema and a theatre; all three were being used for shelter by civilians. The theatre contained over 1,000 people, according to an eyewitness there the day before; the word "children" was written in large letters on the pavement outside the theatre, but did nothing to prevent the attack. No one currently knows how many survived, nor how many may remain buried alive.

In nine other towns and cities talks between Russia and Ukraine have established humanitarian corridors through which civilians can escape. Such talks have not worked for Mariupol. As things have worsened the escape routes, already dangerous, have become more deadly. Oleksandr Horbachenko, a welder, says that when he left on March 18th the city was in a state of collapse, with no municipal services, no drinkable water and no food. He says at least 80% of buildings are bombed out. "The whole of the centre is in ruins, with wires and glass everywhere. The worst thing is seeing the corpses strewn across the street. There are hundreds of them rotting away near the central market."

On March 20th a Russian bomb hit a school on the eastern side of the city, where 400 people were reportedly sheltering. Later that day, Russia delivered an ultimatum: surrender the city by 5am the following morning. The Ukrainian government refused. But it has no way of breaking the blockade. On March 19th Mr Arestovych said the nearest available forces were more than 110km away. To reach the city they would have to traverse terrain on which they would be completely exposed to Russian air attacks.

Many interpreted the ultimatum as a warning of worse crimes to come, and fighting intensified in the days that followed; ships are currently adding to the bombardment. The city is close to falling. On March 20th Andriy Biletsky, the founder of the Azov regiment, a paramilitary outfit fighting alongside elite Ukrainian forces from the 36th Marine Brigade, confirmed that street-to-street fighting was under way in the east of the city. With 3,500 Ukrainian soldiers facing 14,000 invaders, around a tenth of the total estimated Russian force in the country, their prospects look daunting, even though attackers are generally reckoned to need a large numerical advantage.

The carnage in Mariupol and the success in Kyiv have both strengthened Ukrainian resolve. But the country continues to pursue negotiations with the invaders. And Russia's requirements from such talks, though still beyond what Ukraine says it is willing to give, are much more modest now than they would have been when the invasion was launched in expectation of an easy and near total victory. The four principal ones are: a declaration of Ukrainian neutrality; Ukrainian demilitarisation; formal acceptance that Crimea, which Russia seized in 2014, is Russian territory and that the Donbas region, some of which was controlled by separatists backed by Russia before the war, is independent; and relief for Russia from Western sanctions.

Ukraine appears ready to agree to some of these demands. It has stated publicly that it will make no concessions on territorial integrity with regard to Crimea and Donbas, but behind closed doors there appears to be more willingness to experiment with different formulas. However its negotiators see no willingness to move on the other side. "They're not as confident and self-assured as they used to be in the first days," Dmytro Kuleba, Ukraine's foreign minister, said in an interview with *The Economist*. "But on all big issues they are still where they were [when the negotiations began]."

If there is something Russia clearly wants, it is relief from sanctions. "Almost every tenth sentence [Russian negotiators] say is about sanctions," Mr Kuleba said. "It's a pain for them." As a result Ukraine is pressing its Western supporters to turn up ▸▸

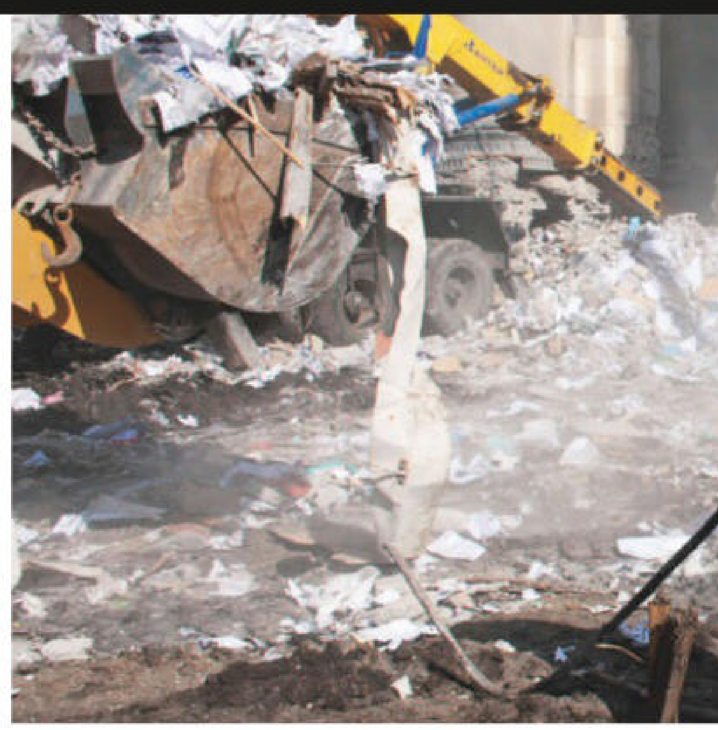
The fourth week of war: The military situation

Amid continuing reports of poor logistics (and even frostbite) Russian forces made little progress. Bombings and missile attacks continued, though, with one missile becoming the first to hit a target in Lviv, in the west of the country.

7,000–15,000

Estimated number of Russian soldiers killed in four weeks of war in Ukraine. Source: NATO

Ukraine's resolve



A number of Ukrainian cities are holding out despite significant Russian forces nearby, and in some of them citizens are improving their living conditions. Overall, people are becoming more convinced that they will not be defeated.

the pressure. A cost the Russians do not talk about is their mounting death toll. According to a NATO estimate, 7,000-15,000 Russians have died; the organisation puts the total number of those dead, injured and captured at around 40,000. If casualties are indeed in that sort of range then almost a quarter of the original invasion force is out of action.

But the Ukrainians are not sure that the Russian negotiators know how bad the situation is. The team is "second tier", according to an intelligence official in Kyiv; Mr Kuleba says they do not appear empowered to resolve issues such as the nature of the security guarantees Ukraine wants.

Mr Putin's failure to provide better negotiators could well reflect a lack of interest in seeing the negotiations bear fruit, perhaps because he thinks time is on his side. Though many Russian advances have stalled, there are quite a few places where it could increase its bombardments. A security official in Kyiv says that Ukrainian intelligence has had several warnings that a massive, sustained rocket attack on the capital is imminent. For unknown reasons, no such attack has materialised. But it remains a possibility. And Ukraine does not yet have the resources for decisive counterattacks.

Yet Mr Putin has been wrong about this war before. He may be again. Ms Rudik, the MP, says time is of the essence. She just doesn't know who it favours. "The Russian economy is collapsing but we are dying. The question is who falls first." ■

Russia's reactionary turn

The cult of war

A set of beliefs which once looked like a sideshow is now centre stage

On March 22nd, in a penal colony 1,000km north-east of the front lines around Kyiv, Alexei Navalny, the jailed leader of Russia's opposition, was sentenced to another nine years imprisonment. To serve them he will probably be moved from Vladimir, where he has been kept for more than a year, to a yet harsher maximum-security jail elsewhere.

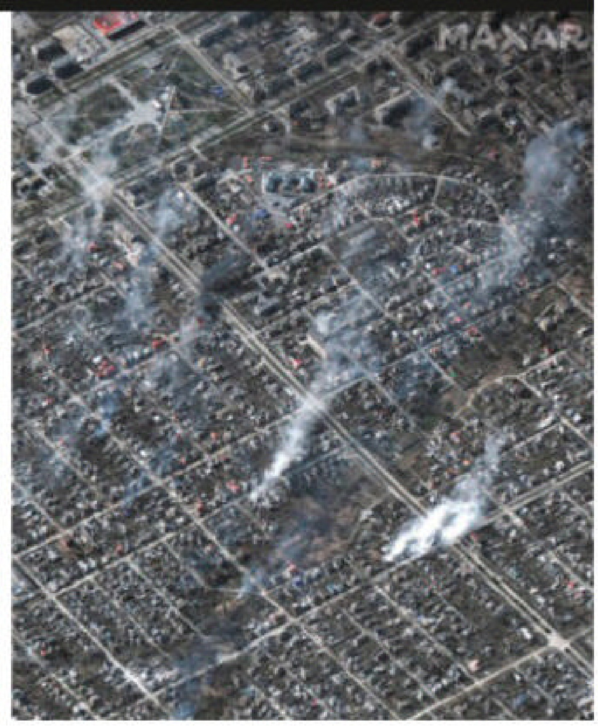
The crime for which he was sentenced is fraud. His true crime is one of common enterprise with that for which the people of Ukraine are now suffering collective punishment. The Ukrainians want to embrace many, if not all, the values held dear by other European nations. Mr Navalny wants the same for Russia. Vladimir Putin cannot countenance either desire. As Dmytro Kuleba, Ukraine's foreign minister, told *The Economist*, "If Russia wins, there will be no Ukraine; if Ukraine wins, there will be a new Russia." That new Russia is as much a target of Mr Putin's war as Ukraine is. Its potential must be crushed as surely as Mr Navalny's.

This crusade against a liberal European future is being fought in the name of *Russkiy mir*—"the Russian world", a previously obscure historical term for a Slavic civilisation based on shared ethnicity, religion and heritage. The Putin regime has revived, promulgated and debased this idea into an obscurantist anti-Western mixture of Orthodox dogma, nationalism, conspiracy theory and security-state Stalinism.

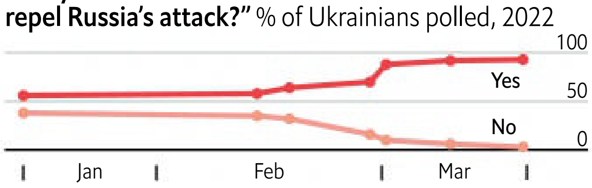
The war is the latest and most striking manifestation of this revanchist ideological movement. And it has brought to the fore a dark and mystical component within it, one a bit in love with death. As Andrei Kurilkin, a publisher, puts it, "The substance of the myth is less important than its sacred nature...The legitimacy of the state is now grounded not in its public good, but in a quasi-religious cult."

The cult was on proud display at Mr Putin's first public appearance since the invasion—a rally at the Luzhniki stadium packed with 95,000 flag-waving people, mostly young, some bused in, many, presumably, there of their own volition. An open octagonal structure set up in the middle of the stadium served as an altar. Standing at it Mr Putin praised Russia's army ▶▶

The massacres in Mariupol



"Are you confident that Ukraine will be able to repel Russia's attack?" % of Ukrainians polled, 2022



In Mariupol, strategically situated between Donbas and Crimea, the intensity of Russian bombardment increased. Ukrainian forces rejected a demand for their surrender, but apparently now hold only part of the city.

↑ **The aftermath of Russian bombing. Fires burn in Livoberezhnyi, a residential district, on the morning of March 22nd.**

with words from St John's gospel: "Greater love hath no man than this, that a man lay down his life for his friends."

His oration, delivered in a $14,000 Loro Piana coat, made much of Fyodor Ushakov, a deeply religious admiral who, in the 18th century, helped win Crimea back from the Ottomans. In 2001 he was canonised by the Orthodox church; he later became the patron saint of nuclear-armed long-distance bombers. "He once said that the storms of war would glorify Russia," Mr Putin told the crowd. "That is how it was in his time; that is how it is today and will always be!"

A cathedral dome 19.45 metres across

In both his broad appeals to religion and his specific focus on the saintly Ushakov Mr Putin was cleaving to Stalin's example. After the Soviet Union was attacked by Germany in 1941, the sometime seminarian turned communist dictator rehabilitated and co-opted the previously persecuted Orthodox church as a way of rallying the people. He also created a medal for outstanding service by naval officers called the order of Ushakov and arranged for his remains to be reburied.

This was not a mere echo or emulation; there is a strand of history which leads quite directly from then to now. Links between the church and the security forces, first fostered under Stalin, grew stronger after the fall of Communism. Whereas various western European churches repented and reflected after providing support for Hitler, the Moscow Patriarchate has never repented for its collusion with Stalin in such matters as the repression of Ukrainian Catholics after 1945.

The allegiance of its leaders, if not of all its clergy, has now been transferred to Mr Putin. Kirill, the patriarch of the Russian Orthodox church, has called his presidency "a miracle of God"; he and others have become willing supporters of the cult of war. An early indication of this possibility was seen in 2005, when the orange and black ribbons of the Order of St George, a military saint venerated by the Orthodox church, were given a new pre-eminence in commemorations of the 1941-45 struggle against Germany, known in Russia as the "great patriotic war". Its garish culmination can be seen in the Main Cathedral of the Russian Armed Forces in Kubinka, 70km west of Moscow, which was inaugurated on the June 22nd (the day Hitler launched his invasion) in 2020 (the 75th anniversary of the war's end) with Mr Putin and Kirill in attendance.

The cathedral is a Byzantine monstrosity in khaki, its floor made from melted-down German tanks. But it is not devoted solely to the wars of the previous century. A mosaic commemorates the invasion of Georgia in 2008, the annexation of Crimea in 2014 and the country's role in Syria's civil war: angels smile down on the soldiers going about their holy work.

In keeping with this attitude Kirill has declared the current war a Godly affair and praised the role it will play in keeping Russia safe from the horrors of gay-pride marches. More zealous churchmen have gone further. Elizbar Orlov, a priest in Rostov, a city close to the border with Ukraine, said the Russian army "was cleaning the world of a diabolic infection".

As the cathedral shows, the Russian people's sacrifice and victories in the great patriotic war, which saw both the loss of 20m Soviet citizens and the creation of an empire greater in extent than any of the Tsars', are central to Mr Putin's new ideology of the Russian world. Today, though, the foes and allies of the 1940s have been shuffled around, allowing the war to be reframed as part of an assault on Russia's civilisation in which the West has been engaged for centuries. The main culprits in this aggression are Britain and America—no longer remembered as allies in the fight against Nazis, but cast instead as backers of the imaginary Nazis from which Ukraine must be saved.

Project Russia

More important to the cult even than the priests are the *siloviki* of the security services, from whose ranks Mr Putin himself emerged. Officers of the FSB, one of the successors to the KGB, have been at the heart of Russian politics for 20 years. Like many inhabitants of closed, tightly knit and powerful organisations, they have a tendency to see themselves as members of a secret order with access to revealed truths denied to lesser folk. Anti-Westernism and a siege mentality are central to their beliefs. Mr Putin relies on the briefs

Russian reverberations

Anatoly Chubais, one of the architects of post-Soviet privatisation in the 1990s, quit his government post saying he disapproved of war. The most prominent politician to do so, he has reportedly fled the country.

State Street Russian consumer prices
Feb 24th 2022=100

Global impacts

Though the spike in the price of wheat futures triggered by the invasion has fallen back a bit, shortages are beginning to bite. Lebanese importers have begun rationing supplies; Egypt has capped the price of unsubsidised bread.

with which they supply him, always contained in distinctive red folders, for his information about the world

In this realm, too, a turn towards the ideology now being promulgated was first seen in 2005, when a faction within the FSB produced an anonymous book called "Project Russia". It was delivered by courier services to various ministries dealing with security and Russia's relationship with the world, warning them that democracy was a threat and the West an enemy.

Few paid much heed. Though Mr Putin's ascension to the presidency in 2000 was helped by his willingness to wage war in Chechnya, his mandate was to stabilise an economy still reeling from the debt crisis of 1998 and to consolidate the gains, mostly pocketed by oligarchs, of the first post-Soviet decade. His contract with the Russian people was based not on religion or ideology, but on improving incomes. Only dedicated Kremlin watchers, astute artists such as Vladimir Sorokin (see Culture section) and a few political activists paid much attention to the new ideology of isolationism appearing in some of the darker corners of the power structure. At a time of postmodernist irony, glamour and hedonism it seemed marginal at best.

Two years later the new way of thinking became much more obvious to the outside world. In his Munich speech in 2007 Mr Putin formally rejected the idea of Russia's integration into the West. In the same year he told a press conference in Moscow that nuclear weapons and Orthodox Christianity were the two pillars of Russian society, the one guaranteeing the country's external security, the other its moral health.

After tens of thousands of middle-class city dwellers marched through Moscow and St Petersburg in 2011-12 demanding "Russia without Putin" the securocrats and clerics started to expand their dogma into daily life. A regime which sustained, and was sustained by, networks of corruption, rent extraction and extortion required religion and an ideology of national greatness to restore the legitimacy lost during the looting. As Mr Navalny remarked in a video which revealed Mr Putin's palace in Sochi, covering up things of such size requires a lot of ideology.

Broken destinies

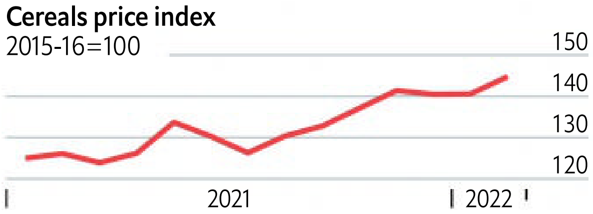
At that point it was still possible to see the ideology as a smokescreen rather than a product of real belief. Perhaps that was a mistake; perhaps the underlying reality changed. Either way, the onset of the covid-19 pandemic two years ago brought a raising of the ideological stakes. At the time, the most discussed aspect of the constitutional changes that Mr Putin finagled in July 2020 was that they effectively removed all limits on his term in office. But they also installed new ideological norms: gay marriage was banned, Russian enshrined as the "language of the state-forming people" and God given an official place in the nation's heritage.

Mr Putin's long subsequent periods of isolation seem to have firmed up the transformation. He is said to have lost much of his interest in current affairs and become preoccupied instead with history, paying particular heed to figures like Konstantin Leontyev, an ultra-reactionary 19th-century visionary who admired hierarchy and monarchy, cringed at democratic uniformity and believed in the freezing of time. One of the few people he appears to have spent time with is Yuri Kovalchuk, a close friend who controls a vast media group. According to Russian journalists they discussed Mr Putin's mission to restore unity between Russia and Ukraine.

Hence a war against Ukraine which is also a war against Russia's future—or at least the future as it has been conceived of by the Russia's sometimes small but frequently dominant Westernising faction for the past 350 years. As in Ukraine, the war is intended to wipe out the possibility of any future that looks towards Europe and some form of liberating modernity. In Ukraine there would be no coherent future left in its place. In Russia the modernisers would leave as their already diminished world was replaced by something fiercely reactionary and inward looking.

The Russian-backed "republics" in Donetsk and Luhansk may be a model. There, crooks and thugs were elevated to unaccustomed status, armed with new weapons and fitted with allegedly glorious purpose: to fight against Ukraine's European dream. In Russia they would be tasked with keeping any such dream from returning, whether from abroad, or from a cell. ■

Cereals price index
2015-16=100



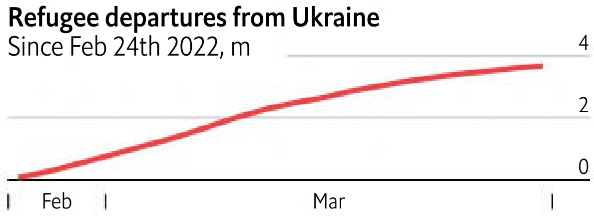
The flow of refugees

Source: UNHCR

*Includes people crossing the border between Romania and Moldova

As the number of refugees to have left the country rose close to 4m, the EU put in place a "solidarity platform" to help them move from the countries they arrived in to those with capacity to take in more than they have already.

Refugee departures from Ukraine
Since Feb 24th 2022, m



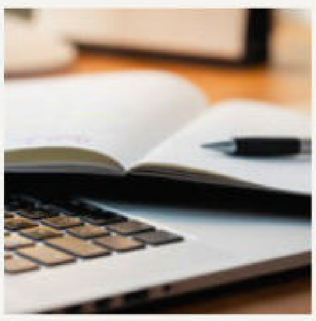
ECONOMIST EDUCATION

Enhance your expertise with Economist Education

Explore our online courses—designed to give you an advantage

International relations: China, Russia, the US and the future of geopolitics

Understand the implications for you and your business



Professional communication: business writing and storytelling

Master techniques to engage, persuade and inform

Fintech and the future of finance

Harness opportunities in blockchain, cryptocurrencies, govcoins and the payments revolution

Discover more today: **economist.com/courses**

Great-power politics

Ukraine and the lessons of the cold war

WASHINGTON, DC

Like Harry Truman after 1945, Joe Biden must strive to curb both Russia and China without blowing up the world

JOE BIDEN entered the White House last year styling himself on Franklin Roosevelt. The better model today might be Harry Truman. His words to Congress 75 years ago this month—"It must be the policy of the United States to support free peoples who are resisting attempted subjugation by armed minorities or by outside pressures"—girded America for the cold war. Those words have a new resonance as Ukraine, helped by the West, battles to resist Russia's month-old invasion.

As in the 1940s and 50s, the world is separating into distinct blocs. The Eurasian giants, Russia and China, are again making common cause. America is seeking to counter them by mustering allies around their periphery, from Europe to Japan. Truman's America was engaged in a fight against communism; Mr Biden sees a global contest against autocracy. The cold-war strategy of "containment" is being studied for the current age.

This arouses dread, but also hope. Dread, because of the return of war in Europe, renewed big-power confrontation and the increased risk of nuclear conflict. Hope, because Russia's military incompetence, Ukraine's valour and the West's new-found unity raise confidence that the American-led liberal order can prevail. Writing in *American Purpose*, an online magazine, Francis Fukuyama of Stanford University, who in an earlier bout of optimism coined the notion of the "end of history" about the demise of the Soviet Union, goes so far as to predict that Ukraine will inflict "outright defeat" on Russia and make possible a "new birth of freedom".

Mr Biden's strategy will become clearer in the coming days. On March 24th he was due to take part in a trio of summits in Brussels with the leaders of NATO, the European Union and the G7. The signs are he will steel the allies for a long struggle. "This war will not end easily or rapidly," said Jake Sullivan, his national security adviser, on March 22nd. The West would stand by Ukraine "for as long as it takes".

Another signal will be the president's request for more defence spending in the coming financial year, expected to be sent to Congress next week. A succession of formal strategy documents—for national security, defence and nuclear posture—will follow after hurried redrafting. For Robert Gates, a former American defence secretary, the war "has ended Americans' 30-year holiday from history". Ahead lies a two-front contest, against both Russia and China. "A new American strategy must recognise that we face a global struggle of indeterminate duration against two great powers that share authoritarianism at home and hostility to the United States," he wrote in the *Washington Post*.

Strategists are reaching for the annals of the cold war. Is Vladimir Putin's invasion akin to the Soviet Union's blockade of Berlin in 1948, the start of the Korean war in 1950 or the Cuban missile crisis of 1962? Some are re-reading George Kennan, the American diplomat whose "long telegram" from Moscow in 1946 set the intellectual foundation for containment. American "unalterable counterforce", Kennan argued in a later essay, could hasten "either the break-up or the gradual mellowing of Soviet power". In practice containment involved more than the high-minded means ▸▸

→ Also in this section

Kennan imagined, such as the Marshall plan to rebuild Europe. It also involved coercive instruments: military alliances and build-ups, nuclear standoffs, proxy wars and much else short of a direct conflict.

Dean Acheson, Truman's secretary of state, wrote that America's task after 1945 was "just a bit less formidable than that described in the first chapter of Genesis. That was to create a world out of chaos; ours, to create half a world, a free half, out of the same material without blowing the whole to pieces in the process."

Mr Biden's burden is to prevent the world from reverting to chaos, and to preserve as much of the free portion as possible. Russia today may be a lesser foe than the Soviet Union, "a wounded empire" rather than a superpower with a global ideology and a semi-autarkic economic hinterland, as Eliot Cohen of Johns Hopkins University notes. Yet China is a greater challenger, not least in economic terms. Its navy is already larger than America's, and it is fast expanding its nuclear arsenal.

To judge Mr Biden, then, consider three measures: first, how he deals with Russia; in the longer term, how he confronts China; and, throughout, how he carries his profoundly polarised country.

Vladimir the terrible

Team Biden had no illusions about Russia. Its early warning about the invasion of Ukraine, and its release of intelligence about the Kremlin's plans, were innovative and prescient. It denied Mr Putin a pretext, and primed allies to respond forcefully, both by arming Ukraine and by imposing severe sanctions on Russia. Like Mr Putin, however, Mr Biden may have underestimated Ukraine. On the eve of war America seemed to think that, at best, Ukraine might become another Iraq or Afghanistan, easy to invade but hard to control. Instead Russia has found it surprisingly arduous to take Ukraine's cities, even as it pulverises them. The longer the horrors go on, the greater the cries for the world to stop them.

At their summits in Europe, the Western allies will resolve to strengthen NATO's defences, provide more weapons to Ukraine and increase economic pressure on Russia. Above all, American officials say, they will stiffen their sinews for a long contest as economic pain spreads.

How far dare the allies go in waging a proxy war against a nuclear power? The answer keeps shifting. In 2014, when Russia took a first chunk of Ukraine, America declined to provide weapons. It later began to deliver anti-tank missiles. Now it is shipping small anti-aircraft weapons and drones. Soon it may facilitate the supply of longer-range air-defence missiles.

Yet there are limits. When Mr Biden vows that America will defend "every inch" of NATO's territory he declares, in effect,

The price of freedom

United States, defence spending, % of GDP

Source: Office of Management and Budget

that American forces will not defend any inch of Ukraine's. To get involved directly, says Mr Biden, would be "World War III". He has refused calls to impose a no-fly zone over Ukraine, act as the intermediary for Polish MiG-29 jets or even supply American-made Patriot anti-aircraft batteries.

The point at which America becomes a "co-combatant" will not be decided by lawyers but, ultimately, by Russia. The Kremlin has given notice that arms convoys to Ukraine would be legitimate targets. It has bombed sites close to Poland.

History suggests the boundaries of proxy conflicts can be dangerously fuzzy. Chinese "volunteer" forces fought against American troops in the Korean war of 1950-53, when America considered using atom bombs against them. Russians manned anti-aircraft batteries and, perhaps, flew missions against American aircraft in the Vietnam war of 1955-75.

"During the cold war the United States and the Soviet Union were at daggers drawn but usually did not stab each other directly," explains Richard Fontaine of the Centre for a New American Security, a think-tank in Washington. Mr Putin has rattled his nuclear sabre, but American officials say they have detected no change in Russia's nuclear posture, nor have they changed theirs.

Mr Biden's caution in Ukraine contrasts with his almost careless talk about defending Taiwan against China. Last year Mr Biden said America had a "commitment" to defend the island. America's "strategic ambiguity", whereby it promises to help Taiwan defend itself but will not say whether it would intervene directly, has become less ambiguous.

Nobody can say quite why America seems readier to risk "World War III" for Taiwan than for Ukraine. Perhaps the danger in Ukraine is concentrating minds. Some note that America has no alliance with Ukraine, a non-NATO country, whereas it has a semi-obligation to Taiwan. The island's important semiconductor industry is a consideration. The main reason is that America considers China, not Russia, to be the greatest danger.

"Russia is the acute threat. But China is the pacing challenge, the only country able to challenge the United States systemically," says a senior American official. "Nothing about the crisis in Ukraine has changed that." Or, as one diplomat puts it, "Ukraine is the tsunami; China is climate change." America's response in Europe contributes

A trailblazing diplomat

Madeleine Albright, who died in Washington, DC, on March 23rd, served under Bill Clinton as UN ambassador before becoming America's first woman secretary of state. She recalled America's failure to stop the Rwandan genocide as her greatest regret. NATO's eastward expansion was among her successes—and personal, given her history. Born in Prague in 1937, with her family she fled Nazism, then communism. Mrs Albright had thought that her family was Catholic. Only after she was secretary of state did she learn that she was born Jewish and lost three of her grandparents in the Holocaust.

to alliance-building, says the envoy; it will expect Europeans to help in Asia.

The fact that Australia, Japan and other Asian countries have imposed sanctions on Russia is a sign of their fears about the war's wider repercussions. American military chiefs have warned that a Chinese invasion of Taiwan could happen before the end of the decade. A successful Russian attack on Ukraine might have emboldened China. Now that Russia is bogged down, the danger may have receded.

Russia and China have declared that their friendship has "no limits". America is hoping that Xi Jinping, China's leader, will now have second thoughts. In a video summit on March 18th Mr Biden issued a threat to impose sanctions on China if it came to Russia's aid. One aim of Mr Biden's trip this week is to push Europeans to deliver the same message at the EU-China summit on April 1st. China maintains the fiction that it is neutral, so could in theory distance itself from Russia. Few in Washington think Mr Xi is prepared to let Mr Putin fail. But America now sees "an opportunity to deal a strategic blow to Russia, and an opportunity to make Russia increasingly a strategic burden for China," the official says.

Home alone

On the home front, foreign-policy types give Mr Biden high marks for his handling of the crisis. Opinion polls suggest his actions are in line with the public's views: support Ukraine and impose sanctions on Russia, but don't send American troops or shoot down Russian planes.

Yet Mr Biden is not enjoying much of a "rally round the flag" bounce. A YouGov poll for *The Economist*, conducted on March 19th-22nd, found that 41% of those surveyed approved of his foreign policy, whereas 49% disapproved. Asked about his ability to handle an international crisis, just 33% said they were confident and 48% were uneasy. Such views are highly skewed by party affiliation. Plainly, Mr Biden has failed to restore confidence after his chaotic withdrawal from Afghanistan.

A moment of bipartisanship over Ukraine is dissipating. Republicans accuse Mr Biden of being "weak". Some advocate a no-fly zone. Most say Mr Biden should not have blocked the delivery of MiG-29s to Ukraine. Much of this criticism looks like posturing. In what promises to be a long global struggle, America's extreme polarisation will be an enduring vulnerability.

The left wing of the Democratic Party has long wanted to shrink the defence budget to make room for ambitious social spending. Mr Biden has favoured continuity, and accepted a nominal increase in the current fiscal year. He may have to change his priorities. Defence spending, now some 3.3% of GDP, is close to its post-war low—down from a high of 13.8% during the Korean war and an average of 7.2% during the cold war (see chart on previous page).

Hal Brands, author of a book about the lessons of the cold war, argues that the figure should increase to about 5% of GDP to enable America to cope with trouble in both Europe and Asia. "One parallel between Harry Truman and Joe Biden is that both dramatically under-resourced defence in the early part of their presidencies. The question is whether the Ukraine war will play the role that the Korean war did in convincing the country to increase defence spending."

The gruelling Korean war did much to destroy Truman's presidency. That is a lesson in the need for caution. But even if Mr Biden shows skill and sound judgment in the new cold war, he, like Truman, may not get much credit for it until decades later. ■

Symbols in sports

Pride and prejudice

DARTMOUTH, MASSACHUSETTS

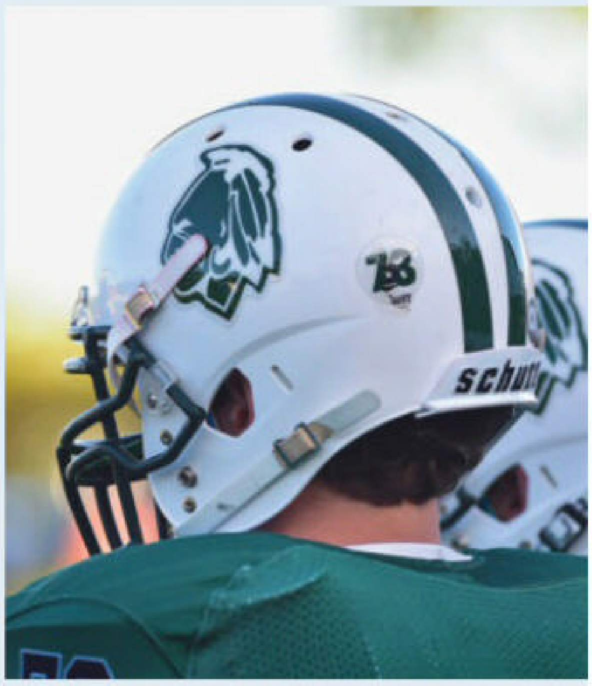
Rows about Native American-themed team names go local

WHAT DO GUARDIANS and Commanders have in common? Both project enough moxie for sports fans to rally behind, and neither is offensive. The Commanders are the former Washington Redskins, an American-football team; the Guardians are the baseball team once known as the Cleveland Indians. They are the latest examples of the scrubbing of Native American imagery from organised sports. In a video voiced by Tom Hanks, the Cleveland name change is portrayed as the forward march of history, from racism towards justice. For some Native Americans, it's not that simple.

Brenda Bremner, former general manager of the Confederated Tribes of Siletz Indians, has a closet full of Warriors and Braves shirts. Her parents met at the Chemawa Indian School in Salem, Oregon, and her father played for the Chemawa Braves. "We wore Indian-type logos proudly," she says. In 2017 it became illegal for Oregon public schools to have Native American mascots, logos or team names, but an exception—petitioned for by Ms Bremner—allowed schools to retain their mascots by entering into agreements with local tribes. Eight school districts did so.

A similar law is now in the Massachusetts Senate, and the town of Dartmouth is wondering what to do with its high-school team, the Indians. Is the Indian logo racist (causing "shame, horror and harm", as critics said at a school-committee meeting this week)? A non-binding referendum is scheduled for April 5th.

The Pocasset Wampanoag Tribe, which was living in this area when the pilgrims landed in 1620, is divided on the issue. The Mashpee Wampanoag Tribe opposes the Dartmouth Indian logo. But 22 members of the Aquinnah Wampanoag Tribe signed a letter defending it. The image was drawn by a tribal member. "The symbol is not disrespectful," the Aquinnah's Scott Carney said at a previous school-committee meeting, on



Go, Indians! (or not)

March 8th. In a separate letter, the Aquinnah chairwoman said the ban attempts to eliminate Native people from "today's culture and society".

Mr Carney has no love for the Redskins or for Chief Wahoo, the cartoonish mascot of the Cleveland Indians. The damaging effects of this kind of imagery on students have been well documented, which is why Maine banned such mascots in 2019, and why a new Colorado law will fine any public school with an unacceptable Native-themed team name or logo $25,000 a month from June. But the Dartmouth Indian is not Chief Wahoo.

Statewide bans are a crude instrument. What many tribes want above all is meaningful consultation on decisions ostensibly made in their name. The local approach has worked. Athletes at the University of Utah continue to call themselves Utes, with the approval of the real Utes, in exchange for lesson plans and scholarships for tribal members. It is similar with Florida State University's Seminoles. Prejudice is the problem, says Ms Bremner, "and you don't get rid of prejudice without education".

Drug pricing

Age-old problem

WASHINGTON, DC

Is a new drug for Alzheimer's disease worth paying for?

JAY REINSTEIN remembers where he was when he heard that the Food and Drug Administration (FDA) had approved Aduhelm (aducanumab), a new Alzheimer's drug. It was last June, and he was at Kohl's, a department store, when he started getting news alerts on his phone. He asked a stranger outside the shop to take a picture of him jumping into the air, which he promptly posted on Facebook to share the news with family and friends. "It was an awesome feeling because it really felt like there was hope for me and so many others," he says. "I remember going home, and my wife was crying."

After being diagnosed with Alzheimer's disease four years ago at the age of 56, Mr Reinstein thought the wait for treatment was finally over. "I was all ready to roll," he recalls. Alzheimer's is a brutal and relentless degenerative disease that gradually robs patients of their memories—and devastates families. But in January the Centres for Medicare & Medicaid Services (CMS) proposed that only patients who are enrolled in clinical trials would have their drug costs covered. If the CMS confirms this decision in April, it will greatly limit who can have the drug.

Despite Aduhelm being billed as the first treatment to modify the course of Alzheimer's, payers of all kinds have been cool on the drug. Weak evidence of efficacy, problematic side-effects and a sky-high price are all to blame. The drug has also had a chequered history. In early 2019 Biogen, the biotech firm behind it, halted its development, saying that it did not work. Months later, the firm did a U-turn and said a new analysis showed that the drug did work after all.

Scientists disapproved of the way the data had been reanalysed. And sceptics pointed out the massive financial gains approval would bring the company. A scientific advisory panel to the FDA said the drug should not be approved. But the agency overruled its committee.

To complicate matters further, the firm then slapped a price of $56,000 a year on the drug. The Institute for Clinical and Economic Review calculates the drug should be priced at somewhere between $3,000 and $8,400 a year if it works (something that has not been proved). Although the list price has since been cut to $28,200 a year, so far payers have been extremely reluctant to meet it. Many private health insurers have said they want more proof of efficacy before paying for it, and there are concerns about adverse effects such as brain swelling and bleeding.

You'll feel this in your pocket

Biogen badly needs the government to buy the drug. It emerged recently that the struggling company is cutting about 1,000 jobs (more than 10% of its workforce). In January, during a call with investors, Biogen's boss, Michel Vounatsos, pressed Aduhelm's supporters to fight the CMS's decision. And UsAgainstAlzheimer's, an advocacy group that receives funding from Biogen, recently launched a large advertising campaign with the aim of swaying the final decision.

"When we got the CMS's decision, we were really sort of shocked. I used a lot of curse words," Mr Reinstein says. Like most patients, he cannot afford to pay for the drug out of his own pocket. Patients argue that the CMS has overstepped its authority by denying coverage for an FDA-approved drug. Some also worry that the decision will restrict the market for other drugs in development that work in the same way but might prove to be more effective.

Patients argue that Aduhelm is far cheaper than costly cancer or gene therapies. However, the prevalence of Alzheimer's, which afflicts 6m people in America, means that the use of such an expensive drug on a yearly basis will quickly become unaffordable. One study calculated that if 1m patients were to be given Aduhelm, the annual cost would be $73bn by 2028. Although Biogen has cut its price since this analysis was done, broad use of this drug presents a profound challenge to Medicaid and Medicare.

While the arguments continue, those who are missing out on the treatment worry that it may become too late for them to benefit from the drug. "I'm 60. I want to spend time with my grandkids and my family," explains Mr Reinstein. "And the more they delay, the more time that this [disease] can progress. I'm the perfect candidate for this. You wait another two years, I may not be." ■

Economic development

The United States of Amazon

BESSEMER, ALABAMA

How the e-commerce giant's rapid expansion is changing the country

FOR NEARLY a century Birmingham, Alabama, was synonymous with steel. The suburb of Bessemer was named after Henry Bessemer, a British inventor who transformed steelmaking. Workers moved from as far away as southern Europe to toil in the Birmingham area's mines and factories, says Henry McKiven, a historian at the University of South Alabama.

The steel industry around Birmingham shrank as manufacturing moved overseas. Bessemer's unemployment rate reached 35% in the early 1980s. Another vestige of steelmaking disappeared from Bessemer in 2018 when US Steel sold its land to Amazon, which had chosen the town as the site for its first warehouse in Alabama. The sale symbolised Bessemer's metamorphosis from industrial powerhouse to wannabe logistics hub, a transformation that is being mirrored in cities across America.

Amazon's business depends on getting goods to consumers fast, which means opening fulfilment centres—as it calls its huge warehouses—near big population areas. MWPVL, a Canadian consultancy, reckons Amazon will have opened about 400 of these in America by 2024 (see left-hand chart on next page). As well as warehouses, it is opening sorting centres and delivery stations—the last stop before a customer's doorstep. The company is now America's second-biggest private employer, after Walmart. At the end of 2021 it had 1.1m "Amazonians" working in the country, and plans to hire at least 125,000 more.

Amazon's relentless expansion is not just revolutionising shopping. It is also affecting towns, such as Bessemer, that wooed it in the hope of revitalising their economies. Many cities that were snubbed in the frenetic competition to become Amazon's second headquarters (after Seattle) were brought into the firm's orbit anyway as a regional tech hub, such as Phoenix and Nashville, or as a home for a fulfilment centre. Holly Sullivan, Amazon's vice-president for economic development, says that when picking a warehouse site her team considers factors such as transport infrastructure, workforce and availability of industrial land. Bessemer ticked the boxes.

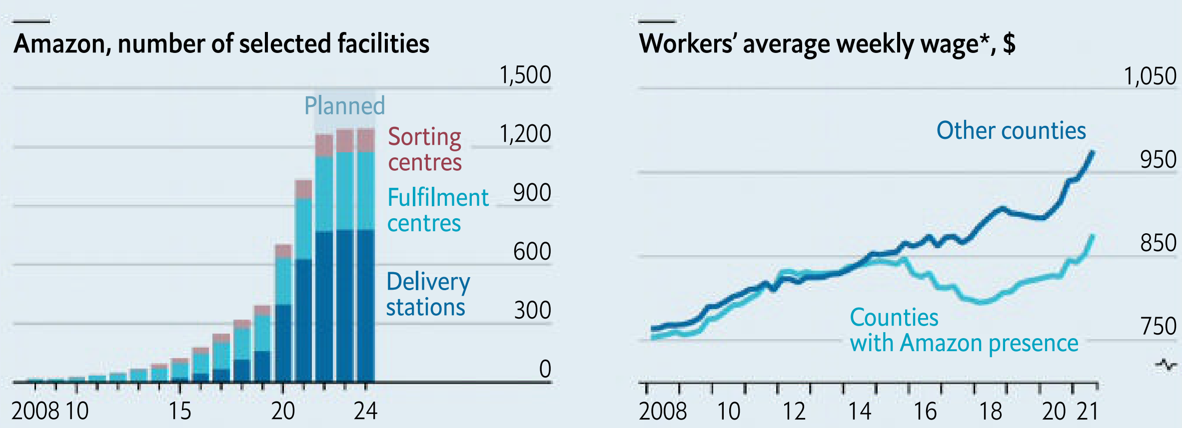
But what happens once Amazon arrives? It can change a place in several ways. Start with wages. Warehouse workers in counties where Amazon operates made about $41,000 a year in 2017, 10% less than those in counties without Amazon. When ▸▸

Google

We keep more people safe online than anyone else in the world.

Safer with Google

Making its presence felt
United States, warehousing and storage industry



Sources: Bureau of Labour Statistics; MWPVL
*Four-quarter moving average

▸ Amazon instituted a $15 minimum wage in 2018, workers' fortunes rose, but not faster than for warehouse workers as a whole (see right-hand chart). Amazon says this is not a fair comparison. Workers elsewhere may belong to unions or be trained to use equipment such as forklifts, boosting their pay. Most workers in Amazon's fulfilment centres, the firm says, are younger and come without any training, often after being unemployed. Employing these workers may depress average wages in the industry, but boost earnings across the economy as a whole.

The effects of Amazon's wage floor were felt beyond its own workforce. A paper published in 2021 by Ellora Derenoncourt, now of Princeton University, and colleagues found that a 10% increase in Amazon's average hourly wages led other companies in the same region to raise wages by an average of 2.3%. Walmart, Target and Costco caused similar spillover effects.

A forthcoming study by Vikram Pathania and Serguei Netessine, economists at Amazon who have posts at the University of Sussex and the University of Pennsylvania respectively, found that Amazon's presence boosts a county's economy. Comparing counties with Amazon warehouses with similar counties without them, the researchers found that in the first three years after opening a fulfilment centre jobs were created beyond Amazon's hires, poverty declined and household income rose.

It is no surprise that a study co-produced with Amazon highlights such benefits. Still, logistics experts and local officials in Alabama describe a positive "Amazon effect". Marc Wulfraat, the president of MWPVL, says logistics firms tend to cluster: if Amazon picks a town because of its highways and workers, it may make sense for parcel carriers such as FedEx to be there.

Amazon was not the first big firm to come to Bessemer. Dollar General opened a distribution centre there in 2011. But netting Amazon is "a Good-Housekeeping seal of approval", says Ron Kitchens, until recently boss of the Birmingham Business Alliance. "If you get Amazon, others are coming." Kenneth Gulley, the mayor of Bessemer, saw wooing Amazon as a way to buck the trend of small-town decline. Bessemer's poverty rate is still around 26%, much higher than the state average of 15%.

Signed, sealed, delivered

The process of persuading Amazon to choose one town over another comes with its own costs, however. Good Jobs First, an economic-development watchdog, estimates that Amazon has been given at least $4.2bn in subsidies from state and local governments for its facilities. Critics of such incentives suggest that towns are doling out subsidies to Amazon when it would settle there anyway to serve its customers quickly. Timothy Bartik, of the W.E. Upjohn Institute for Employment Research in Kalamazoo, Michigan, reviewed 30 studies of incentives in 2018, and found that at least 75% of firms analysed would have made a similar decision without a subsidy.

That does little to deter local officials. "You're competing not only with cities in other states, you're competing with cities right here in the state of Alabama," says Mr Gulley. "You're going to have to incentivise or you're not going to be able to secure the companies." Even if Amazon had chosen another town near Birmingham for its fulfilment centre, Bessemer probably would have benefited. The warehouse employs about 6,000 people—more jobs than Bessemer's 26,000 residents could fill alone.

Workers in Bessemer complain that Amazon's focus on efficiency and its use of performance-tracking algorithms feel like surveillance, and that bathroom breaks are too short and security checks onerous. Injuries at fulfilment centres are more common than at other warehouses and employee turnover is high. In his book "Fulfilment", Alec MacGillis, a journalist, relates several stories of Amazon employees hurt on the warehouse floor, fired for encouraging unionisation or, simply, unfulfilled by the work of picking and packing orders.

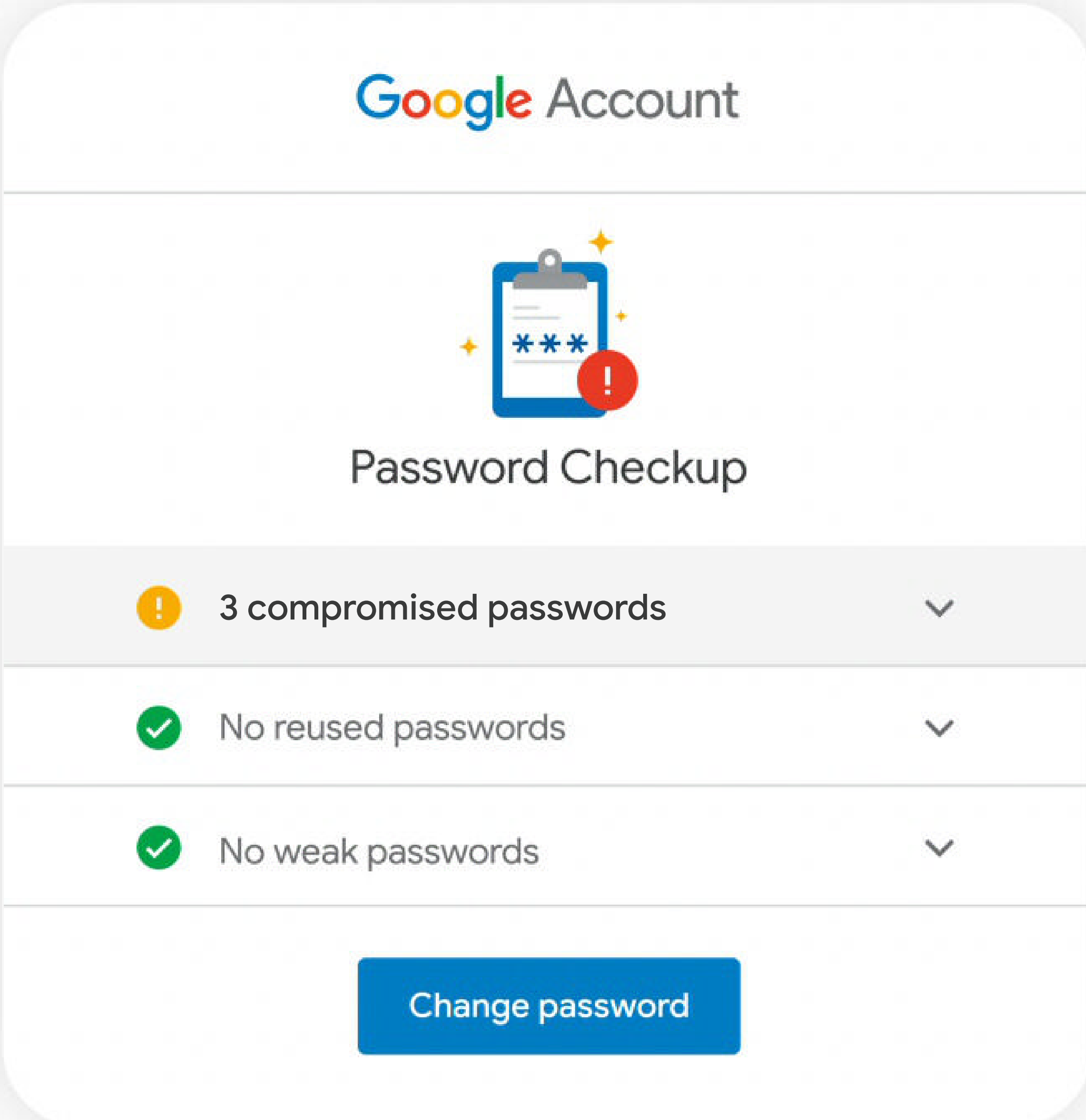
Last year discontent in Bessemer led to a union drive. It failed, but the National Labour Relations Board said Amazon had pressed workers into opposing the union, and ordered a new election. Votes will be tallied on March 28th, two days before Amazon workers at a Staten Island warehouse in New York finish their own union drive.

Around Bessemer, red posters in residents' front yards shout "Vote union yes!" and "This home supports Amazon workers". Jennifer Bates, one of the leaders of the union drive and a native Alabamian, doesn't think Bessemer has changed much since Amazon arrived, but she does have one observation: "The only thing I see is more businesses coming." ■

Flying the flag for fulfilment

Google

Every day Google checks the security of 1 billion passwords,



protecting your accounts from hackers.

We keep more people safe online than anyone else with products that are secure by default, private by design, and put you in control.

Safer with Google

g.co/safety

Lexington | Energy innovation's big moment

War in Ukraine could create huge demand for clean tech that America will soon be able to supply

THE OPPORTUNITY to make the covid-19 recovery green has been squandered. A new analysis of over $14trn in pandemic stimulus, injected by 19 countries and the European Union, finds that just 6% went on programmes likely to cut emissions. America did particularly badly: hardly any of its $6trn splurge was climate-friendly. Perhaps the best that can be said for the catastrophe in Ukraine is that the ensuing energy crisis has provided an opportunity to reverse that failure.

The early responses, it is true, have been somewhat discouraging. As European countries cast around for substitutes for Russian oil and gas, short-term fixes are the need of the hour, leading to a higher oil price and probably more oil and gas production. Joe Biden's administration, which branded itself the greenest ever, is urging producers to drill, baby, drill. Its signature climate policy is meanwhile snarled up in Congress. Mr Biden said as much about diabetes as climate change in his recent state-of-the-union message. Yet there is also cause for hope—in America especially.

Its clean-tech sector is in ferment. The administration used one of the world's biggest energy confabs, held in Houston this month, to broadcast its plea for more hydrocarbons. Less publicised, notes Daniel Yergin, an energy guru and one of CERAWeek's organisers, was the fact that the summit's energy-innovation section drew bigger crowds than the main event. Clean tech attracted over $87bn of investment from venture-capital and private-equity firms alone in the year to June 2021. And there is little expectation, even as interest rates rise, of the boom petering out. It is being driven by three forces that seem likelier to grow: society's fear of climate change, long-term corporate commitments to decarbonisation, and the underappreciated impact of shrewd legislation.

The last includes the bipartisan Energy Policy Act of 2020, which hugely expanded the Department of Energy's role in research and development, and the infrastructure law of 2021, which amplified that effort. The climate components of the stalled Build Back Better bill are better known and indeed essential to Mr Biden's time frame for decarbonising the economy. Yet they are largely dedicated to accelerating the deployment of mature technologies such as solar and wind energy. The two earlier laws were focused more on developing the breakthrough technologies on which most of the world's decarbonisation effort will depend.

The Department of Energy, hitherto best known for looking after the country's nuclear weapons, has been restructured for the task. One of its under-secretaries has been dedicated to innovation. Among its new clean-tech programmes are three climate "Earth-shots"—the first in what looks like a promising series. One aims to reduce the production cost of hydrogen by 80% in a decade; another to cut the cost of grid storage by 90%; and a third to develop affordable ways to suck carbon from the atmosphere.

Scepticism is warranted about how far such efforts will go. The department's network of 17 national labs has always been excellent. Yet America's record in commercialising their inventions is abject. Having invented photovoltaic cells, America left it to Japan, Germany and then China—where over 70% of panels are now made—to bring them to market. Having poured public money into electric vehicles, notably after the oil shock of 1973, it let Japanese, Chinese and European firms commercialise them.

The problem, suggests Nikos Tsafos of the Centre for Strategic and International Studies, is that whereas politicians share an almost ideological belief in America's genius for innovation, those on the right, especially, struggle to understand that it involves deployment as well as invention. To deploy clean tech rapidly requires two things that America still mostly lacks. One is a national climate policy to raise the cost of pollution, thereby creating demand. The other is an industrial policy sufficient to boost supply.

The optimistic case for the energy crisis is that it could help deal with both these shortages. It is already boosting European demand for American clean tech. And it might conceivably persuade Congress to expend more political and public capital on accelerating America's ability to meet that demand: most pressingly by passing the climate portions of Build Back Better; and by thinking more creatively about industrial policy in the bills that members of both parties are drafting.

In eastern Europe, fear of Vladimir Putin had recast the energy transition as a geopolitical imperative even before he invaded Ukraine. Poland and Romania are among the countries keenest on small modular nuclear power stations, an unproven technology, in which American companies are experimenting. The war has made its promise of faster, cheaper, safer nuclear energy seem more attractive—and the existing nuclear-tech leaders, Russia and China, less appealing. Even as Germany and others make hurried plans to invest in new fossil-fuel infrastructure, moreover, they are promising to adapt it to non-fossil alternatives. In committing to build two new LNG import terminals, for example, Olaf Scholz, Germany's chancellor, suggested they would later be converted to green hydrogen, another potential American strength.

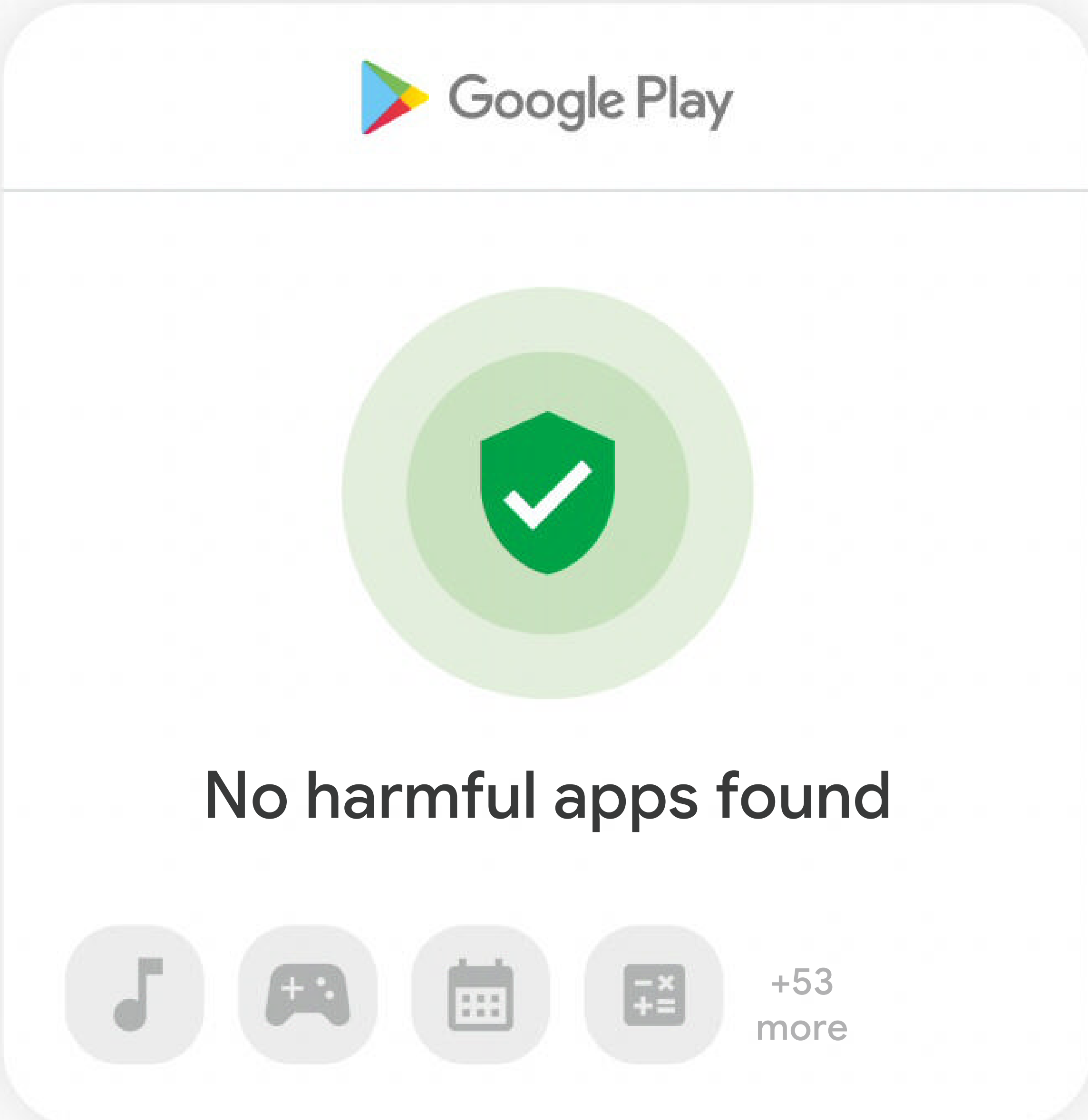
Having exhausted all the alternatives...

This represents a clear opportunity to connect the world's most advanced clean tech with the continent with the most advanced climate policies. The Biden administration claims to be seized by it. "The whole government now wants to accelerate the energy transition on the basis of energy security, as well as climate," says one of its senior members. "Even foreign-policy experts, who generally don't talk about climate change, are obsessed with this."

The question is whether at least a little of the spirit will arise in Congress. Don't hold your breath. But don't count it out, either. The politics of national security, supply chains, energy and climate are in flux, deeply interconnected and capable of inspiring surprising coalitions even there. ■

Google

Every day Google scans 100 billion installed apps,



keeping you safer from malware.

We keep more people safe online than anyone else with products that are secure by default, private by design, and put you in control.

Safer with Google

g.co/safety

ADVERTISEMENT

The transition to a low-carbon future starts with helping farmers

How Cargill is accelerating the business of sustainable ag

Science points to agriculture as a pivotal way to address the climate crisis and many farmers are advancing their efforts to farm in a more sustainable way. But the economic realities of modern farming mean that implementing sustainable agriculture solutions can be a formidable challenge.

Addressing climate change and helping farmers isn't mutually exclusive. In fact, farmers and agriculture are how the world can solve today's challenges. However, scaling sustainable agriculture requires removal of the financial and market access barriers that still exist for farmers.

"We shouldn't expect farmers to take on the entire burden of the industry's transformation to sustainable agriculture—we collectively have to make it economically feasible for them," says David MacLennan, CEO of Cargill.

"At Cargill, our purpose is to nourish the world in a safe, responsible and sustainable way. And in order to accelerate the adoption of sustainable practices, we must deliver farmer profitability from farm to fork—and leverage the market forces that will enable their success."

Through innovative sustainable land use programs all around the world, Cargill is working to actively improve the economics of farming with financial incentives for farmers, as well as hands-on training and data-driven tools to support the transition to more sustainable farming practices.

> "We want systemic change in our food system—and farmers need to be at the root of the solution. If farmers don't succeed, none of us will."
>
> – David MacLennan, CEO of Cargill

To learn more about how Cargill is working with farmers to build sustainable supply chains, visit **Cargill.com/FarmerProsperity**

Cargill® Helping the world *thrive*

Guyana

Invest or squander?

AKAWANI

A tiny population braces for a gusher of petrodollars

It used to be a disused sawmill surrounded by fields of sugar cane. But since oil was discovered off Guyana's coast in 2015 the 52-hectare site in Georgetown, the capital, has been transformed into the biggest logistics hub in the country. From this waterfront spot, Guyana Shore Base serves ExxonMobil, an American oil giant, and other foreign firms drilling for oil off the Caribbean coast. At two big berths along the Demerara river ships pull up to offload equipment for maintenance and pick up supplies for hundreds of workers toiling away on offshore rigs.

The buzz at the shore base hints at how a rush of petrodollars could transform one of South America's poorest countries. Autarkic policies introduced under socialist rule in the 1970s left Guyana struggling with unsustainable debts and sluggish growth. Many of the country's 800,000 people make ends meet doing the same things their grandparents did: farming rice, chopping timber or mining gold.

But since the discovery of light, sweet crude in its waters, Guyana's fortunes have begun to turn. The country has received a surge of foreign investment and built a sovereign-wealth fund to store its share of the oil money. As a result, it was the world's fastest-growing economy during the covid-19 pandemic. Now it stands to gain as the war in Ukraine sends oil prices soaring past $100 per barrel and countries that rely on Russian fuel scramble for alternatives.

I'll oil wells need you

The rising price of oil comes at an important moment for Guyana. The government could get its hands on the oil money for the first time in the coming weeks: it can withdraw a total of $600m from the sovereign-wealth fund this year. But it is unclear how the bonanza will affect the country. Will a sudden injection of petrodollars boost much-needed infrastructure and pull thousands out of poverty? Or will it be squandered or stolen?

ExxonMobil has found over 10bn barrels of recoverable resources in Guyana. Exploration could soon begin in other areas of the seabed. Even if all the new wells turn out to be dry holes, more than 1m barrels of oil per day will be gushing out of Guyanese seas by the end of the decade, says Schreiner Parker of Rystad Energy, a consultancy. That would make it one of the world's largest offshore producers. Relative to its population, its output will be colossal. Whereas Saudi Arabia pumps less than a third of a barrel, per person, per day, Guyana could be pumping nearly four times that by the end of the decade. The speed at which production has started is "unprecedented", says Alistair Routledge, president of ExxonMobil Guyana.

Oil has already boosted Guyana's tiny economy. Multinationals are setting up shop. Local workers are making money driving taxis, working as waiters or toiling on building sites. The economy grew 20% last year and 44% in 2020 (see chart on next page). The current-account balance, which reflects whether a country is a net borrower or lender to the rest of the world, is expected to turn positive this year.

The government is talking big about channelling petrodollars into development. The latest budget, announced in January, promised to raise government spending 44% this year. There are plans to build roads, schools and hospitals. With a new pipeline and 300MW power plant, Guyana could use the gas produced offshore to reduce the cost of electricity and jumpstart manufacturing. New call centres promise to create jobs in the region's only English-speaking country.

However, Guyanese people need not ▸▸

look far to see how things could go wrong. To the west is Venezuela, where oil has bankrolled a corrupt socialist dictatorship that has impoverished its people. (Indeed, oil exploration in Guyana was delayed for years by a territorial dispute with Venezuela, and anxious types still mutter that its despot might one day try to invade.) To the north, in Trinidad & Tobago, an oil boom brought social discontent and crime. Indeed studies show that, if a country has strong institutions, oil can foster growth, as in Norway and Canada. But a "resource curse" often blights countries with weak institutions, where rent-seekers gobble up the proceeds.

Ashni Singh, Guyana's finance minister, talks about economic "diversification". But there is no doubt the country is growing dependent on one industry. By the government's own estimates, the economy will expand 48% this year. Take out oil, and it will grow by less than 8%.

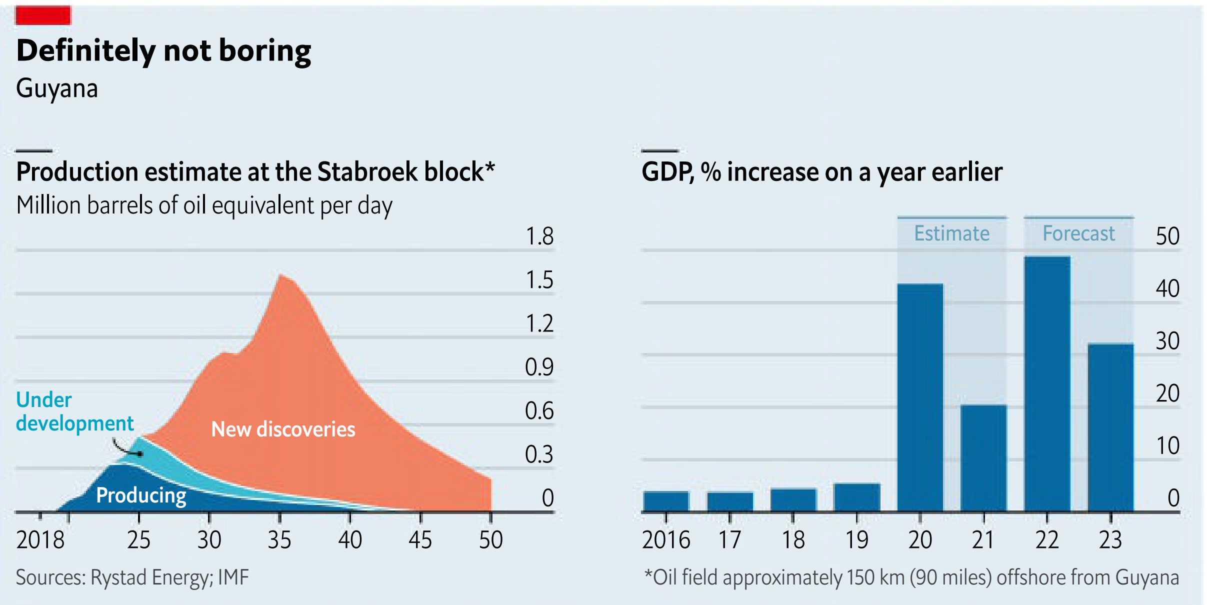
It is far from clear how much of the oil money will reach ordinary people. Offshore oil rigs do not hire many workers. The drilling happens thousands of metres underwater; machines do most of it. The small number of maintenance staff on the oil platforms need special training. ExxonMobil employs just over 180 people in the country. The company reckons its operations have created jobs indirectly for about 6,000 more. About 60% of them are Guyanese. But not many Guyanese have the skills needed to run an offshore oil operation safely. High-skilled workers are being brought in from other oil-producing countries instead.

Local firms are not winning many big contracts. Only a few companies in the world can produce the pipes or widgets used on high-tech oil platforms. New rules pushed through parliament in December require energy companies to buy certain basic goods and services from Guyanese businesses, such as laundry and catering. But it is an uphill struggle. Multinational oil companies require internationally recognised quality and safety certifications, which few local firms have. ExxonMobil says it spent $220m with local suppliers last year—a large sum relative to Guyana's GDP, which in 2021 was $6bn. But it is small relative to the company's overall expenditure on the project in the period, which Rystad Energy reckons was over $900m.

Meanwhile the economy may be overheating. Georgetown Chamber of Commerce and Industry, a business lobby, says local firms are losing their best workers to the oil industry and struggling to get hold of basic goods, like sand for construction. Global supply-chain problems and geopolitical instability have not helped. Consumer prices in Georgetown rose 1.5% in January alone, taking annual inflation to 5.8%, its highest in 20 years.

Perhaps the biggest risk is corruption. The two largest ethnic groups in Guyana are those of African and Indian descent. They do not trust each other much. Successive governments, under the largely Indo-Guyanese People's Progressive Party and the Afro-Guyanese People's National Congress Reform, have favoured their own. Cronyism is rife. Local businessmen complain it is only those with friends in high places who win big deals and top jobs in the oil industry. (Presumably this is not true of jobs requiring technical skills that are hard to fake.) Analysts worry there is little transparency surrounding the sovereign-wealth fund, the rules that dictate how much the government can withdraw and where the money is spent. In February *Vice News*, a website, accused the vice-president of accepting kickbacks from Chinese businessmen. He denies this.

Outside the capital some remain sceptical of black gold's potential. Gary Grant, the 55-year-old estate manager at the Pomeroon Trading coconut farm, has been alive almost exactly as long as Guyana has been independent, and seen ethnic and political divisions repeatedly hold his country back. He is enraged by rising inflation and glaring inequality. "When Guyana found oil I was optimistic," he says. "But I'm not so optimistic any more." ■



Sources: Rystad Energy; IMF

*Oil field approximately 150 km (90 miles) offshore from Guyana

Sport in Brazil

Bowling maidens over

POÇOS DE CALDAS

Cricket is gaining popularity, particularly among women

A SPA TOWN in the foothills of coffee country may not be the likeliest place to find a cricket revolution. But at a crumbling country club in Poços de Caldas, a city of 170,000 people, the Brazilian national team is in full swing. Funk music blasts as women in brightly coloured shirts spin balls into nets. They stop only to laugh, to check on a teammate's baby and, when the clouds start to swell, to duck out of the summer rains. It is a far cry from the kind of cricket first played in Brazil in the 1850s. Then it was the pastime of British railway workers. Today it is for Brazilians.

Brazil's embrace of cricket began two decades ago, when Matt Featherstone, a club player from Britain, noticed that there was a street version of cricket called *taco*. He began swapping bottles for stumps, and encouraging kids to bowl overarm not under. By 2009 it had become a regular programme under the banner of Cricket Brasil, which is partly funded by the International Cricket Council.

It was not an instant hit. "I'm not going to play that shit," was Renata de Sousa's response when invited to play as a teenager. But the camaraderie of the game won her and others over. Today a scholarship scheme puts the best players through university and into coaching. There are teams for the blind and disabled. In Poços more children now hit balls with bats than boots, with over 5,000 playing in total.

This is remarkable not only because

they are playing cricket, but because they are playing anything at all. Brazil may be known the world over for football and beach bodies, but a lot of Brazilians are conspicuously unsporty. In a recent survey of exercise habits, Brazilians puffed in last out of 29 countries, devoting half the global average time to physical activity. A study in 2016 found that six in ten state schools had no exercise area. In Poços the cricketers are allowed to use a few of the town's derelict sport centres. But the rest has been done, quite literally, off their own bats—made by a local carpenter. The balls are imported from Bangladesh.

Unusual too is that women are in the vanguard. Brazil remains cleft by gender stereotypes, but they never infiltrated the pavilion. Today all 14 of the country's professional cricketers are women, including Ms Sousa. In Poços they are local celebrities. Brazil's team dream of becoming "the next Thailand", says Ms Sousa. It too is not a traditional cricketing country, but has rapidly improved and now boasts the world's tenth-best women's team in the one-day format (Brazil lags behind at 28th). The hope is that cricket one day becomes an Olympic sport, for then the flow of money and interest would increase.

Within the next five years, Cricket Brasil wants to have 30,000 players in the region around Poços. It is building a federation of teams playing in Salvador, Brasília and São Paulo. "I have no doubt that soon it will arrive in the whole of Brazil," says Sérgio Azevedo, the mayor of Poços. He sometimes cuts ribbons in a cricket jersey.

Cricket may never receive as much money or adoration as the Seleção, Brazil's famous football team. But in Poços, at least, it has already hit football for six. ■

Bello Russia with sunshine

Cuba's dictatorship has a cultural opposition that it can't tolerate

When Yunior García, a dramatist, was still living in his home city of Holguín, in eastern Cuba, the local secretary of the Communist Party, Miguel Díaz-Canel, came to see two of his plays. "We talked," says Mr Garcia. "He seemed open and more modern. He liked the theatre." Since 2019 Mr Díaz-Canel has been Cuba's president. "He has stopped smiling. He reads out everything he says. He has acted as a despot."

Mr García, one of whose plays has been staged at the Royal Court theatre in London, has suffered from that despotism. He was a founder of the San Isidro movement, a group of artists and writers based in Havana. In 2020 they staged a protest against censorship outside the culture ministry. "It began with 20 people and grew to 500," he recounts. It was the biggest gathering of its kind in decades. A senior official agreed to meet the artists, though talks got nowhere. But it was a turning point, Mr García thinks.

In its more than 60 years of rule, Cuba's Communist Party has been adept at isolating dissidents, branding them stooges of the United States. In its early decades the regime enjoyed public support, thanks to free education, health care and housing and the charisma of Fidel Castro. The first crack came with the collapse of the Soviet Union and the end of its largesse to its Caribbean client, later partially replaced by Venezuela.

Now Venezuela's government has little money, Mr Castro is dead and his brother and successor, Raúl, has retired. Mr Díaz-Canel and the military-bureaucratic complex he heads face unprecedented difficulties. While Donald Trump was president of the United States he intensified sanctions barring most tourism and remittances to the island. This compounded the inefficiencies of Cuba's centralised economy.

The pandemic kept tourists away and highlighted the parlous state of Cuba's health service. Hospitals were overwhelmed and oxygen ran short. The economy is still 11% smaller than in 2018. In January 2021 the government devalued the peso, to try to cut subsidies and inefficiencies. As a result inflation was almost 300% last year, according to the Economist Intelligence Unit, our sister organisation. On the black market the peso is worth less than a quarter of the official rate. Many shops have empty shelves, except those that sell in dollars, which many Cubans lack.

Frustration boiled over in spontaneous protests across the island on July 11th 2021, in which there were isolated incidents of violence. This social explosion was fanned by mobile phones and the internet, to which the government granted access in 2018. It was probably the biggest public challenge to the regime since the 1960s. The response was harsh: almost 800 people were charged over the protests and more than a hundred have so far received long prison sentences, some of up to 30 years, in summary trials.

On July 11th Mr García and his movement, now called Archipelago, demanded 15 minutes on television to explain their view of the events. They were arrested and he spent a night in jail. Cracks showed in the normally monolithic façade of the regime. Silvio Rodríguez, a prominent singer-songwriter and a pillar of the revolution, met Mr García. "He's conscious of the situation," says the playwright. "But he's devoted his life to a Utopia and can't admit that he's wrong."

Archipelago sought official permission to organise a peaceful protest last November 15th to call for the release of the prisoners. In response the regime ordered military mobilisations on that day. So the protesters switched to November 17th. The security police told Mr García he would go to jail for 27 years. He said he would march alone carrying a white rose. But in the days beforehand his home was surrounded by a mob of 200 people. Rather than face long jail terms, he and his wife, Dayana, escaped to Madrid. The regime seemed content to let them go, its usual expedient with troublemakers. Dozens of other activists, artists and journalists have left the island since July, many of them ending up in the Spanish capital.

The government has shut Mr García's theatre group. Archipelago is dispersed. But it has already achieved something. It has shown that the regime faces not just a disgruntled populace but also an intellectual opposition it does not know how to handle and which is hard to brand as the creation of the CIA. By repressing such voices, the regime can doubtless stay in power. But other voices may pipe up, reminding the world that Cuba is like Russia, only sunnier.

The Indian Premier League at 15

Beyond the boundary

How India's blockbuster cricket league reflects the country's strengths—and weaknesses

In August the Board of Control for Cricket in India (BCCI), a sports-administration body, invited sealed bids for two new franchises in the Indian Premier League (IPL), an annual domestic tournament of the world's greatest sport. Two months later, at an event in Dubai, it opened the envelopes. The BCCI had set a confident minimum price of $270m for each team. The largest bid was an eye-popping $940m. The next biggest stood at $750m—more than the total price of all eight franchises when the league started in 2008.

The 2022 tournament, which begins on March 26th, is only the 15th season of the IPL. In that time it has not only turned cricket upside down, but "completely revolutionised the Indian mindset and how the world looks at India", says Boria Majumdar, an academic who studies cricket.

The idea for the IPL came along in 2007, a propitious time for Indian enterprise. Like the e-commerce platform Flipkart, the ticket-booking firm redBus and the ride-hailing company Ola, all of which emerged in roughly the same period, the IPL took an American idea and gave it a local twist. Lalit Modi, a mid-ranking BCCI official, saw the creation of Twenty20 cricket, a made-for-television, three-hour version of the game, as an opportunity to create a lucrative, city-based competition.

Mr Modi persuaded members of India's business and entertainment elite to stump up a combined $723m for the ownership of eight franchises. Despite a name that pays homage to English football, he borrowed liberally from American sports. A small number of teams and a short fixture list were designed to make every game feel important. Matches were played at the same time every evening to encourage families to tune in regularly. The lack of promotion or relegation protected the value of investors' assets from a sudden depreciation. A team salary cap prevented the richest franchises from dominating. Sony, which runs a network of channels in India, paid $1bn for broadcast rights to the first ten editions. When that contract ended Star India, another broadcaster, paid two and a half times as much for half as many years.

The league was an immediate hit. The cricket was fast-paced and exciting. The grounds were packed with celebrities. Imported cheerleaders added an exotic twist. By broadcasting in regional languages and opening fan zones for people to watch matches on big screens in remote parts of the country, the IPL made cricket more accessible and reflected the diversity of India. The acceptance of players from other states and even countries in teams named after a city or a state promoted the idea of Indian tolerance and cosmopolitanism.

Sponsors, too, began to wake up to the tournament's heterogeneous audience. By 2017 the Kings XI Punjab team jerseys bore the logo of Lotus Herbals, a make-up and skincare brand. Women were 43% of the IPL's television audience in 2020; plans for a women's league are gaining momentum. Alec Scheiner, a partner in RedBird Capital which bought a stake in Rajasthan Royals last year, believes the popularity of the IPL "is like the NFL [an American-football league] and the NBA [America's basketball league] combined" (see chart).

The tournament has also promoted so- ▸▸

cial mobility. Though cricket has long been a national preoccupation, it was an elite pursuit (a former national captain's childhood nickname was *maharajah*; another was literally a prince). The beginnings of India's economic liberalisation in 1991 led "to an explosion of the middle class and the empowerment of small towns everywhere", says Amit Varma, a writer based in Mumbai. Within a decade some of India's finest players, such as M.S. Dhoni (pictured), a former captain who once worked as a ticket inspector for Indian Railways, were emerging from places and families with no cricketing pedigree.

By expanding opportunities in the sport, the IPL supercharged this trend. League contracts alone offer a very good living, but success there has become a springboard for a place in the national team. Mohammed Siraj, a fast bowler and the son of a rickshaw-driver, won a contract to play in the IPL for Sunrisers Hyderabad and now represents India in Twenty20 cricket and in Test matches, the most prestigious form of the game.

The IPL has also made a mark outside India, becoming a big cultural export and prompting nearly every other cricketing nation to copy its format. Some, such as the Caribbean Premier League, have succeeded in establishing themselves. Others have imploded amid corruption or financial scandals. Mr Majumdar believes the replication of the IPL around the world "has given a rising India a sense of confidence that it is possible to create a brand that goes on to achieve global dominance".

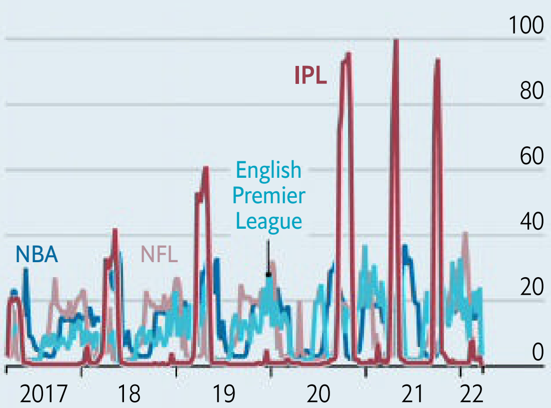
Yet if the league holds up a mirror to all the things India likes about itself, it also reflects some of its weaknesses. Two separate match-fixing scandals emerged in 2013. Two teams were banned for two seasons, but the credibility of the league and the reputation of its brand were tarnished. Players from Pakistan, cricket's second-biggest market, remain unwelcome. And the BCCI still maintains a highly protectionist attitude towards Indian players. Although set numbers of foreigners are welcome in the IPL, Indian cricketers are banned from playing in franchise tournaments abroad. Unmukt Chand, who led India to victory in the Under-19 World Cup in 2012, was forced to retire from all cricket in India to take up contracts to play in America and Australia.

The IPL is now sufficiently dominant within cricket that it can do whatever it likes. No national boards want to compete by scheduling matches against it. A new domestic broadcasting-rights deal is imminent, which is expected to double in value to at least $1bn a year, conferring yet more power. But there are reasons for the BCCI to be cautious. Increasing the number of teams risks reducing the quality of the cricket, and longer seasons could bore viewers. In its first decade and a half the IPL has shown that, by borrowing ideas from elsewhere and adapting them to the local market, Indian entrepreneurs can dominate at home and abroad. Its next 15 years will reveal what kind of leadership it wants to project. That applies to India itself as much as to the Indian Premier League. ■

Out of the park

Major sports leagues, Google search intensity

Worldwide, peak=100



Source: Google Trends

Bollywood and religion

Horrible histories

DELHI

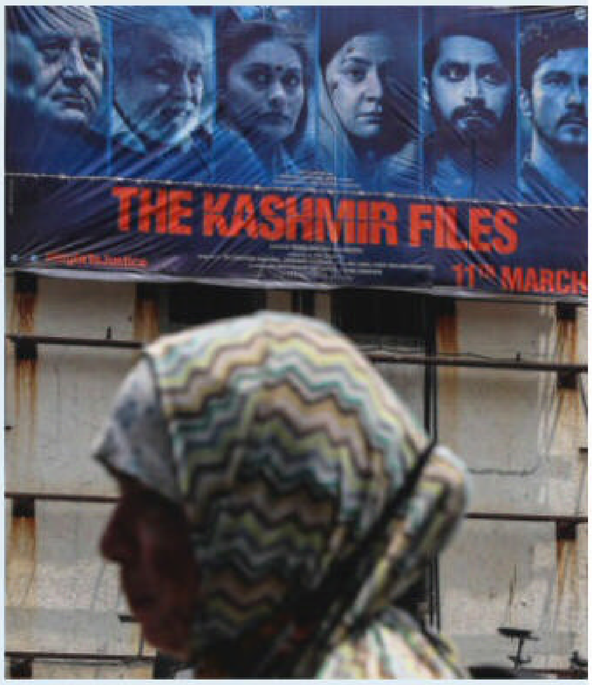
A film on Kashmir opens old wounds and feeds new fears

INSIDE CINEMAS, "The Kashmir Files" starts with a disclaimer: "This film…does not claim accurateness or factuality of historic events." Outside the cinema, in contrast, the relentlessly violent drama is being promoted with what might be called a very big claimer. Narendra Modi himself, India's prime minister, has hailed the film for exposing long-buried truths. So keen to share these is his Bharatiya Janata Party (BJP) that states it runs have scrapped local entertainment taxes for the movie.

High-powered promotion is not the sole reason why "The Kashmir Files" has bagged over $25m since it opened on March 11th, a post-pandemic record. The film also provokes strong emotions. Its story revolves around the very real tragedy of the Kashmiri Pandits, an ancient community of high-caste Hindus who were once perhaps 5% of the population of the Kashmir Valley.

Pandits were targeted by Islamists backed by Pakistan during a cataclysmic surge in violence in the 1990s. Police protection was scant. All but a few fled, never to return. Official reports and scholarly research suggest that more than 200 were murdered, among the 14,000 civilians, 5,000 Indian soldiers and 22,000 militants killed during the past three decades of strife in the valley.

These other casualties get no mention in the film. Instead, within its first 15 minutes we see Muslims betraying Hindu neighbours, chanting "Convert or die!", beating Pandit children and visiting unspeakable (but apparently not unfilmable) acts of savagery upon women. By the end of the film it is not just the awfulness of Muslims that is doggedly bludgeoned into viewers. So is the perfidy of whiny leftists, intellectuals and politicians who dare suggest that Muslims, who are 95% of the Kashmir Valley's population, might be victims of a sort, too. Small wonder that in cinemas across India hot-headed youths, many of whom appear to belong to extreme Hindu-nationalist groups, are making rousing sectarian speeches.



Not a documentary

In the Kashmir Valley itself the film has been met with silence. This is partly because cinemas there closed in the 1990s. Zayd Hanief, a 22-year-old law student who watched the film on a visit outside the valley, says he was revolted. "It simply confirms the worst stereotypes about Muslims." To some, the boosting of the film by Mr Modi, whose government in 2019 imposed direct rule on the once semi-autonomous state of Jammu and Kashmir, and has cracked down fiercely on dissent, feels ominous. "Kashmiris see it as a prelude to more serious oppression," says Sheikh Showkat Hussain, a legal scholar and political analyst based in the valley. "The movie will be used as justification for whatever the government is doing or will do here."

Central Asia and Ukraine

Silent Stans

ALMATY AND TASHKENT

Support for Vladimir Putin's invasion has been conspicuous by its absence

IT WAS ONCE part of the Soviet Union, shares a long border with Russia and counts among its citizens a large ethnic-Russian minority. Russian nationalists lay claim to swathes of its territory and President Vladimir Putin has in the past cast aspersions on its statehood. Gennady Zyuganov, the leader of Russia's Communist Party, has accused it of Russophobia and the oppression of Russian-speakers. Little wonder then that Kazakhstan is watching Mr Putin's invasion of Ukraine with apprehension verging on horror.

The war has set nerves jangling across Central Asia. The "Stans", as the region's five post-Soviet states are known, are, broadly speaking, allies of Russia. But the aggressive expansionism of their former colonial master is testing that friendship to the limit. None of the countries has condemned the invasion. But nor has any offered public support or succumbed to pressure to follow Mr Putin's lead and recognise the breakaway regions of Luhansk and Donetsk in eastern Ukraine. At a vote in the UN General Assembly deploring the invasion, on March 2nd, three abstained and two simply did not show up.

Kazakhstan, the biggest and richest of the lot, has long cultivated warm relations with Russia. It is a member of a collective-security treaty with its bigger neighbour, along with a handful of other countries including Kyrgyzstan and Tajikistan. In January, when protests in several cities turned violent and threatened to destabilise the country, Kassym-Zhomart Tokayev, Kazakhstan's president, invoked the treaty's mutual-defence clause and asked for help from Mr Putin, who duly delivered. But the country also enjoys good relations with the West and has no desire to join Russia as an international pariah. Mr Tokayev has said that his priority is to safeguard Kazakhstan's "security, sovereignty, territorial integrity". He is the only Central Asian leader to have spoken to Volodymyr Zelensky, Ukraine's president, since the invasion began. (He has regular chats with Mr Putin.) He has offered to mediate.

Most countries are treading a fine line. Authorities in Almaty, Kazakhstan's largest city, have allowed anti-war protests—though only once—and Kazakh police have fined drivers displaying the letter Z, a symbol of Mr Putin's invasion. Yet two bloggers known for anti-Russian rhetoric have been jailed, too. Uzbekistan has supported Ukraine's territorial integrity and declined to recognise the breakaway republics. But it has also leant on journalists who are noisily sympathetic to Ukraine.

Kyrgyzstan, which hosts a Russian military base, has come closest to offering (muted) support for Russia. Mr Putin's recognition of Luhansk and Donetsk may have been "a necessary measure to protect the civilian population", mused Sadyr Japarov, the president, on Facebook. But that was before the invasion. Since then his public stance has been one of neutrality. Uppermost in his mind may be the position of millions of Kyrgyz migrants working in Russia. That is also a concern for remittance-dependent Tajikistan, which has maintained a studied silence. So has isolationist Turkmenistan, which barely acknowledges what is happening in the outside world and is in any case busy establishing a political dynasty as Serdar Berdymukhamedov, its new president, assumes power from his father, Gurbanguly.

Whatever their leaders' diplomatic manoeuvres, it will be hard for the Stans to avoid the economic fallout. The rouble's collapse has dragged down their currencies. The Kyrgyzstani som has plunged by 15% since the invasion started and the Kazakhstani tenge by 14%. In part, that is because remittances from Russia are likely to slump, too: by a third in Kyrgyzstan and a fifth in Tajikistan, reckons the World Bank. That will hurt. Remittances are worth nearly a third of GDP in Kyrgyzstan and over a quarter of GDP in Tajikistan.

Kazakhstan, Turkmenistan and Uzbekistan are energy-rich and may hope to cash in on buoyant oil and gas prices. But even that can be held hostage. Russia says a pipeline, which crosses its territory to the Black Sea and carries most Kazakh oil, may close for repairs for two months. The move is seen by many as a response to sanctions, with Kazakhstan as collateral damage. "There is this famous saying that if Russia sneezes, Kazakhstan gets a cold," says a senior Kazakh official. "This will be not a sneeze but perhaps pneumonia, and we will get covid or something." ■

South Korea

Yoon's first move

SEOUL

The president-elect wants to be close to the people. They would rather not

ARRANGED IN TWO straight lines as if in formation, protesters outside South Korea's defence ministry pumped their fists in time with a martial beat. "How many livelihoods are going to be killed by this move?" one demonstrator shouted. Ordinarily they would be found in Gwanghwamun, a wide plaza a few hundred metres from the presidential palace, known as the Blue House after the azure tiles on its soaring roof. But news that Yoon Suk-yeol, the president-elect, wants to move the administration to the ministry complex, a few miles south, had brought them to its gates.

Mr Yoon revealed his decision at a press conference two days earlier, on March 20th. He described the Blue House, nestling at the foot of an imposing mountain and sequestered behind security barricades and a long driveway, as an "isolated royal palace" and a "symbol of imperial power". Instead, the man from the conservative People Power Party plans to bring power closer to said people upon his inauguration on May 10th. An existing building within the defence ministry's grounds is to be converted into the presidential office (a residence has yet to be decided). A new park will be built around it, giving citizens a view of their government hard at work. It is in keeping with Mr Yoon's victory-speech promise to "listen to the valuable opinions of the people".

The people's opinion is that it is a waste of money and a risk to national security. Mr Yoon's transition team estimates the price tag at just under 50bn won ($40m). But that ▸▸

does not include the cost of moving defence officials currently in situ, which Mr Yoon's own party estimates at another 120bn won. And while the defence ministry is already amply fortified, bunker and all, putting the president there would allow a missile strike to wipe out both military and political leadership in one fell swoop. A petition opposing the move quickly reached the 200,000 signatures needed to trigger an official reply.

My Yoon's new neighbours are not thrilled either. In Samgakji, a dense, low-rise district next to the defence ministry, some business-owners welcomed the prospect of increased footfall. But many more seemed concerned about what else might come along with it: more traffic, annoying new security rules and the disruptive rabble of demonstrators and accompanying police officers that frequently fill Gwanghwamun. "Where do you think they're going to protest?" grumbles the owner of a local dry-cleaner. "They're going to protest in front of my shop."

Moon Jae-in, the outgoing president, tried to make a similar move before admitting defeat in the face of logistical problems. His Minjoo party argues that a president-elect lacks the authority to move a government building or to allocate funds for such a move.

South Koreans complain that Mr Yoon promised on the campaign trail that his top priority would be addressing the economic damage caused by covid-19. Instead he has decided to spend political capital forcing through a personal project. With his popularity already at a historic low for an incoming president, Mr Yoon may find that his attempt to bring the people closer actually drives them farther away. ■

Banyan Jokowi's folly

The president's people are contemplating an assault on Indonesia's democracy

WHO CAN forget that moment, eight years ago, when a slight former furniture salesman with a winning grin rose to the presidency of Indonesia? Joko Widodo, known as Jokowi, had a modest upbringing in the small city of Solo in Central Java. He had become that city's mayor, from where his reputation for rolling up his sleeves and fixing problems had propelled him to the governorship of Jakarta, the country's sprawling capital, and then to the presidential palace. A man of the people, he connected with voters in the markets and back alleys. For the first time, a ruler did not hail from the army or the country's elites. And so, in the story of Indonesia's democratisation, Jokowi's election in 2014 marked a decisive break from the era of Suharto, the dictator whose regime had crumbled in 1998.

And who can fail now to notice ominous parallels emerging with the late strongman, who in effect abolished politics, co-opting the army along the way? Jokowi's second term ends in 2024, after which he has to step down. Yet Jokowi's powerful henchmen, if not yet the man himself, muse aloud about his staying on by altering the constitution to extend his term by three years. Why, asks Luhut Panjaitan, a minister and sidekick, go to the unnecessary expense of elections? Why risk (unspecified) election violence? Besides, argues the former general of the Suharto era, calls for Jokowi to stay abound on social media. Mr Luhut says he and others are merely "trying to accommodate the aspirations of the public from this big data".

Presidential hopefuls who cry foul, such as the governor of Jakarta, Anies Baswedan, are dismissed as self-serving. The views of the main political parties are more consequential: the support of two-thirds of parliament is required to amend the constitution. Gerindra, the third-largest party, says it opposes an amendment. So do members of the Indonesian Democratic Party of Struggle, or PDI-P, to which the president belongs.

But Jokowi's talents for co-option are legend. Gerindra's leader, another former general, Prabowo Subianto, twice ran for president against Jokowi, but is now defence minister. Two weeks ago Jokowi invited PDI-P's boss, Megawati Sukarnoputri, to his palace in Bogor, west of the capital. She knows it well, both as a former president herself and as a daughter of Sukarno, the country's independence leader. She is nothing if not a dynast, and the president could offer her daughter, Puan Maharani, parliament's speaker, the vice-presidency. Democratic norms, says a former minister, are hanging by a thread.

Power has changed Jokowi. Explanations for his quest to extend his rule include the fact that the non-dynast has turned dynast himself. He is known to be keen to see his son, who has followed in his footsteps as mayor of Solo, become governor of Central Java, a province of some 37m people.

Another is Jokowi's grand scheme to carve a new capital, Nusantara, out of the jungle of East Kalimantan province on the island of Borneo. The justification is that the current capital is gridlocked, sinking and flood-prone. But as Mr Anies argues, Jakarta is fixing its problems by cutting groundwater extraction and building sea walls. Bureaucrats and their families hate the idea of moving. The main boosters—from the political and business elite around Jokowi—have land and other interests around the site. If Jokowi loses power it is much less likely the $35bn white elephant will get built.

Strolling in the garden of the palace in Bogor, Jokowi once rehearsed Suharto's qualities for Banyan's benefit: the dictator got stuff done. Jokowi's obsession, too, is for building things—roads, ports, power plants and more. The difference, says a former ally, is that Suharto had a team of technocrats to set economic priorities; he then got his business cronies to carry out the plan. By contrast, Jokowi's cronies set the priorities.

In the end cronyism, corruption and economic crisis did for an out-of-touch Suharto. A whiff of economic crisis is in the air again, exacerbated by the war in Ukraine. Jokowi frets that sharp increases in the price of cooking oil are distressing poorer households. Prices of fuel, wheat and other foodstuffs are rising, too. That may be just the beginning. Yet Jokowi seems less attuned to the anger building among the middle class over the possibility of a power grab. The risks of a twin economic and political backlash are clear. If Jokowi is not careful, the man whom popular acclaim brought to power may yet be confronted by raging popular discontent.

Chinese politics

Xi's stormy year

In a crucial political year, Xi Jinping wants stability. He won't get it

No date has been set for it yet, not even a month. But for every official, the orders are clear. Their work must focus on making sure that a crucial Communist Party congress, to be held in the second half of the year, goes smoothly. The conclave is widely expected to herald the start of at least another five years of rule for Xi Jinping. From the police to economic policymakers, all are trying to minimise untoward events that might overshadow his moment of political glory. "The word 'stability' is the key," leaders intone about the coming year at official gatherings.

It will be a far bumpier ride than they would like. In recent weeks the rapid spread of Omicron, a highly transmissible variant of the virus that causes covid-19, has posed an unprecedented challenge to China's much-vaunted "zero-covid" policy. Widespread lockdowns have added to the wobbles of an already shaky economy. Just this month Mr Xi contrasted the party's rule with "Western chaos". He was referring, in part, to China's two years of success (after a botched initial response) at crushing covid. If officials relax the policy to protect the economy they would risk a surge of cases that could overwhelm China's fragile public-health system.

Russia's invasion of Ukraine is another severe headache. The war began less than three weeks after Mr Xi and his Russian counterpart, Vladimir Putin, signed a joint statement in February declaring "no limits" to the two countries' friendship. Chinese diplomats are now struggling to balance a desire to preserve what they see as this crucial relationship against a risk of even greater tension between China and the West, which could compound China's economic difficulties.

Public opinion is hard to gauge, but there is little sign that the party's policies on covid, Ukraine or the economy are widely resented. Many Chinese express support for the tough zero-covid approach. On social media, however, some grumbling circulates—despite censors' efforts to stifle it. Even in the state-controlled press there have been occasional hints of disagreement over the party's economic strategy, which last year included a regulatory clampdown on tech firms and a call by Mr Xi for "common prosperity" that scared entrepreneurs by raising the spectre of big redistributive schemes. Intriguingly, the prime minister, Li Keqiang, mentioned common prosperity only once in his state-of-the-nation speech to the national legislature on March 5th.

Among China-watchers, there is much speculation about the extent of opposition to Mr Xi within the elite, and the impact it might have on his political grip. But there is no convincing evidence that his plans could be derailed for the party congress and a meeting immediately afterwards of the Central Committee, which will announce the leadership line-up (including his own likely appointment to a third term as party chief, violating recent norms). Indeed, history suggests that for all the party's preoccupation with stability in the build-up to party congresses, which normally are held every five years, the power of paramount leaders can survive enormous buffeting.

Mao Zedong, for example, ruled China for nearly 27 years, despite the deaths of ▸▸

→ Also in this section

millions in a famine of his own making, bitter political struggles within the party and at least one attempted coup. Deng Xiaoping retained authority well after his retirement, despite public resentment of his bloody suppression of the Tiananmen Square protests of 1989 and open criticism of his policies by conservatives in the party who saw them as a catalyst of the unrest. Similarly Jiang Zemin, who had overseen mass lay-offs from state-owned firms (angering millions of workers as well as conservatives), wielded much power long after he retired from his last post in 2004.

Mr Xi's bid for an extension of his rule must anger some in the party. Cai Xia, a former academic at the party's most prestigious training centre for officials (she now lives in America), has accused Mr Xi of forcing the party to "swallow dog-shit" by ordering the Central Committee in 2018 to approve a constitutional revision to facilitate his bid. But there is little sign today of the kind of turbulence in elite politics that marked the build-up to Mr Xi's anointment as party chief in 2012. That year saw near-open feuding involving a prominent political rival, Bo Xilai, a member of the Politburo whom Mr Xi later accused of being involved in a plot to seize power.

Purges have continued. An 18-month "rectification" campaign of the domestic security forces ended late last year, aimed in part at rooting out those disloyal to the party and Mr Xi. Its most powerful targets included a deputy minister of public security, Sun Lijun, who was accused of leading a "political cabal" within the police (he was formally charged with corruption in January), as well as Fu Zhenghua, a former minister of justice. On March 21st it was announced that a former vice-president of the supreme court, Shen Deyong, was under investigation for unspecified crimes.

But there is no sign of any open campaigning for power of the type that Mr Bo engaged in. Mr Xi's relentless onslaught against corruption—sometimes a smokescreen for attacking his political enemies—has sown such fear within the party hierarchy that it is hard to imagine any such challenge today. Barriers to organising against him are "near insurmountable", wrote Richard McGregor and Jude Blanchette in a report on post-Xi succession scenarios that was published last year by the Centre for Strategic and International Studies in Washington and the Lowy Institute in Sydney.

On his management of the pandemic, Mr Xi is showing no sign of wavering. "Perseverance is victory," he said at a meeting on March 17th of the Politburo's seven-member Standing Committee. He called for a "step-up" in mobilisation and "unremitting efforts" to combat the current wave of outbreaks. Mr Xi also said that "maximum" effort should be made to minimise harm to the economy and society. But similar phrases have been used by officials before over the past two years.

Crucially, there has been little sign of any let-up in the punishment of officials for letting covid spread on their watch. The *South China Morning Post*, a newspaper in Hong Kong, has counted more than 70 who have been sacked or reprimanded during this wave. The experience of Hong Kong may encourage mainland officials to stay vigilant. The number of cases detected daily in that city far surpasses the total on the mainland. Daily deaths in Hong Kong have risen to about 200 compared with a handful, if that, in the rest of China. As they see it, Hong Kong's plight is the result of not pursuing a zero-covid policy thoroughly enough. They note that it lacks the kind of manpower the mainland deploys to ensure compliance (see next story).

At this month's parliamentary meeting Mr Li, the prime minister, admitted the going would be tough. This year, he said, China faced an "obvious increase in dangers and challenges". But he ended his speech with his usual injunction: "We must unite ever closer around the party centre with Xi Jinping at its core." It would take daring to do otherwise. ■

The pandemic

The footsoldiers of zero-covid

BEIJING

A weary army of workers is battling the virus in China

THE THIRD fall was the one that finally put Gao Ying in the hospital. As a community health worker, she had been helping Hangzhou, her home city, fight a surge in covid-19 cases. She had not slept in her own bed for two weeks. She was exhausted. Still, on March 18th she set off for a meeting on local covid-control measures. That's when she collapsed three times in a lift, the third time smacking her head on the wall. Video of the incident was captured by a CCTV camera and shared on social media.

Ms Gao's tireless efforts were in response to an outbreak that most countries would consider trivial. Hangzhou, with 12m people, had recorded just 54 symptomatic cases of covid in the two weeks before her fall. (Ten more were asymptomatic.) Overall, China has logged around 27,000 new local symptomatic cases in March, fewer than America recorded most days this month. Still, it is the biggest outbreak in China since the early days of the pandemic (see chart on next page). And it is straining the country's "dynamic zero-covid" policy, which aims to stamp out the virus with mass testing, extensive contact tracing and strict lockdowns. Those efforts involve millions of workers like Ms Gao.

Technology, such as tracking software, helps. But much of the work involves clipboards, telephones and barricade tape. An important role is played by some 110,000 neighbourhood committees—legacies of the Mao era, when they helped China's Communist Party keep order. Each committee has between five and nine members, as well as many volunteers. Today they keep tabs on residents, help enforce lockdowns and organise testing.

A neighbourhood committee member might, for example, ask a person who has just travelled from another city to take a test or stay inside for a few days. During targeted lockdowns of, say, a housing compound, they control who gets to go where. (Security guards and China's 7.7m food-delivery workers are also important during these times.) Smaller cities, of 5m people or fewer, are supposed to be able to test everyone in just two days. That involves a lot of door-to-door visits by committee members, as well as volunteers who organise people in queues.

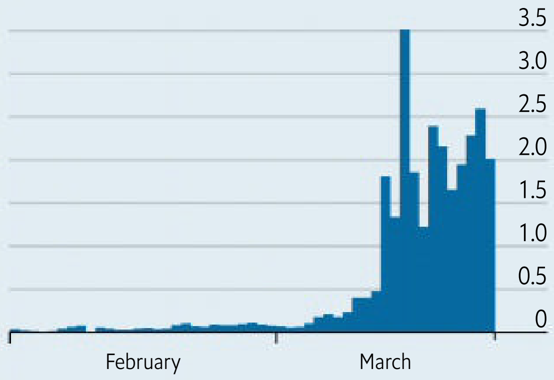
Contact tracing, in particular, is labour-intensive. The city of Shanghai alone has 3,000 workers devoted to the effort. Most are public-health officials. During outbreaks they can be on call 24 hours a day. Some sound a little worn out. "In a week of continuous battle with the virus, everyone stayed up all night several times, pushing our bodies to the limit," says one. "So please can everyone who receives a call be patient and co-operate."

If some people are frustrated with the state's zero-covid footsoldiers, it is perhaps because there are so many of them—and they don't always co-ordinate. A person might receive a call from several different officials: one from where they work, another from where they live and yet another from where they have been recently. ▸▸

Counting contacts

More than zero

Mainland China, daily new confirmed symptomatic cases of covid-19*, 2022, '000



Source: China's National Health Commission

*Locally transmitted only

The police, neighbourhood committees and businesses work the phones, too, checking on people's whereabouts. Scammers have tried to take advantage of the situation. Real contact tracers will not ask for your bank details, warns an official guide to the process.

Before the pandemic, neighbourhood committees did not have much power. Now, though, they can confine people to their houses for weeks. Invasions of privacy are common. Cameras are often placed outside flats to ensure compliance with isolation protocols. A person might receive a visit after buying drugs that suggest he has a fever. Some high-profile abuses have left people outraged. Health workers in the central city of Xi'an beat up a young man who violated lockdown to buy a steamed bun. Local officials in some provincial cities killed the cats and dogs of quarantined residents out of fear that the animals might spread the virus.

But for the most part the public has been supportive of those implementing the zero-covid policy. For many Chinese, the country's relatively low number of cases and deaths justifies the overall strategy. If anything, they feel sympathy for the workers involved. The video of Ms Gao attracted much attention. "It's the third year of the epidemic. Can't we find a way to slowly reduce the burdens on front-line workers?" said one commenter.

The highly transmissible Omicron variant will make that difficult. Provinces have tended to share workers, depending on where there is an outbreak. But with Omicron spreading across the country, resources are limited. Chinese doctors hint that changes to the zero-covid policy are coming and that the state's most stringent measures will eventually be lifted. For now, though, China's politicians are merely tweaking the strategy. "From beginning to end" China must "put lives above all else", President Xi Jinping told the Politburo's seven-member Standing Committee on March 17th. The footsoldiers of zero-covid will remain busy. ■

Bookshops

Salvation through selfie

BEIJING

Chinese booksellers are struggling. Narcissistic young people might help

IN 1993, AFTER 14 years of imprisonment, one of China's most prominent dissidents, Wei Jingsheng, was taken on a tour of Beijing. Authorities hoped that the dazzling new architecture and bustling roads would convince him that the Communist Party he so stubbornly opposed had done great things. Mr Wei admitted to being impressed, but asked to see a bookshop before drawing any firm conclusions.

His tour guides obliged, and later he recounted his "eye-opening" visit. Chinese bookshops remained too conservative, he wrote. They were managed by old officials who didn't even like books and displayed staid party literature. Bureaucrats would "rather build tall skyscrapers and purchase fancy limousines than…allow the book and culture markets to really open up," wrote Mr Wei.

Some of China's state-run stores remain the kind of dull, dusty places described by Mr Wei. Others have spruced up nicely, though. China also now has thousands of independent bookstores, serving coffee and tea and hosting events.

But like their counterparts elsewhere, China's bricks-and-mortar bookshops are struggling. Their share of book sales declined from 85% to 20% between 2010 and 2020. Online sellers are luring bookworms out of bookshops. In a survey published in November, 80% of bookshop-owners said revenues were falling.

Chinese proprietors have unique problems, too. Only titles that have been cleared by state censors can be placed on shelves. Even the hippest shops feel compelled to display the ponderous works of Xi Jinping, China's leader. Attempts at edginess carry risks. In February a bookstore in the city of Hangzhou featured works related to the well-known case of a trafficked woman found chained by the neck in a village outhouse. The display, with books about feminism, was decorated with a metre-long metal chain. But the authorities deemed it too controversial, and the store took it down after a few days.

Some sellers are finding other ways to attract potential customers. Bookshops have become a popular destination for Chinese internet celebrities, known as *wanghong*, and those who aspire to such heights. In pursuit of followers, clicks, sponsorship deals and modelling contracts, they post photos of themselves at attractive locations, which also include museums and amusement parks.

It is easy to find online listings of the hottest *wanghong* bookshops. Some have big windows with views of famous landmarks. One favourite, part of the Zhong Shu Ge chain, is in north-western Beijing. It features dizzying Escheresque staircases and a mirrored hall. The walls are lined partly with books—and partly with wallpaper that looks like books.

On a recent weekday morning the shop had an ample flow of people browsing and buying. But there were no *wanghong* in sight. "They all come on the weekends," said a clerk, "and we just hope they'll buy something while they're here. Even if it's only coffee."

Bookshop or backdrop?

Chaguan | Winning the narrative war

China has honed its justifications for taking Russia's side

A MONTH AFTER Vladimir Putin plunged Europe into war, China is ready to explain why it sees no urgent need to stop Russia—its closest strategic partner—from killing Ukrainians. After fine-tuning arguments and propaganda lines for weeks, China's Communist Party bosses and their envoys now have talking points for every audience.

The most common argument is built on deflection and anti-Americanism. This is used for Chinese domestic consumption and in public contacts with Western governments. As Chinese officials tell it, Russia is defending itself against American aggression and a long campaign of encirclement by NATO. Chinese officials think it is unfair of Western leaders to ask their government to intervene, because only American concessions to Mr Putin can bring lasting peace. Moreover, if the war is going slowly, that is because American interests profit from drawn-out agonies, Chinese diplomats charge. Spelling out the accusation, a deputy foreign minister, Le Yucheng, told a gathering at Tsinghua University that "arms dealers, bankers and oil tycoons" from a certain big country (ie, America) are making "highly immoral" fortunes out of the war, while Ukraine suffers. This hard line comes from the top. China's supreme leader, Xi Jinping, has given instructions that Russia is to be defended and America held responsible for Ukraine's woes, leaving underlings to "backfill a foreign policy" around that decision, a foreign diplomat based in Beijing explains. To dramatise America's obligations, Mr Xi reached for a Song-dynasty saying during a two-hour video call with President Joe Biden on March 18th, declaring: "He who tied the bell to the tiger must take it off."

Mr Xi's scolding, literary tone is striking because, according to American briefings given to foreign ambassadors in Beijing, Mr Biden used the call to convey his concerns that Russia may be contemplating attacks with chemical or biological weapons in Ukraine. His warnings were not a surprise to the Chinese. A few days earlier Mr Biden's national security adviser, Jake Sullivan, shared American intelligence about Russia's possible intentions with China's foreign-policy chief, Yang Jiechi, during a seven-hour meeting in Rome. Mr Sullivan told Mr Yang that Chinese support for Russian aggression would have a lingering impact on bilateral ties and on Mr Xi's legacy. Mr Yang, it is related, responded with anger and complaints about America's support for Taiwan, the democratic island that China claims as its own. Other officials have since copied that same rhetorical pivot to Asia. Mr Le called the crisis in Ukraine and NATO enlargement a mirror for observing American alliance-building in Asia and the Pacific, a trend which if unchecked would push the region "into a pit of fire."

To Europeans, it might seem a bit parochial for China to draw parallels between a war under way in Ukraine and long-standing Chinese resentments of American alliances in Asia. But seen from Asia, there is a logic to China's framing of the war in Ukraine as the latest example of global disorder provoked by the West, with a special emphasis on the sanctions being imposed on Russia. In their video call Mr Xi told Mr Biden that intensifying sanctions may gravely disrupt food and energy markets and global supply chains. After meeting African and Asian foreign ministers, China's foreign minister, Wang Yi, spoke of a common disquiet among developing nations at being asked to take "black or white" moral positions on complex international questions.

Such ultra-pragmatic talking points, crafted to woo countries from the global South, reflect a Chinese horror of being isolated. But they also resonate with many governments, says a foreign diplomat in Beijing, describing meetings at which ambassadors from non-aligned countries swallow Chinese arguments "like candy". China has a keen sense of countries with long-standing grievances about the West, or that have been placed under sanctions themselves for rights abuses, notes the diplomat. Against that, some South-East Asian governments, from Singapore to Cambodia, have voiced concerns about the dangerous precedent set by Russia's attack. China's growling about alliances cuts both ways, says a second diplomat. "China is worried about an Asian NATO. The only player that could make it happen, guaranteed, is China. Just invade a neighbour and see what happens," he suggests.

Guarding each other's backs, against the West

A final talking point is offered more discreetly by Chinese officials and scholars. This coldly realist argument asserts that China's interests are simply not served by breaking with Russia. Zhou Bo, a retired senior colonel in the People's Liberation Army, now at the Centre for International Security and Strategy and its China Forum at Tsinghua University, insists that China is taking a balanced approach to the war. But he predicts that if China were to condemn Russia's actions, Western governments would pocket the concession and call it China merely doing the right thing. There is little chance that broader, long-term American pressure on China will ease, because China is not about to change its political system, adds Mr Zhou. As a result, "If China ditches Russia, it is only a matter of time before America comes after China once more."

Wu Xinbo, dean of the international-studies institute at Fudan University, calls it natural that in his conversation with Mr Biden, Mr Xi stressed Chinese concerns about American support for Taiwan. "Russia may worry about Ukraine joining NATO, but Ukraine is an independent sovereign country. Taiwan is part of China. So in this sense, the Taiwan issue is far more important to China than Ukraine is to Russia," he says.

Western governments are frustrated that China calls itself a peace-loving giant but will not condemn Mr Putin. That is to misread China, a country at once certain that its rise is unstoppable, and sure that America is bent on stopping it. China has ambitions to bestride the world one day. But it remains exceptionally self-absorbed. Suffering in faraway Ukraine will not change that. ■

ADVERTISEMENT

SEVEN IN 10 BUSINESSES ARE AIMING FOR NET ZERO

Explore The Sustainability Project, a platform to empower your progress.

Join a network of business leaders and industry experts working to achieve sustainability targets.

The Sustainability Project brings people and organisations together—driving change through in-depth research and insights, global influence and opportunities to collaborate.

www.economistimpact.com/sustainability

ADVERTISEMENT

ECONOMIST IMPACT
The Sustainability Project
Infosys
DIGITAL INNOVATION PARTNER

African economies

Trade flaws

BEITBRIDGE, JOHANNESBURG AND NAIROBI

It is still too hard to move goods around Africa

If time is money, then Beitbridge must be a most expensive place. Late last year lorries carrying, among other things, cobalt from Congo, copper from Zambia and tea from Malawi snaked for miles as they waited to cross the Limpopo river into South Africa. Many were there for days. Some drivers bribe their way to the front; 1,000 rand ($68) is the going rate. Others cannot. In 2020 four drivers are said to have died in their vehicles while waiting.

African politicians say they want to end such bottlenecks. The African Continental Free Trade Area (AfCFTA), so far ratified by 41 of Africa's 55 countries, could boost the region's economies by making it easier to trade among them. In 2020 just 18% of exports were to other African countries (see chart on next page), lower than the equivalent shares in North America (30%), Asia (58%) or Europe (68%). More trade within the region could lead to more jobs, higher wages and less poverty.

The AfCFTA pledges to grease the wheels of trade in two ways. The first is by reducing tariffs, especially between countries in different regional blocs, such as the Southern African Development Community and the East African Community. This could boost intra-African trade by 15-25%, reckons the IMF. But double that effect would come from reducing "non-tariff barriers", the grit that really gums up trade.

Poor infrastructure is one such barrier. Africa's land area is big enough to accommodate China, India, the contiguous United States and much of Europe. Yet its railway network is not very much bigger than France's and Germany's combined. Many lines were built by colonial companies to link mines to ports, rather than countries to one another. And existing tracks are struggling. South Africa's state network operator was eviscerated by corruption under Jacob Zuma, a former president. Newer Chinese-built railways in Kenya and from Djibouti to Ethiopia are under-used, either because they struggle to compete with road freight or because they lack ancillary infrastructure such as storage yards.

Ports are small and slow. Cargo waits for more than two weeks on average, as against less than a week in Asia, Europe and Latin America, says CDC Group, a British development-finance institution. Handling costs are around 50% higher than in other parts of the word, reckons the African Development Bank (AfDB).

Some 80-90% of freight goes by road, of which there are not enough. Road density is among the world's lowest. And just 800,000km of the total of 2.8m in sub-Saharan Africa are paved, says a report from 2018 by the Export-Import Bank of India. Many roads are badly placed. Some duplicate colonial railways; too many are built in the areas of powerful ethnic groups.

The IMF reckons that if the quality of Africa's infrastructure were brought up to the global average this would increase continental trade by 7%. Surprisingly, though, even bigger gains could be made by improving how trade flows—unblocking the existing pipes, if you will, rather than installing bigger ones. It reckons that if the quality of Africa's logistics rose to the global average, it would mean a boost of 12%. The gains are large because the cost of logistics in Africa is three to four times higher than the world average, notes a recent ▸▸

→ Also in this section

paper by Patrick Plane, a French economist. Such costs can add 75% to the price of goods, estimates the AfDB. So long as this is the case, Africans will not feel the full benefits of globalisation and freer trade.

Why are logistics so costly in Africa? Partly it is because of a paradox. Those who want to move merchandise complain that they cannot find lorries. Those with lorries moan that their vehicles spend too long sitting idle. One reason for this is that African countries typically buy more goods than they sell. It can cost twice as much to send cargo from the South African port of Durban to Lusaka than the other way, says Mark Pearson, a consultant based in the Zambian capital. This is because the transporter cannot assume a "backhaul" journey. So he charges double. Others wait around. Lorries taking goods from Lagos to Kano, in the Nigerian north, can spend weeks until there are enough cattle or vegetables to pay for the return journey. When they do head south they often overload the vehicle, damaging the truck and the roads.

Small fleets make things worse. Roughly 80% of transporters own fewer than five lorries. These microbusinesses depend on the cash from one trip to fund the next and can be crippled by a punctured tyre. Sigma Feeds, on the outskirts of Nairobi, once organised its own lorries. No longer. It was too stressful. "Drivers who needed money for school fees might siphon off fuel to sell," says Vandan Shah, the CEO.

Putting idle lorries to work

Another problem is a lack of information. In much of the world large firms can buy space on trains or lorries in logistics spot markets. But in Africa, where these do not exist, miners or brewers have to sign long-term contracts with larger logistics firms such as Bolloré or South Africa's Imperial Logistics, in which they agree to pay for capacity, whether they use it all or not. "There is no visibility between supply and demand," explains Wale Ayeni of the International Financial Corporation, the private-sector arm of the World Bank.

Startups such as Lori Systems, founded in Kenya, and Kobo360, a Nigerian rival, hope to solve this problem by matching traders and transporters in digital marketplaces. This promises not only to reduce wasted journeys, but also to reduce the price-gouging power of trucking cartels. Startups also check paperwork, vet drivers, provide cash upfront to truckers and help with maintenance in case of breakdowns. "If a tyre falls off a driver can go on our app and order a new one," points out Ife Oyedele, a co-founder of Kobo360.

"Infrastructure is still a massive headache," says Uche Ogboi, the boss of Lori Systems. "But our mentality is that this is a government thing and we will have to deal with it until they fix it." Lori, she reckons, can help to improve more than half the obstacles that lead to high transport costs, such as by enabling drivers to forward paperwork to border posts.

"A big part of business in Africa is reliability," says Mohammed Akoojee, the boss of Imperial, which last year bought a stake in Lori. His clients would rather pay more to know that their goods will arrive on time than for journeys to be cheaper and late. Imperial hopes to use Lori's software to develop spot markets for freight.

The deal is part of a broader trend of consolidation in African logistics. This month DP World, a Dubai-based port operator, bought Imperial, which should create a ship-to-shop company across much of Africa. Last year DP World and CDC Group teamed up to develop African ports, including in Egypt, Senegal and Somaliland. Another firm, Arise Ports & Logistics, incorporated in 2020, is partly owned by an investment fund affiliated with Maersk, a Danish shipping giant, and Olam, a Singaporean trader. And Chinese entities are involved in the running or building of at least 46 ports in sub-Saharan Africa, according to CSIS, an American think-tank.

Logistics firms, as well as the businesses with goods to move, hope that the long-mooted idea of "trade corridors" will come to fruition. These are a mix of hard and soft infrastructure linking countries. Corridors would allow a container sealed in Shanghai to reach Lagos or Mombasa, with its paperwork all approved for it to travel right on to, say, Niger or Uganda.

The AfCFTA is meant to encourage such trade-easing efforts. This year it helped start a scheme to allow traders in one country to pay for goods in another using their domestic currency, rather than dollars, thus cutting foreign-exchange costs. But in general progress has been slow. Though the AfCFTA has had more launches than NASA, no trade has actually happened under the terms of the deal. "There is a lack of urgency," says David Luke of the London School of Economics (LSE).

The current stumbling block is over rules of origin, the foundations of any trading area. In contrast to the EU, where large countries such as Germany and (pre-Brexit) Britain were advocates of liberalisation, Africa's largest economies—Egypt, Nigeria, South Africa and, to a slightly lesser extent, Kenya—are all run by governments with protectionist leanings. Outsiders do not help either: the EU has many different types of trade deals with African countries, making it harder for those countries to harmonise their own rules.

Disputes between countries can clog up trade for months. Rwanda and Uganda closed their border for three years, only opening it recently. For most of last year Kenya banned imports of Ugandan chicken and eggs because its farmers complained about their neighbours' prodigiously productive poultry. In 2020 a dispute between transport unions in the Gambia and Senegal made it difficult to get goods from Banjul to Dakar. And so on.

Stalled talks over rules of origin have also stopped progress on other issues. Many countries still rely on paper customs forms. Few border crossings have "one-stop windows". Truckers need to queue separately for immigration, customs, car tax and covid tests. Such things add to the costs of getting things across borders; it is $2,000 to ship a container from China to Beira in Mozambique, but a further $5,000 to ship it 500km inland to Malawi.

The political obstacles within countries can be just as tough as those between them. Overhauling ports and border posts is difficult partly because of vested interests. African states often rely heavily on customs duties to fill their state coffers, a practice going back to the extractive model of colonial regimes. An individual inspector at the port of Toamasina in Madagascar, for instance, is responsible for collecting 1.3% of all taxes in the whole country.

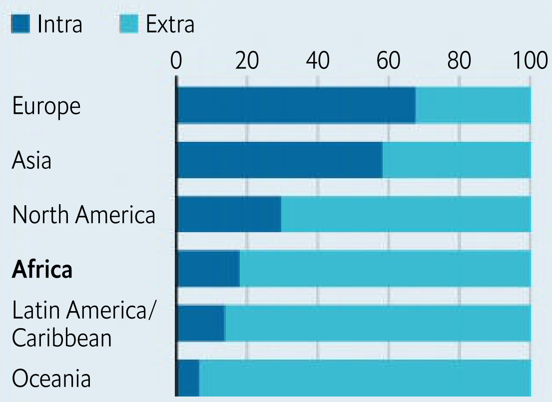
Such power opens the door to rent-seeking and corruption. Sandra Sequeira and Simeon Djankov, both of the LSE, found that about 15 years ago more than half of shipments going through Maputo, and more than a third via Durban, involved bribes. Digitisation and higher wages do not seem to reduce corruption. When Ghana raised salaries for police controlling borders, bribe-taking increased.

Businesses are far from blameless, adds Gaël Raballand of the World Bank. Powerful oligopolies can collude in corruption, whether to get their goods moving or, as odd as it may seem, to keep them in port—a way to raise the costs of entry for would-be competitors, notes Mr Raballand.

"The problem is still at the borders," grumbles a Kenyan fleet owner. Even if drivers send paperwork in advance, they can still wait behind others who do not. "We pay for drivers to skip the lines. You have to. This is Africa." ■

Insider trading

Intra- and extra-regional exports as % of total exports, 2020



Source: UNCTAD

Syria and the Gulf

Springtime for a pariah

DUBAI

Why Syria's ruthless dictator, after years of isolation, took a holiday in the Gulf

BASHAR AL-ASSAD has few occasions to fish out his passport. The Syrian tyrant has been largely confined to his own country since 2011, when he set out to crush a string of peaceful protests calling for reform. As civic unrest turned into civil war, he became a pariah. His few foreign forays have been to Russia and Iran, wartime allies to whom he owes his survival.

On March 18th Mr Assad emerged from isolation. He landed in the United Arab Emirates (UAE) for the sort of visit afforded to any head of state. There was an honour guard and a series of meetings with bigwigs. State media in the UAE published photos of Mr Assad with Muhammad bin Zayed of Abu Dhabi (pictured above), the country's de facto ruler, and grinning with the leader of Dubai, the flashiest Emirate.

Mr Assad's first trip to an Arab country since 2011 was both predictable and shocking. Predictable, because the UAE has spent years pursuing a rapprochement with him. In 2018 it reopened its embassy in Syria, which (like many others) was shut in the uprising's early days. Abdullah bin Zayed, the Emirati foreign minister, flew to Damascus last year and met Mr Assad. The Emiratis had long been less eager than many of their partners to defenestrate Syria's dictator. They had feared that regime change in Syria would bring Islamists, whom they abhor, to power.

It was the timing that shocked. March 18th was the 11th anniversary of the first Friday protest in the southern city of Deraa, a date many Syrians see as the start of their revolution. The symbolism was not lost on them. The visit also came as Russia waged war in Ukraine, using tactics honed over seven years backing Mr Assad. Syria was one of five countries to vote against a UN resolution damning Russia's invasion.

The UAE feels that isolating Mr Assad has not worked: making him a pariah not only failed to depose him but left him reliant on Iran. Russia has been a bulwark against Iranian hegemony in Syria, but, with its army tied down in Ukraine and its economy hobbled by sanctions, its influence there is likely to ebb. Emiratis argue that they (and other Arab states) should fill the void. "The terrain changes, and we have to adapt to the new terrain," says a foreign-policy official. The UAE has called for Syria to be reinstated in the Arab League, from which it was suspended in 2011.

Western powers are not happy. Their policy remains to isolate the man whose war killed perhaps 500,000 people and displaced 13m. Asked if giving Mr Assad a warm welcome helps bolster his regime, Emiratis respond with a list of Western failings in Syria, chief among them Barack Obama's decision in 2013 to ignore his own "red line" against Mr Assad's use of chemical weapons. That he remains in power, they argue, is a choice at least partly of the West's own making.

That charge is not meritless. Western governments called for Mr Assad's ouster in 2011, but their support for the rebels trying to eject him was half-hearted. Painful sanctions imposed by America and Europe have not compelled Mr Assad to change. Some anti-regime Syrians now argue that they only deepen the country's misery.

If the Emiratis can explain why they welcomed Mr Assad, however, they struggle to articulate what their welcome might achieve. He wants trade and aid to rebuild his shattered country. Much of Syria looks like a terrible place to invest in, but a few projects could be lucrative for Emirati firms. DP World, the Dubai ports giant, is keen to invest in Tartous, a Mediterranean harbour in a relatively calm part of Syria.

Whether that will buy Mr Assad's favour is another matter. Like his father Hafez, who ruled from 1971 to 2000, he is adept at playing off Iran and Arab states against each other. The Syrian regime has no love for Gulf rulers: Assad *fils* once called them "half men" for their failure to support Hizbullah, the Lebanese Shia militia, during its war against Israel in 2006. There is no reason to trust that a pot of reconstruction aid will persuade Mr Assad to toss out his Iranian saviours, or that his corrupt, vicious dictatorship will be a force for stability in the Levant.

In decades past it would have been difficult to imagine a Gulf state breaking so publicly with its American protector. But the UAE, like several of its neighbours, has grown exasperated with America. It is not that the latter is leaving the region. Tens of thousands of American troops are still deployed in Iraq, Syria and the Gulf. After an Iranian-backed group fired missiles and drones at Abu Dhabi in January, America sent a squadron of F-22 fighters and a guided-missile destroyer to the UAE.

Sorry, snoozy Uncle Sam

America is not absent, but it seems incoherent. It wanted Mr Assad gone but allowed him to stay. Its Iran policy does an about-face every four years. President Joe Biden vowed to make Saudi Arabia a "pariah", until he needed its help to lower oil prices; both the Saudi and Emirati crown princes now duck his phone calls. The UAE feels little need to follow America's line when it seems so meandering.

Three days after his embrace with the Syrian dictator, Prince Muhammad flew to Sharm el-Sheikh to meet the Israeli and Egyptian leaders, his first such tripartite meeting. This surprise summit touched on everything from food prices to Iran's nuclear programme. All three participants are close to America, yet all three have sharp disagreements with it. Syria is a case in point. Abdel-Fattah al-Sisi, Egypt's president, restored ties with Mr Assad soon after he took power in 2014. Many Israeli security people opposed Mr Assad's ouster, fearing a failed state on their border. America may complain about their positions on Syria and other issues. But its Arab allies feel ever less need to listen. ■

Western Sahara

The sands they are a-swirling

DAKHLA AND MADRID

Guns and rough diplomacy let Morocco push back against Algeria in the desert

THE BATTLE over Western Sahara has long felt as sluggish as the region's barely shifting sand dunes. It is almost half a century since Morocco claimed sovereignty over the slice of desert, previously a Spanish possession, that runs 900km (560 miles) along the Atlantic coast, south of Morocco proper. The Polisario Front, an indigenous guerrilla group backed by Morocco's rival, Algeria, is still fighting for independence. For several decades the rest of the world has looked away, parking the dispute with the UN and promising the mirage of a referendum on self-determination to settle the issue. In fact, it has been frozen in the baking desert, seemingly for ever. But of late the sands have been swirling.

On March 18th Spain abandoned its long-held neutrality and tilted in favour of Morocco. Its prime minister called Morocco's plan to give the Saharans autonomy within the kingdom "the most serious, realistic and credible". The EU gave a cautious thumbs-up to Morocco, too. (The Americans had already recognised the kingdom's claim in the last days of Donald Trump's presidency.) Morocco cheered the latest shift. Algeria fumed.

Morocco's diplomatic success is partly thanks to its mischief-making. In the past year it has repeatedly let migrants from Morocco and elsewhere in Africa pour into Spain's north African enclaves, Ceuta and Melilla, upping illegal migration into Spain by 40%. A BBC poll of young Moroccans in 2019 suggested that 70% wanted to emigrate—and that was before the rains failed, tourism slumped under covid-19 and the prices of basics like flour soared after Russia invaded Ukraine. In addition, Morocco, seizing a chance to squeeze Europeans harder, reduced intelligence co-operation, boycotted Spanish ports and exports, and withdrew its ambassadors from several European countries. Once a bulwark of pro-Western solidarity in forums such as the UN, this month it failed to vote when the UN General Assembly castigated Russia over Ukraine.

Polisario, meanwhile, is drooping. Its forces have been hammered. Israel has aided Morocco militarily, passing on tanks seized in wars with other Arab armies and helping build a defensive wall through the Sahara modelled on its Sinai fortifications. Its supply of combat drones, soon to be made in Morocco, has turned the tables on Polisario and its backer, Algeria.

The energy crisis should have given Algeria some leverage. It is southern Europe's closest big source of hydrocarbons. Pipelines link it to Spain and Italy. Europeans worry that Russia may use its influence in Algeria and eastern Libya to gain control over supplies to southern as well as eastern Europe. But Algeria is in a bind. It needs European revenue and Western finance to expand production. And its ageing generals are paralysed by infighting. Algeria recalled its ambassador from Spain, while Morocco's returned to her post.

Still, the struggle is not over. Spain stopped short of fully recognising the kingdom's sovereignty over Western Sahara. Though Morocco has agreed to stop the flow of migrants for now, relations with Spain are still dogged by rows over Morocco's port expansion along its Mediterranean coast and the pittance the EU pays Morocco for fishing off its Atlantic coast.

Meanwhile the kingdom continues to create "facts on the ground". Its settlers now outnumber local Saharans three to one. Officials from the north often get the best land. A motorway will soon run south to the border with Mauritania. The Moroccans hope that the huge port they are building at Dakhla, the territory's second city, will enhance trade with sub-Saharan Africa, while cables may bring energy from solar and wind farms to Europe. And if pesky locals still demand independence? One of Dakhla's largest new developments is a towering prison on the edge of town. ■

Nose jobs in Lebanon

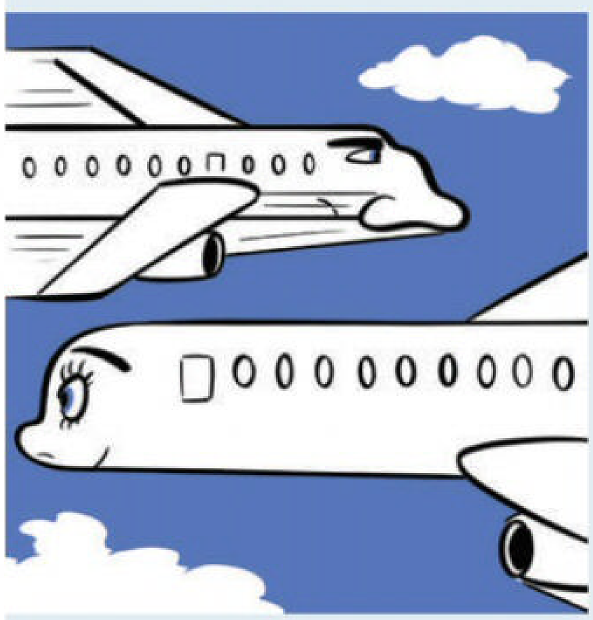
The resilience of rhinoplasty

Even as the country's crisis persists, its plastic surgeons are thriving

RHINOPLASTY HAS long been a rite of passage in Lebanon. Teenage girls want a dainty new nose in time for their graduation parties, celebrated in selfies. Lebanon's many woes have not hindered the habit. Plastic surgeons are apparently making as much as or more than they did before an economic crisis, starting in 2019, that the World Bank has ranked as the third-worst anywhere, ever.

The World Health Organisation reckons that Lebanon's economic meltdown prompted nearly 40% of the country's doctors to leave. But for those who have stayed, the pickings, especially for nose jobs, may have increased. The pool of patients has stayed the same. There are fewer dexterous doctors to paddle in it.

If fewer Lebanese can afford cosmetic surgery, the gap has been filled by patients from abroad. Mostly of Lebanese descent, they provide 70% of the country's bidders for beauty, reckons Chadi Murr, a plastic surgeon. That is a notably higher share than before the financial crisis, he says.



Beautifying a beak in Beirut is cheaper than in the West. The average Lebanese nose job costs $2,500, less than half the going rate in America. And while the hooter recovers, customers can visit grandparents and cousins. Some say that Lebanon's diaspora is 15m-strong, twice as big as the beleaguered country's resident population.

Lebanon's beauty aficionados are a resilient and resourceful lot. When angry protesters blocked the roads in 2019, hoping to get rid of Lebanon's government, those bent on cosmetic improvements simply headed for the clinic on foot. While the country lamented a lack of basic medicines, plastic surgeons stocked up on Botox and flesh-fillers. With the electricity supply regularly conking out, Saad Dibo, a plastic surgeon, moved stock into his flat, where his own generator kept the fridges cool.

For about half a year after an explosion in the port of Beirut killed more than 200 people in 2020, many visitors were afraid to come, says Dr Murr. Locals were "not in the mood" for nips and tucks either, he admits. His practice languished. But soon he was busy treating scars and burns from the blast.

"It's weird" how well his business has managed, he concedes. Bleaker times may return, so he has opened a surgery in Cyprus, where he spends one week in eight. In a country so disaster-prone, you need a fallback. But as long as Lebanese ladies like to tweak their noses, Beirut's beauty business seems likely to survive.

War in Ukraine

The concert of Europe

PARIS

The EU came together over Ukraine. Staying as one is getting harder

It may be called the European Union, but it has often struggled to live up to its name. Not in recent weeks. Ever since the invasion of Ukraine by Russia on February 24th, the 27 member states of the EU have acted as one. Cohesive in its aims and coordinated in its actions, Europe has basked in its novel role as a first-rate power. Yet the unifying effects of the original jolt are starting to wear off. Ukraine's demand that Europe should now do much more to help it is an early test of whether it can stay united as the war grinds on.

The speed and determination with which Europe initially acted startled even old hands in Brussels. Previous crises—whether the euro-zone miasma a decade ago or the bloc's response to covid-19—had shown it could take months if not years for the union to work effectively. The sight of Russian bombs slaughtering civilians on the bloc's doorstep, in contrast, shocked the EU into action.

Differences of emphasis remain, inevitable in a club of democracies. But repeated meetings of leaders—the third in a month was under way on March 24th as *The Economist* went to press, with America's President Joe Biden in attendance—have resulted in Europe making decision upon momentous decision. Funds were found to supply arms to Ukraine. Any Ukrainian seeking safe haven in the EU can walk in. Perhaps most important, tough sanctions were agreed as war broke out. Given that neither America nor Europe is willing to intervene militarily, this was to be the main tool. Few had expected much, given that any of the 27 member states could have vetoed sanctions.

Europe reached consensus, rather than total agreement, before moving forward. Unity was forged despite divisions over how tightly to isolate Russia. "Sanctionistas" have pushed for a stricter embargo, including a ban on importing oil and gas. Countries such as Poland and the Baltic states worry that Russia might attack them next; they say they would be willing to live by candlelight if it means stopping money flowing to Moscow. A more hesitant bloc, including Germany and Italy, has been more reluctant to cut off the Russian energy supplies they depend on.

In part thanks to outraged public opinion, the hesitant group found themselves swept along into tougher measures than anyone had thought feasible—though still falling short of an energy embargo. Sergei Lavrov, Russia's foreign minister, this week admitted the extent of the measures had taken the Kremlin by surprise.

But the old divisions linger. Poland is calling for a total ban on trade with Russia. Germany remains firmly opposed to doing more. "Sanctions should not hurt European states harder than the Russian leadership," said Chancellor Olaf Scholz on March 23rd. (As often happens in EU debates, other countries agree but are glad not to have to make the case in public.) A familiar sense of gridlock now looms.

As a result Ukrainians who once lauded the benefits of European unity are now questioning it. "What we saw in the beginning of the war was the rise of the European Union as a powerful player that can bring change," says Dmytro Kuleba, Ukraine's foreign minister. "What I see in the last ten days in the European Union is backsliding back to its normality where it cannot decide on strong and swift action."

Mr Kuleba, speaking to *The Economist* from an unspecified location in Ukraine, sees early signs of "sanctions fatigue" in ▸▸

Europe. Some of the measures agreed upon look less effective now that loopholes have been found. The freezing of Russian central-bank reserves held overseas, for example, has come with carve-outs that have allowed Russia to continue servicing its debt and stave off technical default.

There are other bones of contention. Ukraine has applied for EU membership. Eastern countries are keen to let it in. But founding members such as France and Germany have insisted that the bloc offer only woolly assurances about Ukraine being in "the European family".

The EU could yet be forced into more sanctions—if Russia used chemical weapons, say, or committed some other battlefield outrage. Member states, and the bloc as a whole, are working to get arms to Ukraine (Mr Kuleba, unsurprisingly, would like more and faster). Regardless of how the war evolves, the security situation in Europe is likely to remain tense. Hence all sides are doing what they can to defuse fights that could sour the mood of unity.

Some will need answers soon. More than 3m Ukrainians have already sought refuge in the EU, for example. Nearly two-thirds of them are in Poland, which will struggle to cope. A smaller influx of Syrian and Afghan refugees caused long and bitter spats in 2015. This time Poland will receive help, one way or another.

Other disagreements are bubbling up. Many are about money, made worse by sagging economic prospects. France was among those suggesting that the cost of sanctions and stronger defence should be met through a joint fund of the sort the EU raised to deal with covid-19; "frugal" northerners are sceptical. At some point a fight will occur about when to reinstate austere EU budget rules suspended during the pandemic. Poland is demanding the release of EU funds withheld over concerns it has hobbled its judiciary. Many national capitals are keen to uphold "rule of law" principles, war or no war.

Long-standing policies that seemed settled may be seen in a new light after the war. Can Europe afford to cut carbon emissions so rapidly, given the war's shock to energy supplies? France is keen to push its idea of "strategic autonomy", a nebulous concept that includes Europe relying less on NATO for its defence. Eastern Europe still views the alliance, and thus America, as the guardian of its borders.

Mr Kuleba's frustration that fresh waves of European sanctions are not forthcoming is understandable. But the disagreements at the heart of the EU today reflect legitimate differences of opinion, not pointless squabbling. Europe's spurt of unity gave it a hard-power relevance it has rarely enjoyed. One month into the war, the union has served its purpose well. But it must now strive to do more. ■

The French election

Seeds of discontent

AUCHY-LES-MINES

Voters seek an alternative to Emmanuel Macron in blighted France

THE LAST pit in this northern French village closed in 1974, but the silhouettes of its slag heaps still rise in the distance across flat farmland. They bear witness to the muscular past of the mining basin, which a century ago employed 130,000 people. Today its jobless rate is ten points above the national average, and one in five of its people live below the French poverty line of €1,100 ($1,200) a month. Once a week Ma P'tite Epice Rit, a voluntary food truck, stops by the church in Auchy-les-Mines to sell discounted food near its expiry date to those living on less than €10 net a day. The truck serves some 100 residents. "People here are asphyxiated by daily life," says a local shopkeeper.

Bypassed by high-speed trains and breezy ambition, Auchy belongs to what analysts call "peripheral" France. Peggy Belicki, who a year ago set up the food truck, filled with apples, potatoes, cabbages and chocolate tarts, says she caters to all sorts, from pensioners to single parents: "We offer a sort of moral-support service." For years, this working-class town looked to the Communist Party to supply social assistance and ideological answers. The mayor, Jean-Michel Legrand, is from the Communist Party, as were his predecessors reaching back over half a century.

Yet in 2017, at the previous presidential election, the nationalist-populist Marine Le Pen topped first-round voting in Auchy. ▸▸

Escaping Vladimir Putin

From the third Rome to the second

ISTANBUL

Istanbul has become a refuge for thousands of Russians

ARSENY, A FASHION photographer, and his boyfriend Vova, a film director, woke up in Moscow on the day Russia invaded Ukraine and realised their country had reached a point of no return. "We had been living a lie," Arseny says. A few days later, after seeing the streets choked with riot police, they boarded a plane to Istanbul. They and many of their fellow passengers had decided to leave Russia, with little hope of return.

Turkey's biggest city has been a favourite among Russian tourists for decades. It has now become a temporary haven for Russians escaping Vladimir Putin's dictatorship. They have few other places to go. All EU countries have banned flights from Russia. Turkey has not, and lets Russians in without a visa.

At least 14,000 Russians are estimated to have moved to Turkey since the war started, according to Turkish media. Most are young professionals: lawyers, bankers, journalists, programmers and artists. Hundreds turned up at a recent anti-war benefit concert by Miron Fyodorov, otherwise known as Oxxxymiron, a Russian rapper. On Telegram, a messaging app, the newcomers are exchanging tips on setting up Turkish bank accounts and applying for permanent residence.

They are following a path beaten by Russian exiles a century ago. In the 1920s some 200,000 Russians, Ukrainians, Azeris and Georgians fleeing Bolshevik rule reached Istanbul on crowded steamships. They included White Russian aristocrats, the novelist Vladimir Nabokov, and Fyodor Fyodorovich Tomas, a black impresario born in Mississippi who had run a music club in Moscow and who went on to introduce Istanbul to jazz. A visiting French princess spotted a Russian baron polishing shoes and recognised a waitress as a fellow princess she had seen at a ball in St Petersburg.

In the 1920s nearly all the émigrés moved on to Europe. Most of the new ones do not plan to stick around either. Arseny has applied for an American visa, Vova for a German one. But as long as Mr Putin wages war on Ukraine and on anyone who opposes his invasion, Istanbul will remain a way-station for many of Russia's best and brightest.

In the run-off, 65% of its voters backed her; just 35% backed Emmanuel Macron. Ahead of the two-round election on April 10th and 24th, polls say she is the most popular choice for blue-collar voters nationally, and again the most likely to face Mr Macron in the run-off. Promising to keep out immigrants and ease the cost of living, Ms Le Pen has built a stronghold in the northern rustbelt, especially among voters who once leaned to the far left. She represents a northern seat in parliament. And, since 2014, her party has run the town hall in nearby Hénin-Beaumont, where this week she took her campaign bus.

Other candidates are also tapping into the yearning in blighted corners like this for an alternative to the sitting president. One is Jean-Luc Mélenchon, a razor-tongued 70-year-old from the hard left who is on his third presidential run. He came second in first-round voting in the village in 2017. Another is Eric Zemmour, a far-right polemicist whose latest wheeze is "re-migration" to send 1m immigrants "home".

On a recent weekday, Emmanuelle Danjou, a sales manager, was slipping leaflets for Mr Zemmour into letter boxes on an estate of neat two-storey homes. His programme "is really focused on a reconquest of our country. We've lost our values; we're dismantling our country, our history", she says; "He says out loud what many French people think in private." Frédéric Dewitte, from a nearby village, joins her leafleting. He used to back Ms Le Pen but now finds her "too left-wing", and not Eurosceptic enough. Mr Zemmour, he says, is a "man of culture" who could "possibly save France".

Dislike of Mr Macron is not universal in Auchy. "*Excusez-moi,* he hasn't had an easy task," says a 70-year-old standing in his garden in plastic slippers. On the high street, where the "Best Kebab" joint sits near a boarded-up insurance agency, another man agrees that it is "unfair" to judge the president too harshly, what with the pandemic and war in Ukraine. Yet there is little love for him. He "values globalisation and Europe more than France", declares Mr Dewitte. Many locals think he has governed for the rich, not for people like them.

This matters for Mr Macron. Not because he needs their votes: polls suggest that he would easily beat any potential rival in the run-off. But if he is re-elected, Mr Macron will have to govern a discontented and volatile country which readily takes its unhappiness to the streets. Some of his campaign proposals, unveiled on March 17th, would be vigorously contested, notably his promise to raise the pension age from 62 to 65. Mr Macron may be well placed to win the presidency, and possibly even a new majority at parliamentary elections in June. But, as Auchy-les-Mines suggests, governing a fractured France may be even harder the second time around. ■

Digitising Italy

Io, robot

ROME

A minister for digital catch-up

THE HOMELAND of Galileo and Marconi has proved unexpectedly resistant to digital technology. Many Italians adopted mobile phones while they were still a rarity in other countries, including America. Yet the share who regularly use the internet is no higher than in Turkey.

That partly reflects Italy's elderly population: it has the EU's highest median age. But Riccardo Luna, formerly his country's representative in the European Commission's Digital Champions Expert Group, says other factors have also played a role. For eight of the ten years from 2001 to 2011, Italy's prime minister was Silvio Berlusconi, a TV magnate for whom the internet represented a commercial danger. Telecom Italia, the country's dominant landline operator, had an interest in slowing the introduction of broadband to maintain the value of its main asset, a copper cable network. In 2020 the share of Italian adults who had used the internet in the previous three months was just 78%—the second-lowest in the EU.

The man charged with changing that is Vittorio Colao, once the boss of Vodafone. Last year Mario Draghi, the prime minister, recruited Mr Colao to be his minister for digital transition. Thanks to the EU's colossal post-pandemic recovery fund, Mr Colao has more than €40bn ($44bn) to work with. One goal is to help industry digitise. Another is to bring extra-fast broadband to schools and health clinics, as well as providing broadband and 5G mobile networks to remote areas. Mr Colao also wants to help the 3m or so Italians who have been left behind by the digital revolution acquire basic computer skills, and to streamline public access to government, largely through smartphone apps.

In that realm, Italy has made impressive progress. Matteo Renzi, a techno-evangelist who was prime minister in 2014-16, launched several projects that have been implemented under his successors. Mr Colao flourishes his smartphone and points to an app called Io ("I"): "I can now pay my social-security contributions for my domestic help directly from this. I showed it to a German politician. He was open-mouthed with astonishment."

Io and a clutch of similar apps appeared just as covid-19 was spreading in Italy, confining Italians to their homes and encouraging them to become more digitally savvy. The pandemic has helped in other ways too. "We were not a nation of e-shoppers," says Mr Colao. "And yet [e-commerce] has now become absolutely normal."

One of his biggest challenges, he says, is convincing businesspeople to invest in digital initiatives. The other is getting officials to integrate systems and harmonise procedures. Digitisation in the public sector has been haphazard. There are an estimated 11,000 databases spread across national, regional, provincial and municipal government. "We spend our time arguing with other ministries and local authorities," says Mr Colao. "Digital does not need to be centralised, but it does need to be homogenous."

The rewards are potentially immense. Two of the biggest reasons why the Italian economy has stagnated since the turn of the century have been low productivity and a stubbornly inefficient bureaucracy. Tens of billions of euros will help to tackle both. As Mr Colao admits, ensuring they are spent wisely can be frustrating. "But I always say that if I weren't frustrated I wouldn't be doing my job." ■

Seeking a merchant of Venice

Charlemagne | We need to talk about thermostats

Weaning Europe off Russian energy will mean big changes. But apparently not for citizens

At last, the spring. For months Europeans have lived with the threat of losing the Russian gas that keeps their homes warm. The prospect seems less daunting now that daffodils are blooming. But despite the seasonal serenity, a wrenching energy transition is under way. Europe wants to cut imports of gas from Russia by two-thirds within a year. Behind the scenes, politicians and companies are already scrambling to work out how to cope next winter. The obvious upshot, one might expect, would be a change in consumer behaviour not seen since the 1970s, when dizzying oil prices caused a rethink of how the West lived. Not so. While European leaders exude an air of war-time concern, the public is living as if nothing were amiss in a continent at peace.

Energy prices, whether of petrol, gas or electricity, have rocketed in Europe. Some people might barely have noticed. In France, the authorities have essentially capped electricity and gas bills. Italy on March 18th added €4.4bn ($4.8bn) in subsidies to limit power-price rises for companies and consumers, on top of the €16bn already agreed in recent months. Several countries have cut petrol duties, a much-needed source of tax income. European leaders meeting in Brussels as *The Economist* went to press were due to discuss new state largesse to households and industry. This is the "whatever it takes" approach at work. As with covid-19, government is paying first and will ask questions later.

What is startling is how little is being asked of Europeans. Even simple measures that might barely inconvenience people are treated as taboo. Earlier this month the International Energy Agency (IEA), which advises rich-country governments, suggested that Europeans might consider turning down the thermostat by just one degree centigrade. What might seem like mere virtue-signalling greenery would actually cut consumption by 10bn cubic metres of natural gas over a year. That is roughly one month's worth of Russian imports. This modest appeal was relayed by precisely nobody in office.

Some EU governments want to ban Russian oil, the Kremlin's biggest money-spinner. Yet no one is seriously considering the obvious way of using less of it. Lowering motorway speed limits by 10kph would trim fuel use in the rich world by around 15%, not to be scoffed at when Europe is scrambling for any hydrocarbons it can get. Throw in subsidies to boost the use of public transport, a plea to work from home one day a week where possible and a ban on car use in cities on Sundays, and Europe could save perhaps a fifth of the Russian oil it imports, according to IEA figures and Charlemagne's guesswork. These may or may not be sensible ideas. The point is that they are not being discussed.

Why is Europe not rediscovering the spirit of the 1970s? Back then the European public was expected to accept some discomfort and inconvenience. Speed limits went from the exception to the norm (except on German autobahns, of course). Dutch and German cities were among those that went pedestrian one day a week. France decreed public buildings should be no warmer than 20°C, two degrees lower than today's European average. Television broadcasting was shut off at 11pm, an idea that could usefully be revived for social media. Daylight-saving schemes adopted during the world wars were soon revived across the continent. "Whatever it takes" involved people donning jumpers.

Lots of ideas to cut back energy use tomorrow are being mooted. But few Europeans are even being nudged to use less energy today. One reason may be that the rich world has changed in 50 years. Past crises have helped make modern economies more energy efficient. The current oil and gas shock is not so painful, especially since the world has become used to seesawing crude prices. But recent history outside Europe suggests that rapid change is possible. After Japan shut down its nuclear plants in the aftermath of the Fukushima disaster in 2011, a public-information campaign beseeched people to cut back energy use. Trains were slowed, air-conditioners were turned down and employers moved shifts to save power. A similar campaign is nowhere to be seen in Europe.

Keep cool

The absence of such measures reflects three factors. The first is that Europe may not truly be committed to weaning itself off Russian hydrocarbons. More storage of gas at EU level, as looks likely to be agreed, could dent Russia's stranglehold on Europe. Some might think that will solve the problem, at least if the war ends soon. Keeping the option, if not the necessity, of importing Russian gas would avoid a painful pivot away from cheap power.

Second, energy is a politically toxic topic. The mere mention of speed limits or dearer petrol triggers accusations of urban politicians ignoring the plight of car-dependent provincial folk. Spanish farmers are protesting about energy prices. France's president, Emmanuel Macron, wants no more *gilets jaunes* protests ahead of an election next month. Europe is on a glide path to "net zero" emissions, to which the Ukraine crisis has given fresh impetus. Sensible long-term policy might be derailed by rash short-term measures in reaction to transient (albeit traumatic) events.

The third, and most depressing, possibility is that politicians now think their electorates are incapable of sacrifice. Two years of pandemic-era nagging has tested the public enough. The end of covid-19 restrictions (if not the virus itself) was meant to presage a new Roaring Twenties. That is no time for hair-shirt preachiness. "A Europe that protects" is a recent Brussels mantra: citizens must not be inconvenienced by a changing world.

This is a shame. Ukrainians are daily making sacrifices on an extraordinary scale. A growing number of Europeans are opening their homes to them and making donations. The public mood in Europe is of defiance towards Vladimir Putin. Nobody needs a politician's blessing to lower the thermostat or skip a flight. But it is depressing that none of them has even thought to ask. ■

The public finances

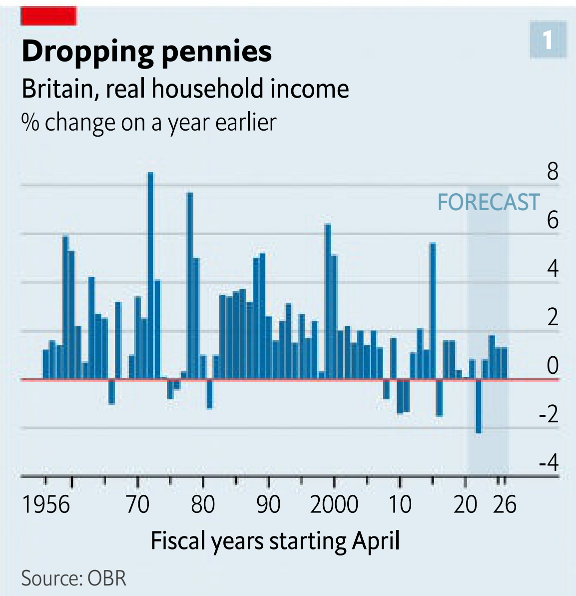
Spring in his step

Rishi Sunak longs, but does not deserve, to be known as a tax-cutting chancellor

With British households facing a cost-of-living crunch, the "spring statement" on March 23rd, an occasion for the chancellor to course-correct between autumn budgets, offered several eye-catching giveaways. Fuel duty will be cut immediately. From July national insurance, a payroll tax, will kick in at a higher income threshold. And in 2024 the standard rate of income tax, paid by 30m Britons, will fall by one percentage point. As Rishi Sunak spoke at the despatch box, Conservatives brayed their support. But the measures add up to less than billed.

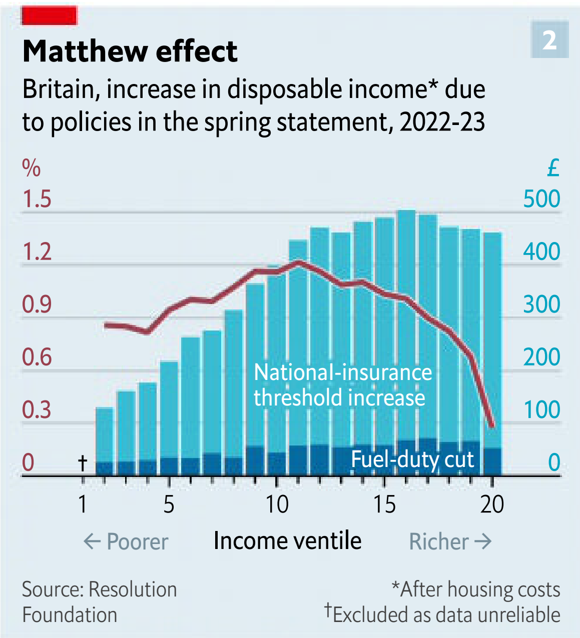
Alongside the spring statement came a new set of forecasts for the public finances, produced by the Office for Budget Responsibility (OBR), an official fiscal watchdog. Those supported the case for some kind of relief for hard-pressed households. Since October, when such figures were last published, inflation had increased by more than expected, eating into household budgets. As incomes fell behind rising prices, the OBR predicted that disposable income per person would fall by over 3% in real terms over the coming year, unless policies changed to mitigate the impact. That would have constituted the biggest annual drop since records began in 1956.

The worsening economic outlook has not pinched the public finances, however. Revenues from taxes on incomes and corporate profits have been buoyant. This is partly because in March 2021 Mr Sunak froze income-tax thresholds. Since then earnings have risen faster than expected in cash terms. The resulting fiscal drag means that more people are paying tax, and at higher rates. Last October the OBR expected that 0.9m more people would be caught by the higher 40% marginal rate in the 2023-24 fiscal year; it now thinks that 1.3m will.



As revenues have risen, public spending has not kept pace. Economic developments such as higher inflation have pushed up projected spending at the end of this parliament by only about two-thirds of the expected rise of £37bn in revenues. Most of that is higher benefits and debt-interest payments. (More than a fifth of government gilts are linked to the retail-price index, a measure of inflation.) A change to the terms for student loans announced in February will save around £5bn in the same year. Costs have also been contained by Mr Sunak's refusal to increase the budgets of government departments beyond what was agreed last October, even though they will be pummelled by rising energy costs, just as households will. In times of high inflation, chancellors are able to make stiff spending cuts by stealth.

Had Mr Sunak chosen to do nothing, then, expected borrowing would have been about £20bn lower in 2024-25 than previously forecast. Instead he opted to cut taxes—compared with what had previously been pencilled in, that is. He soothed motorists upset about rising petrol prices by ▸▸



Matthew effect

Britain, increase in disposable income* due to policies in the spring statement, 2022-23

Source: Resolution Foundation

*After housing costs †Excluded as data unreliable

lowering fuel duty from £0.58 to £0.53 per litre. In three months' time the threshold for starting to pay national-insurance contributions will be aligned with that for paying income tax—a welcome simplification and a political promise fulfilled. The marginal standard rate of income tax will fall from 20% to 19% in April 2024. The more immediate of these measures should offset around a third of the expected hit to incomes in the fiscal year starting in April 2022, limiting it to a drop of 2.2% (see chart 1 on previous page).

The moves placated the right wing of the Conservative Party, which has fretted about Mr Sunak's tax-and-spend ways, such as a big planned increase in the rate at which workers and employers pay national insurance, which is intended to help fund social and health care. But if what matters politically is the gap between voters' incomes and outgoings, they should wait before cheering. In 2024 the fact that income-tax thresholds have been frozen for years will offset the gains of a lower income-tax rate for anyone earning less than £49,000 a year. More broadly, the policies revealed on March 23rd offset only around a sixth of previously announced increases in tax as a share of GDP between 2019-20 and 2026-27. Even after taking them into account, the tax take as a share of GDP is expected to increase by 3.3 percentage points, bringing it to 40.1% by the end of that period, the highest in four decades.

Mr Sunak will doubtless face further calls to keep shaving away at planned tax increases. But some caution is warranted when it comes to the public finances. Fallout from the conflict in Ukraine could start to erode tax revenues, if a sustained increase in energy prices drags down GDP. The OBR noted that a new vaccine-resistant strain of covid-19 could yet emerge, which could damage the economy and push borrowing higher.

The decision not to do more to soften the blow of rising living costs for the poorest voters is itself a gamble, however. Of every £3 in extra support the chancellor announced, £2 will go to the richest half of households, according to analysis by the Resolution Foundation, a think-tank (see chart 2). Households reliant on benefits will be pinched by incomes that increase by just 3.1%, even as inflation rips above 7%. The real value of benefits is expected to fall by £11bn in the coming year, meaning that an extra £500m in the Household Support Fund, a pot of money from central government that councils can use to help people who are struggling, will not go far.

Mr Sunak appeared resolute, making it clear that any further giveaways would go on lower taxes, not higher spending. He promised that this autumn he would increase incentives for business investment. Perhaps he is hoping to fight the next election (one is due in 2024) vindicated, and crowned the king of tax reliefs. But with such a large hit to incomes looming—and such big tax increases still to come—that seems optimistic. ■

Car washing

All in a lather

HOVE

An industry that de-automated is now re-automating

WHAT WARM weather is to ice-cream vans and popcorn is to dentists, Saharan dust storms are to car washes. A big dust cloud like the one that reached Britain on March 16th boosts revenues by about a quarter, according to Kevin Pay of Wilcomatic, which runs about 800 automatic car washes in Britain. "You love to see it," he says, as a dusty red Ford Ka joins the queue in Hove in East Sussex, on the south coast.

Until recently Britain's drivers usually took their dirty motors to car parks and disused petrol stations, where eastern European immigrants had at them with sponges. In 2018 a parliamentary committee was informed that Britain had 10,000-20,000 hand car washes, compared with 2,000 automatic "rollover" machines and about 4,000 do-it-yourself jet washes. Hand car washes were more convenient—drivers simply handed money through the window rather than traipsing into a petrol station to buy a six-digit code—and often cheaper than machines. The industry was a rare example of de-automation.

It is now re-automating. Mr Pay says that Wilcomatic's car-washing revenues in 2021 were 15% higher than in 2019, before covid-19 arrived. "It's starting to turn," agrees Chris Scott of Istobal, another car-washing firm, who says that sales of the chemicals used by machines are higher than they were before the pandemic. At Parkfoot Garage in Kent, David Charman says his four jet washes have been "absolutely flat out" since the dust storm. He has acquired another car-wash site and is seeking a third.

Automatic car washes and jet washes have improved, with contactless payment, superior brushes and theatrical foam. But the main reason for their popularity is that hand car washes are disappearing. The informal ones can be lousy employers: in 2016 a study of Leicester by two academics, Ian Clark and Trevor Colling, found that many paid less than the legal minimum wage. Car washing is a typical first job for an unskilled immigrant. And Brexit means that Britain has fewer newly arrived unskilled immigrants these days.

Covid-19 further tilted the market towards machines. The government shut down hand car washes for longer than automated ones, on the ground that they posed a higher infection risk. The pandemic also discouraged drivers (and everyone else) from paying with cash. That hurt informal car washes, which love cash in part because it allows them to dodge tax.

Alexander Russell of the Car Wash Association, a trade group, says that the industry has gone in a circle. Some petrol stations are now putting automatic car-washing machines into bays that were originally built for them, but were then occupied by hand car washes. Car washing has been in a lather, but it is emerging cleaner.

Keep those rags and machines humming

Bagehot | This deadly love

To appreciate the SNP's dominance, look at what it has done to the Tories

Talk to a Scottish Conservative for five minutes, and you will hear that he or she lives in a one-party state, gripped by what their leader, Douglas Ross, terms the "dead hand of nationalism". Nicola Sturgeon, the first minister, has been in office for seven years; her Scottish National Party (SNP) has been in power continuously for nearly 15. On the sidelines of the Scottish Conservative Party's annual conference in Aberdeen on March 18th and 19th, Tories warned darkly that universities, charities and businesses are either run by nationalists or too cowed to dissent. They lament expansive new laws inhibiting free speech and meddling in family life. It is a vision of East Germany without the naturists.

There is a crumb of truth in these complaints. Yet if nationalists dominate Scotland, nowhere is that more obvious than in the Scottish Conservative Party. Just as securing independence has been the SNP's purpose since its founding in the 1930s, so stopping it has become the *raison d'être* of the Scottish Conservative and Unionist Party, to give its full name.

Scottish unionism has a long history: before 1965 the country's Tories had a separate Unionist Party, with the union flag as its symbol. Yet a decade ago Scottish Conservatives were a marginal force, mocked and loathed. Their recovery is thanks to the 2014 referendum in which Scots voted to stay in the United Kingdom, and the polarisation that followed as the SNP pursued a second vote. Scots vote according to their constitutional preference: 96% of Scottish Tory voters say they would vote against independence, while 90% of SNP voters would back it. The Conservatives have scooped up unionist voters with a simple slogan: "No to Indyref2".

Publicly, senior figures decry the constitutional stalemate. Privately, they admit they must prolong it. In his speech in Aberdeen Mr Ross declared that Scotland needed to junk the "referendum obsession" and "move on from this toxic debate". Afterwards he declared he would continue to speak out for the union. Any decision to hold a second referendum lies with the prime minister—and the incumbent, Boris Johnson, has found nationalism a useful bogeyman, warning that voting Labour in England will result in a repeat vote. Just as spy agencies can sometimes inflate threats to sustain their budgets, the party of the union has an interest in warning of break-up. The SNP could not ask for better propaganda.

Scottish Tories used to deride the monomania of nationalists, for whom no issue was too grave or too trivial to serve as a proxy for independence. Now they imitate it. Nationalists saw covid-19 as evidence that Scotland is better governed alone; Tories cite it as proof of the union's might. Ludicrously, the SNP's president drew parallels between Russia's invasion of Ukraine and Scotland's quest for self-determination; Tories exult that the war showcases the importance of Britain's nuclear weapons, NATO membership and oil reserves, all of which would be thrown into flux by separation. If Russian missiles obliterated Edinburgh, the survivors would crawl from the rubble to explain why it proved them right.

The SNP and Tories have feasted on the Scottish Labour Party, which has seen its voters split on the constitution. That has transformed both. SNP members, once known as the Tartan Tories for their stuffy small-statism, have embraced left-wing economics and social liberalism. Scottish Tories, once a genteel bunch in tweeds and red corduroys, court working-class unionists in former mining and steel towns battered by Thatcherism. Like Brexit, the constitutional question has become a gateway for unlikely new voters: less Range Rovers, more Rangers Football Club.

In his recent book "Standing up for Scotland", David Torrance, an academic, argues that for more than a century the Scottish Tories have practised "nationalist unionism", according to which the union can be defended only by those who are proudly Scottish and stick up for the country. Under the SNP's dominance the Tories' Scottishness has become more ostentatious, but the strategy harder to execute. They must demonstrate that they are no mere branch office of the national party and can be relied upon to stand up to Mr Johnson's unpopular government. But that inevitably lends credence to the notion that Scotland is a land apart in which London has no legitimate role. Either way, the SNP wins.

The result is endless, fruitless debate about rebranding and restructuring—and, on occasion, farce. The Scottish Tories disliked Brexit, but now must defend it. Mr Ross called for Mr Johnson to resign over parties in Downing Street, then declared he should stay during the war in Ukraine, but now refuses to say whether he should fight the next election. It is hard to defend your country's territorial settlement when your party is a mess.

In elections, competition for voters is supposed to force parties to produce better candidates and policies. But when communities vote as blocks, that process fails. If nationalists can continue to hold half the electorate, no matter what, there is no punishment for Scotland's failing schools or hospitals. And because nothing can be allowed to undermine the cause of independence, risky reforms are avoided.

Market failure

At his party's conference, Mr Ross lamented how the promise of an independence referendum was enough to sustain a "hollowed-out shell of a government", bereft of ideas and lacking ambition. He hopes to widen the Tories' appeal with social-care reforms and tough measures against sex offenders. But privately his colleagues admit that the permanent campaign against independence has squeezed out any distinctive policy agenda. Nationalist policies—free university tuition and "shooting galleries" for heroin addicts—have been embraced. The result is a party that is wholly unionist, but with precious little conservatism. If Ms Sturgeon were suddenly to announce that the SNP had abandoned the idea of a referendum, says a senior Scottish Tory, "we'd say, my God, what do we do now?" ■

Geopolitics

New cold war, new compromises

BUENOS AIRES, DUBAI, ISTANBUL AND PARIS

How Vladimir Putin provokes—and complicates—the struggle against autocracy

THE STRUGGLE between autocracy and democracy is "the defining challenge of our time", President Joe Biden said in December at a virtual "Summit for Democracy". Vladimir Putin's invasion of Ukraine offers evidence he was right. With missiles and tanks, an autocrat is trying to snuff out a freely elected government.

Further, the core of the coalition against Mr Putin, consisting of America and most of Europe, is solidly democratic. In short, the pushback against Mr Putin would seem to fit Mr Biden's framing—a "battle between democracy and autocracy", as he said in his state-of-the-union speech. But geopolitics is never so neat.

Though Mr Putin's most important backer, China, is authoritarian, several democracies are ambivalent. India, a big buyer of Russian arms, refuses to condemn him. South Africa, whose ruling party had a long friendship with the former Soviet Union, lays some blame for the war on NATO. Brazil's president, whose "masculine qualities" Mr Putin once praised, professes neutrality. Israel says it is temporising in hopes of playing mediator.

And Mr Biden is also seeking help from authoritarian regimes, provoking worries that, just as the West overlooked abuses by anti-communist allies during the cold war, it will make ugly compromises now to counter Mr Putin. Doing so would pose diplomatic and political challenges. Compared with claiming compromise was necessary to resist the spectre of communism, it may prove trickier to argue—to allies abroad and voters at home—that one should curry favour with autocrats in order to confront autocracy.

Consider Turkey, a country of vast strategic importance where democracy is under siege. Western criticism of Turkey's strongman, Recep Tayyip Erdogan, has gone quieter since the war began.

While sympathising with Ukraine and selling it remarkably effective combat drones, Mr Erdogan has opposed sanctions against Russia and kept his airspace open to Russian planes. He has also thrown Mr Putin a financial lifeline, suggesting that trade between Turkey and Russia be carried out using roubles or gold. Ordinary Russians fleeing persecution at home have found a haven in Turkey. Yet so have Russian oligarchs fleeing Western sanctions. Two superyachts belonging to Roman Abramovich, a billionaire friend of Mr Putin, have docked there.

Western officials are urging Turkey to take a tougher line on Russia. Turkish democrats fear Mr Erdogan will demand a steep price, such as Western leniency towards his habit of locking up his critics and muzzling the media. On March 1st Mr Erdogan suggested that Turkey be given a fast track to European Union membership. A week later, he urged Mr Biden to lift sanctions against Turkey's defence industry, imposed after Mr Erdogan bought an S-400 air-defence system from Russia. America has since offered a way out, suggesting that Turkey send the S-400s to Ukraine. That is unlikely to happen for technical and political reasons, not least Turkey's fear of retribution from Russia. But America may yet cut a bargain with Mr Erdogan. America put up with an undemocratic Turkey during the first cold war because it was an ally. It may do so in the new cold war, too.

Among the Western countries, liberal ones face a version of this dilemma. Poland is a lot more democratic than Turkey, but in the past few years its government has interfered with judges and harassed opposition media. Because of this, the EU froze €36bn ($40bn) in pandemic-recovery funds earmarked for Poland.

Today, however, Poland has welcomed the largest share of Ukrainian refugees and allows weapons for the Ukrainian resis- ▸▸

tance to cross its territory. Facing the threat that Russia, its oldest foe, could be on its border, it is keen to reconcile with the EU. That could spur the ruling Law and Justice party to temper its judge-nobbling and press-stifling. But the opposite is also possible. Poland's Western partners may overlook abuses because of the essential role it is playing over Ukraine. "It would be very odd to be pressuring the Polish government on the rule of law right now," says an analyst close to the Biden administration. "But Warsaw should understand that countering autocrats requires strengthening our own democracy."

For their part, critics fear that Law and Justice will use the spectre of further Russian aggression to wrap itself in the flag, tighten its grip over Polish institutions, and step up attacks against "enemies" within, such as liberals, feminists and gay people. "Perhaps we need to change our approach even more thoroughly," a presenter on Polish state TV recently mused. "Can a frontline state allow itself to tolerate attacks on its system of values?"

The war has caused energy prices to soar, prompting the West to reconsider its relations with autocratic petrostates. (Of the 13 members of OPEC, a club of oil exporters, 11 are rated "not free" by Freedom House, an American watchdog; two are rated "partly free".) Unlike his predecessor, Mr Biden has infuriated Gulf rulers by stressing human rights. He once promised to make the Saudi regime "the pariah that they are". Now he is asking it to pump more oil—a message reinforced by Boris Johnson, Britain's prime minister, who visited Riyadh on March 16th. Mr Biden may have to go further to make nice with Muhammad bin Salman, the Saudi crown prince, whom he has accused of ordering the dismemberment of a *Washington Post* columnist in 2018. The prince is cosying up to China to demonstrate he has options. He is considering pricing oil sales to China in yuan instead of dollars, the *Wall Street Journal* reports. The prince wants more help with his ill-fated war in Yemen and immunity from prosecution in America.

Another oil-fuelled autocracy, Venezuela, hopes the war in Ukraine will help it escape an embargo. Many democracies refuse to recognise Nicolás Maduro, an election-rigging despot, as president. Mr Putin has propped up Mr Maduro with plane-loads of weapons and cash, plus some troops, largely to show he can meddle in America's backyard. But now everyone's calculations are changing.

Mr Maduro can no longer count on Mr Putin, who is cash-strapped and far more concerned about conquering Kyiv than coddling Caracas. Mr Biden cares more about stopping Mr Putin than unseating Mr Maduro. Hence the extraordinary scene on Venezuelan television on March 7th, when Mr Maduro described meeting a White House delegation two days before. "The two flags looked beautiful," he gushed, "united, as the flags of the United States and Venezuela should be".

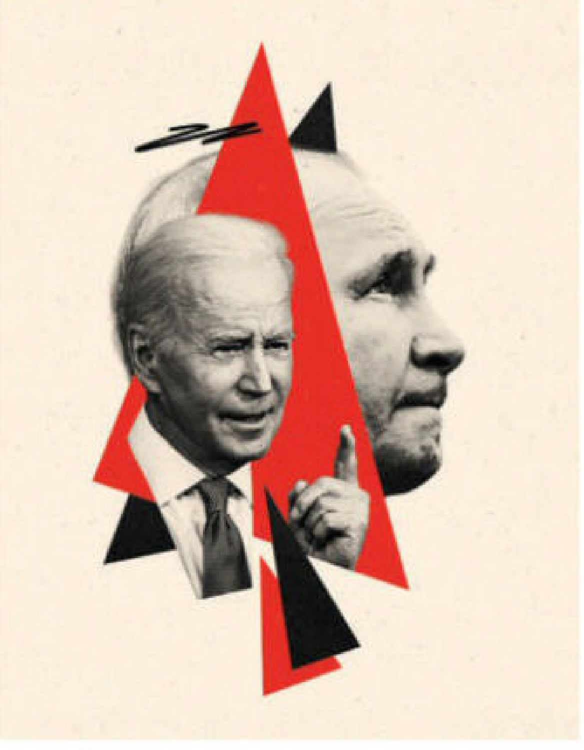
The Biden administration says the main aim of the visit was humanitarian. Mr Maduro released two imprisoned Americans. He also promised to return to talks he abandoned last year with the much-persecuted Venezuelan opposition. But the two sides talked about oil, too. The delegation to Caracas reportedly made any sanctions relief contingent on Venezuela exporting some oil to the United States.

Both sides are wary. But a limited rapprochement seems possible, and would surely strengthen Mr Maduro's grip on power. His meeting with American officials was "de facto recognition" that he is in charge, says Temir Porras, a former chief of staff to Mr Maduro. The strongman has "got something that he always wanted". Republicans accuse Mr Biden of showing weakness by reaching out to despots. Marco Rubio, a senator from Florida, said that the meeting "did tremendous damage" to the opposition.

Sympathy for the devils

Democracies have a long history of deals with nasty regimes. Some were plainly necessary. To defeat Nazi Germany the West worked with Josef Stalin, prompting Winston Churchill to remark: "If Hitler invaded Hell, I would make at least a favourable reference of the Devil in the House of Commons." Others seem shameful. America's cold-war support for anti-communist kleptocrats in strategically peripheral places, such as Mobutu Sese Seko in Zaire (now Congo), finds few defenders today.

The struggle against Mr Putin will force the West to reconsider many of its ties with lesser malefactors. But the new cold war is different from the old one. Communism was a universal ideology that inspired revolutions in Africa, Asia and Latin America. Putinism is a howl of nationalist and reactionary rage. Neither Russia nor China offers "a compelling worldview capable of attracting mass popular support worldwide", notes Stewart Patrick of America's Council on Foreign Relations. This makes them less of an existential threat to the free world than the Soviet Union was, and so reduces the incentive, or rationale, for making bargains as distasteful as those made to keep communism at bay.



As sanctions crush Russia's economy, the Kremlin's support for its own autocratic clients may wither. Strongmen in Mali and the Central African Republic may survive, since the Russian mercenary operations that protect them appear to be self-financing. (The CAR has a lot of diamonds.) But Bashar al-Assad in Syria and Alexander Lukashenko in Belarus may be wobblier. Mr Putin has saved both tyrants in the past, sending troops to crush Syrian rebels in 2015, and goons to help Mr Lukashenko put down protests against a stolen election in 2020. Both men are keen to keep Mr Putin in their corner. Mr Assad, who is seeking to end his isolation from his fellow Arabs (see Middle East and African section), is said to have sent Syrian "volunteers" to help Russia in Ukraine.

Mr Lukashenko helped Mr Putin by letting Russia launch its southwards push for Kyiv from Belarusian soil. Belarusian troops were supposed to join in, but the Belarusian opposition says they are reluctant to follow orders from an unpopular despot to attack blameless fellow Slavs. Belarusian rail workers have reportedly sabotaged rail links with Ukraine to stop supplies from reaching the invaders.

So far, the war itself is demonstrating some of democracy's strengths and autocracy's drawbacks. Ukraine's fighters have astonished their adversaries, and its people's commitment to their freedom has inspired the world. For his part, Mr Putin was able to start his ruinous war on a whim. His flunkeys are scared to bring him unwelcome news. He seems sincerely to have expected many Ukrainians to welcome his troops. And his regime, like most autocracies, is corrupt, rendering his army weaker in the field than on paper. Budgets have been looted; Russian kit is breaking down for lack of maintenance or spare parts.

Yet the result of the war is unpredictable, and so too will be its effect on global democracy. If Mr Putin achieves something resembling a victory, that could inspire strongmen everywhere. If he loses, that could inspire those who stand up to them. When Mr Biden reconvenes his democracy summit later this year, much will depend on the courage of Ukrainians, and the support they receive from democracies, with all their flaws. ■

Corporate travel

The return of the road-warrior

CHANGI, CHARLES DE GAULLE AND HEATHROW

The business trip is back. Business travel as you knew it is not

SHARP ATTIRE and a purposeful stride. The left-hand turn on the plane away from the cheap seats. Skipping the in-flight film to refine a presentation. Over the past two pandemic years these obvious giveaways of the globetrotting executive became a rare sight. According to the Global Business Travel Association (GBTA), a trade body, worldwide spending on flights, hotels, car hire, restaurants and other expensable services fell from $1.4trn in 2019 to $660bn in 2020 as a result of covid-19 lockdowns and tough limits on cross-border movement.

Despite fresh disruptions, from coronavirus outbreaks and a tragic plane crash in China to Russia's war in Ukraine, many places are relaxing travel restrictions. America and Europe are mostly open for business. On March 21st Hong Kong said it would admit vaccinated arrivals from nine countries, including America and Britain, from April 1st and relax onerous hotel-quarantine requirements. Business travellers are once again visible at airports, on aeroplanes and in hotels. The GBTA expects corporate travel to rebound sharply this year and return to its pre-pandemic peak by 2024 (see chart 1 on next page).

That is a relief to full-service airlines, which counted on business travellers for 30% of revenues and a higher proportion of profits, and big global hotel chains, which earned two-thirds of their sales from executive guests. For corporate road-warriors the news is more mixed. Remaining covid-19 measures, readjusted travel budgets, changing work patterns, heightened risk awareness by companies and individuals: all are changing business travel in profound ways. Some of the changes will make travelling for work a more pleasant experience. Others will not.

Throwing your laptop, mini-toiletries and clothes into a wheelie bag used to be a pretty universal corporate ritual. Henceforth whether or not you do will depend more on whom you work for, your role, where you are going and the purpose of your trip. Scott Davies, boss of the Institute of Travel Management, another industry body, explains that overall travel budgets used to be set annually, often against broad commercial objectives. As they are rebuilt after the covid lull, he expects many trips to be considered on a case-by-case basis. Many marginal jaunts won't clear the hurdle (see chart 2), especially as companies get serious about reducing their carbon footprints, which swell with every air mile.

Some trips will be quick to return. Indeed, even at the height of the pandemic essential business travel continued; managing and maintaining remote oil wells, large infrastructure or factories far from the head office is impossible over the internet. The share of travel spending by manufacturing, utilities or construction firms edged up from 48% in 2019 to 51% in 2020, according to the GBTA. Companies for which face-to-face client meetings are desirable to maintain relationships and vital to drum up new business, such as finance and professional-services firms, have been swift to get workers back on the road. Anecdotal evidence suggests that as soon as one company heard that a competitor was ▸

→ Also in this section

out pressing the flesh (or at least bumping fists) it followed suit.

If you do pack that suitcase, your destination is likelier to be domestic. As with leisure travel, long-haul trips for work are recovering more slowly. A poll of over 450 companies by the GBTA in February found that two in three had restarted domestic trips but fewer than one in three had done so for cross-border journeys.

Domestic trips in America, which accounted for nine in ten American corporate excursions in 2019, according to Bernstein, a broker, will increasingly go ahead. So will short-haul hops between European cities, which in 2018 made up two-thirds of EU business trips. Until the latest covid flare-ups the same looked true for flying in China, where business-travel spending fell by far less than the global average in 2020 and was recently forecast to grow by double the global average in 2021 (though Chinese borders remain impregnable to most outsiders).

Your fellow passengers will disproportionately work for smaller companies. American Airlines reckons that travellers from smaller firms are back to 80% of their pre-covid numbers. The comparable figure for big firms is 40%. One reason is that small businesses mostly send people on those popular domestic routes. Another is that they may be a bit more relaxed about their workers' wellbeing. Vik Krishnan of McKinsey, a consultancy, says that the pandemic has prompted travel managers at big companies to feel a heightened sense of their duty of care to employees.

Fight for flight

Getting a trip approved is, then, getting harder than before. A recent survey of 170 North American corporate-travel managers by Morgan Stanley, a bank, shows that budgets in 2022 are expected to be 31% below the level of 2019. In the short run approval may get harder still. On March 15th Ed Bastian, chief executive of Delta Air Lines, told the *Financial Times* that the war-induced spike in the oil price "will no question" raise ticket prices on both domestic and international routes. Other airline bosses doubtless have similar designs.

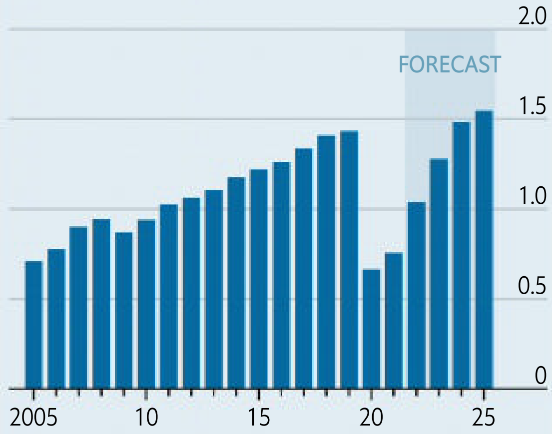
Even if your supervisor signs off on your trip, you will find it harder to plan. The world's airlines are running at around two-thirds of their pre-covid capacity. That means less choice on times and fewer direct flights, notes Richard Clarke of Bernstein. The problem is not confined to flying. The scrapping of the 5.40am Eurostar train from London to Paris forces executives to arrive the night before in order to strike that morning deal over a croissant and café au lait.

Once on the road, the experience isn't what it used to be, either. With many executive lounges yet to reopen, the weary

Back in the air

Business travel spending, worldwide, $trn

1



Source: Global Business Travel Association

manager must seek refuge at a noisy restaurant—or worse, since plenty of eateries, too, remain shut, on a bench in the concourse within earshot of a disaffected infant. At many airports you will also still need to wear a mask. Although London's Heathrow and a few other airports have lifted mask requirements, America's federal mask mandate has been extended until at least April 18th. In the past year the Transportation Security Administration has fined nearly 1,000 unmasked travellers, so you ignore the rule at your peril (and good luck expensing that fine).

On board the plane you may find yourself in economy class more often, and not merely because of the rising air fares. Some climate-conscious airlines are already reconfiguring planes with fewer business-class seats (whose emissions per occupant are three times those of an economy seat). CEOs of large companies will be sad to hear that first-class seats, which are even dirtier, may disappear for good.

In the air, expect to be served by cabin crew draped in personal protective equipment (especially in Asia, which remains more concerned than the West about hygiene). You, too, must keep your mask on, unless you are consuming food or drink (of the non-alcoholic variety on American Airlines, which will only restart in-flight booze sales in mid-April). At least hot meals are back; as recently as last month even first-class passengers on American and Delta had to do without such sustenance on domestic flights.

Over the longer term, the news for the itinerant executive isn't all bad. The introduction of touchless technology and online check-in for flights and hotels should speed up travel a little (at least once pandemic paperwork such as passenger-locator forms and vaccine certificates no longer needs verifying). With many planes sitting idly on the tarmac as a result of covid-related cancellations, some airlines used the opportunity to spruce them up. Australia's Qantas has, for example, modernised its fleet of A380 superjumbos by installing comfier seats for premium passengers. Singapore Airlines has updated the cabins on some of its short-haul fleet.

The few who get to hitch a ride on a corporate jet are also becoming a bit less select. Business-jet traffic has recovered much more swiftly than commercial aviation. According to WINGX, a consultancy, January was the busiest month ever, with the number of flights 15% higher than in January 2019. In a survey by Morgan Stanley, 11% of respondents said their firms would be more liberal with the use of business jets in 2022 than they were in 2021.

Chronic jet-lag may become a thing of the past. With long-haul travel still constricted, firms are reportedly opting to send executives on fewer trips that stretch to more days. Unseemly displays of corporate machismo, such as flying half way across the world for one short meeting, may never return, no doubt pleasing everyone concerned.

And many of those longer trips are combining work and play. Morgan Stanley sees evidence at American hotel chains that Thursdays and Sundays are becoming more popular with guests, suggesting that some workers may be moving trips towards the start of the week or its end, to blend work with pleasure. Such trips have become common enough to earn an ugly moniker, "bleisure". Danny Finkel of TripActions, a firm which helps others manage business travel, says this could appeal to those who approve expenses, too: weekend flights are often much cheaper, offsetting the cost of extra nights at a hotel.

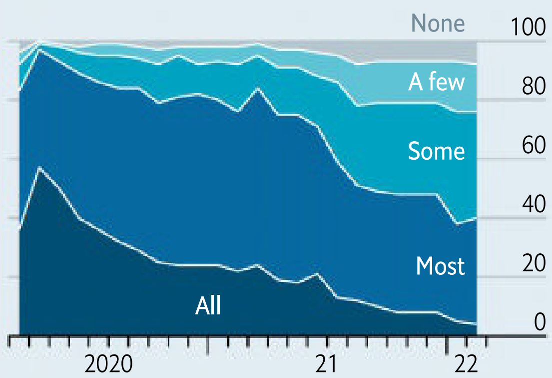
Perhaps the best news for the bedraggled business traveller is that some trips simply won't happen. Jarrod Castle of UBS, a bank, notes that 40% of business trips are to meet clients and another 40% involve internal meetings. Conferences, exhibitions and the like make up the rest. He reckons that perhaps half of the intra-company jaunts, especially for training or get-togethers between non-C-suite executives, are expendable. That means a fifth fewer trips overall. No grumbling there. ■

Tripped up

"Thinking about your company, how has the coronavirus impacted business travel?"

% responding, by share of trips cancelled

2



Source: Global Business Travel Association

Pricing power (1)

Artificial prices

How companies price their products is turning from art into science

FEW AMERICAN business tactics are as peculiar in a freewheeling capitalist society as the manufacturer's suggested retail price. P.H. Hanes, founder of the textile mill that would eventually become HanesBrands, came up with it in the 1920s. That allowed him to use adverts in publications across America to deter distributors from gouging buyers of his knitted undergarments. Even today many American shopkeepers hew to manufacturers' recommended prices, as much as they would love to raise them to offset the inflationary pressures on their other costs. A growing number, though, resort to more sophisticated pricing techniques.

A seminal study from 2010 by McKinsey, a consultancy, estimated that raising prices by 1% without losing sales can boost operating profits by 8.7%, on average. Getting this right can be tricky. Set prices too high and you risk losing customers; set them too low and you leave money on the table. Retailers have historically used rules of thumb, such as adding a fixed margin on top of costs or matching what competitors charge. As energy, labour and other inputs go through the roof, they can no longer afford to treat pricing as an afterthought.

To gain an edge, shopkeepers have been turning to price-optimisation systems. These predict how customers will respond to different pricing scenarios, and recommend those that maximise sales or profits. At their core are mathematical models that use oodles of transaction data to estimate price elasticities—how much demand increases as the price falls and vice versa—for thousands of products. Price-sensitive items can then be discounted and price-insensitive ones marked up. Merchants can fine-tune the algorithms to prevent undesirable outcomes, such as double-digit price surges or larger packages costing more by unit of weight than smaller ones.

These systems are becoming cleverer thanks to advances in artificial intelligence (AI). Whereas older models used historical sales data to estimate price elasticities for individual items, the latest crop of AI-powered ones can spot patterns and relationships between multiple items. Makers of pricing software are incorporating new data sources into their models, from customers' tweets to online product reviews, says Doug Fuehne of Pricefx, one such firm. The cloud-based platform developed by Eversight, another provider, allows retailers to test how slight increases or decreases in the price of, say, Heinz ketchup at different stores affect sales not just of that specific condiment but across the category. It is used by big manufacturers such as Coca-Cola and Johnson & Johnson, as well as some supermarkets (Raley's) and clothes-sellers (JCPenney).

Priced to measure

All this makes pricing systems "much more three-dimensional", observes Chad Yoes, a former executive at Walmart who oversaw pricing at the retail behemoth. Retail bosses are keen to promote this sophistication to investors, who value firms' pricing power at a time of high inflation. In February Starbucks, a chain of coffee shops, boasted about its use of analytics and AI to model pricing "on an ongoing basis". US Foods, a food distributor, has touted its pricing system's ability to use "over a dozen different inputs" to boost sales and profits.

Price-optimisation may make prices more volatile. "Retailers are pricing faster today than they ever have before," says Matt Pavich of Revionics, another pricing-software firm. That is especially true in the fast-moving world of e-commerce. But even Walmart reviews the prices of many items in its stores 2-4 times a year, says Mr Yoes, up from once or twice a few years ago.

What pricing systems do not do is lead inexorably to higher prices. Mr Pavich calls this misconception "one of the biggest myths" about products like his. Sysco, a big food distributor which rolled out new pricing software last year, is a case in point. The firm says the system allows it to lower prices on "key value items"—as price-sensitive bestsellers are known in the trade—and raise them on other products. It can thus increase profits by expanding sales while maintaining margins. That keeps investors content and shoppers sweet. ■

Pricing power (2)

Food fight

BERLIN

Producers of packaged foods are making your lunch more expensive

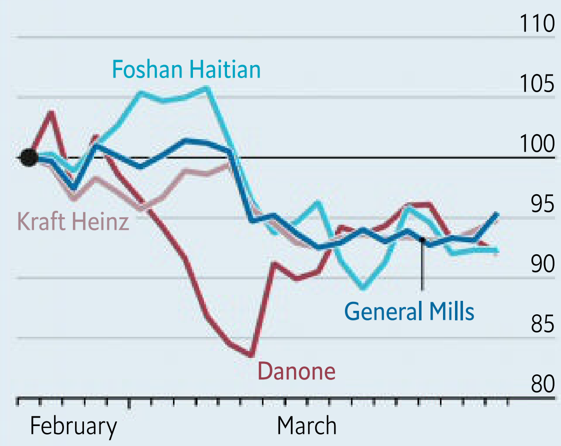
THE MARKET for packaged foods is a competitive one, where price rises by one firm risk pushing shoppers into the arms of rivals. Companies in the industry deal with soaring costs by hedging against spikes in commodity markets using forward contracts, reformulating products so they contain less of the pricier foodstuffs or, failing that, surreptitiously making packages a bit smaller while keeping the ticket price the same.

Amid pandemic-related supply-chain bottlenecks, labour shortages and crop failures, food firms have repeatedly done all that. Even so, they have had to raise prices, often less judiciously than is ideal (see previous article). The invasion of Ukraine, known as Europe's breadbasket thanks to its rich soil, by Russia, the world's top exporter of wheat, is forcing their hand once again. Together the two countries account for 29% of international wheat sales and nearly 80% of sales of sunflower oil. Disruptions to those critical supplies are pushing up food companies' costs just as energy costs are also sky-high as a result of the war.

It will be harder for European food companies to pass price rises to consumers than for American firms. Supermarkets in Europe are more concentrated than in America, and drive a harder bargain with suppliers. Walmart, America's biggest, controls 17% of the domestic market. Its British and German opposite numbers, Tesco and Edeka, respectively, have nearly 30% of theirs. Moreover, cost-conscious Europeans shop more at discounters such as Aldi or Lidl. They are also less fussy than Americans about branded products and ▸▸

Cannons and fodder

Share prices, February 22nd 2022=100, $ terms



Source: Refinitiv Datastream

buy more of the retailers' own labels.

On March 23rd General Mills, the American maker of Cheerios and Wheaties, among other sugary fare, reported healthy margins and quarterly sales that were higher than in the same period in 2019, before the pandemic (though flat compared with last year). The firm insisted that demand for packaged food should remain strong all year as many people continue to work from home at least some of the time. Robust appetite for its products will, the firm says, allow it to raise prices to offset the rising costs of commodities.

That may be optimistic. Shoppers' patience with inflation is wearing thin on both sides of the Atlantic. Investors expect margins to narrow. The share prices of big American, European and Chinese food firms alike took a knock after Russian tanks rolled onto Ukrainian fields on February 24th (see chart on previous page). ■

Injectable cosmetics

Botox smiles

Companies offering less invasive aesthetic procedures are booming

Cosmetic procedures used to be the preserve of middle-aged women and often involved surgery. Today they are increasingly sought by girls who want the photoshopped faces of their favourite social-media influencer, and by a growing number of men wishing for fewer wrinkles, fuller lips and sharper jawlines. Globally, more than 14m nonsurgical procedures were conducted in 2020, even amid the pandemic, up from fewer than 13m two years earlier. Increasingly, scalpels are giving way to syringes.

Research and Markets, a firm of analysts, reckons that the global sales of non-invasive aesthetic treatments, currently around $60bn, could more than triple by 2030. A large part of that growth will come from injectables. These include Botox and other substances that freeze facial muscles, as well as dermal fillers which plump softer tissue. Demand has been fuelled by the proliferation of selfies and, during the pandemic, high-resolution video-calls. Snapchat and Instagram filters give users a glimpse of what they could look like with a filler-generated "liquid facelift". The contrast with what they see on unadorned Zoom can be stark.

In America 2.4m injectable procedures were carried out in covid-hit 2020, roughly one for every 100 American adults. About 700,000 such treatments were performed on Germans, not renowned for an obsession with looks. Brazilians, who are famously beauty-obsessed but much poorer, subjected themselves to around 500,000. Demand for "prejuvenation" work is especially strong in Asia, where younger patients (for, despite the convenience these are still medical procedures) want to pre-empt a craggy visage before any lines actually appear. Since injectables have to be topped up every few months, they guarantee producers of the substances and clinics that administer them a source of recurring revenue. The younger the customer starts, the better for business.

According to a report by McKinsey, a consultancy, over 400 aesthetics clinics, which administer injectable treatments (among others including things like laser fat removal) raised more than $3bn from investors over the past five years. In 2020 AbbVie, an American pharmaceutical firm paid an eye-popping $63bn for Allergan, which has controlled nearly half the market for injectables since it launched Botox for aesthetic use two decades ago and Juvederm, a dermal filler, a few years later.

New products are beginning to threaten Allergan's dominance. Hugel, a South Korean company, now has a rival offering that is half the price of Botox. It is eyeing the Chinese market, where the stuff is still less common than dermal fillers. Ipsen, a French drugmaker, and Merz Pharma, a German one, also make Botox-style injectables. Ipsen's Dysport has done well in Turkey and Russia. Merz's sales are growing briskly in the emerging economies of Asia and Latin America.

Some modern dermal fillers, meanwhile, are formulated with ingredients such as hyaluronic acid that are typically found in mild skincare products. That is less offputting to potential customers than Botox, which is derived from a toxin that occurs naturally in spoilt sausages. Other new treatments are dispensing with foreign substances entirely—though this doesn't always seem all that more appealing. Certain cosmetic clinics offer to inject stem cells from a patient's own fat into their face, or platelets from their blood to rejuvenate the skin.

There is a wrinkle. The injectables craze, especially among youngsters, worries regulators. Botox is a prescription drug in most places but many dermal fillers are not. "Treatments are often trivialised on social media and people don't understand the full ramifications of what can go wrong," says Tijion Esho, a cosmetic surgeon in Britain. Misplaced injections can lead to abscesses or, in some cases, necrosis. An outcry from doctors and victims of botched procedures forced the British government to announce in February that it would require a licence for people administering nonsurgical treatments. England has already banned them for under-18s. ■

Business in India

Shark attack

MUMBAI

What a reality show says about Indian capitalism

Speak to the bankers and industrialists at the top of India's economic pyramid and you hear a common refrain. All Indians, they contend, are at heart socialists—themselves included. The popularity of the Indian version of "Shark Tank", a TV celebration of capitalism (similar to "Dragons' Den" in Britain) in which ordinary people seek funding for their business ideas from a gaggle of successful entrepreneurs, suggests that this conventional view may be out of date. The show's 36-episode run, wrote the *Hindustan Times*, shifted the topic of dinner conversations throughout the vast country from cricket to business plans. Terms like "gross profit" and "TAM" (total addressable market) have entered common parlance among its 1.4bn people.

Shows with star judges awarding talent (and panning its absence) have long had a place on Indian television. But they have historically involved song and dance, not spreadsheets. Sony Entertainment received 85,000 applications for "Shark Tank". These were whittled down to 198 pitches presented to juries of five judges, themselves chosen to reflect India's new business elite (rather than being scions of industrial conglomerates they had founded firms peddling everything from cosmetics and drugs to a matchmaking app and electronic payments).

The enterprising hopefuls' televised presentations were heavier on enthusiasm than polish. Rather than being a liability, this resonated with viewers who, as many blogs and social-media posts attested, saw themselves in the contestants. For "Shark Tank" was, in its effervescent diversity, not unlike Indian society. Of the 67 startups ▸▸

that secured some money from the judges, three-fifths were run by first-time entrepreneurs. More than two-fifths had female co-founders and a third were co-founded by someone from a small city rather than a business hub like Bangalore, Delhi or Mumbai. Only nine of the winning businesses had a founder who boasted a degree from the prestigious engineering and business schools that are the traditional pathway into India's economic aristocracy.

Some of the winning pitches seemed humdrum (banana crisps). Others were ingenious (an engineer whose family had been devastated by the abrupt death of their cow developed an electronic ear clip to monitor bovine health). Some were both (a bicycle-mounted pesticide sprayer). Even some losing proposals won recognition. Reversible dresses (good for a day in the office and a night on the town) were dismissed by one of the judges as suitable for a mop; his wife subsequently appeared wearing one on TV.

"Shark Tank" may have struck a chord because it came at a time when Indians as a whole were becoming more enterprising. Indian entrepreneurs have registered over 310,000 new businesses in the past two years, up from 250,000 or so in the previous two (see chart on previous page). The ranks of retail stockpickers doubled between March 2019 and November 2021, to 77m. Some of this happened out of necessity: the pandemic up-ended lives and led millions to seek new opportunities. But some was probably by choice. The number of candidates sitting India's exacting civil-service exam appears to have peaked in 2016. Some eggheads who would once have become bureaucrats may have opted to become capitalists instead. ■

Bartleby The toast with the most

What would an honest leaving-do speech say?

When Harry told me that he was leaving the company, one of the first things he said to me was that he didn't like sentimental goodbyes. I have decided to take him at his word. Everything you will hear me say tonight is unvarnished and to the point, just like the man himself.

Harry has been in the finance department for seven years. In that time he has not done anything remotely funny. I asked several people if they had anecdotes about him, and the best they could come up with is that he once accidentally changed a formula in the annual budget spreadsheet. Since the mistake was quickly spotted and fixed, it had no impact at all. I asked Charlotte, who has worked with you closely for three years, if she had anything to share. She was silent for what seemed like hours, and then said that she thinks you like walnuts. (Ah, I see you shaking your head, so that is neither funny nor true.)

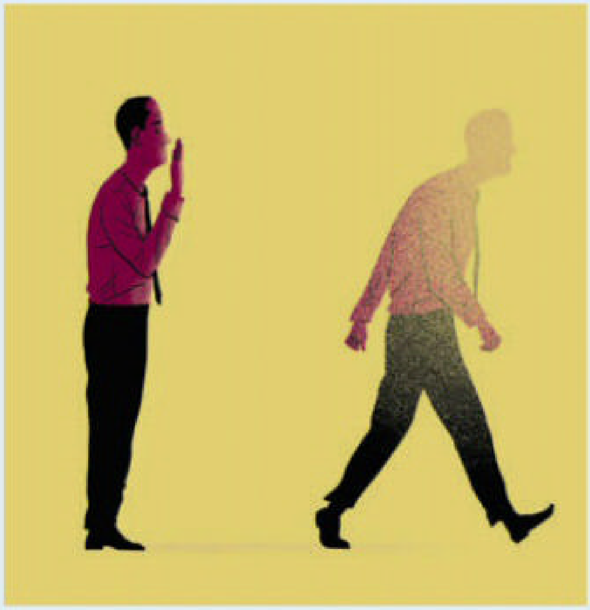
No matter. We do not hire people because they have an amusing habit of getting stuck in lifts (yes, Brian, I do mean you) or promote them because they can recite pi as a party trick. It is true that a mediocre colleague who happens to have some eccentric habits (and yes, Brian, I still mean you) would have produced a much more enjoyable leaving event than this painfully stilted affair. But that should not obscure more important things. Harry has been a diligent, competent and well-liked employee. He has been a good manager. Every job he has done for us he has done well.

Not so well that he is indispensable, of course. We did offer him a raise when we found out he was planning to leave, but we opted against throwing in a sabbatical. In the end we recognised that he wanted to go and decided that we would cope just fine. There is no shame in that. Everyone is dispensable; it's just a question of how quickly people come to that realisation. In Harry's case, it was neither all that slow nor embarrassingly fast.

Since then, we have all been waiting for him actually to leave. Once it is known that a person is moving on from their role, everyone immediately prices it in. People with ambition start writing memos about what they would do if they had that job. Rebecca's pitch arrived the day after we announced your departure. I can see now that you didn't know that, and that she didn't expect me to mention it.

Meetings quickly start to disappear from calendars. Decisions are deferred or simply taken elsewhere. It's like the period between an election and an inauguration: there is someone in office but no one in power. By the time we get to this point, holding a glass of Prosecco and staring at you as if you are an endangered species, it's something of a surprise to find that you still exist.

Will Harry be forgotten? Not at all, though for reasons that he may not fully grasp. This is an evening in which the person who is leaving receives presents (as well as a card from people whose names you don't recognise but who just loved working with you). But the exchange goes both ways. The leavers have a parting gift of their own to bestow: a convenient scapegoat.



When someone dies, the convention is not to speak ill of the departed. When an employee exits a company, it's the opposite. Things that don't work as well as they should can be laid at the door of someone who won't answer back. Frustrations that have been suppressed can finally be blamed on someone. When we speak of you, we will say things like "Harry had many strengths but…", and we will persuade ourselves that you held us back a bit. This will not be true, but it will be convenient. I'd like to take this opportunity to tell you that we are grateful for this final act of service, which can last for as long as a year after someone has actually left the building.

After that, memories tend to fade. I wish I could promise you that you are part of company folklore, or that your role in banning plastic straws from the office will reverberate through the ages. Instead, the only guarantee I can give is that no one here will ever read your exit-interview notes.

This may all seem a little sad. You have spent many years at the company, and yet will probably leave comparatively little trace. But you should still feel pride in your time here. To have done your work well and to leave at a time of your choosing are achievements that are beyond most people (and on both scores, Brian, I am still thinking of you). So please raise your glasses to Harry. He has been an excellent colleague and won't really be missed.

ADVERTISEMENT

The container ship Suzaku is fitted with a comprehensive system for fully autonomous operation.

The future of the Japanese maritime industry lies in commercialising fully autonomous ships

The race to launch full autonomous vessels is gathering pace in Japan as the industry faces a dwindling workforce and increasing operational costs.

From the outside the 100-metre long cargo ship Suzaku looks like any ordinary vessel. But, it's been fitted with state of the art technology enabling its control room which is on land to monitor in real time the ships position, engine, sea traffic, and port. The futuristic fleet operation centre in Chiba, east of Tokyo is surrounded by a sea of computer screens, rather than the sea itself. There's also no conventional steering wheel in sight.

It's the first time these vessels which are operated on land are undergoing rigorous testing. Its success rests on passing a series of demonstrations that determines how well the autonomous vessels can perform difficult manoeuvers, prevent collisions and secure uninterrupted telecommunication with headquarters under extreme situations.

The project is the brainchild of nonprofit The Nippon Foundation who are seeking to propel Japan as a technological leader in the field of fully autonomous ships. On the high seas anything could happen and technology and training must prepare against not only mother nature and congested waters but possible cyber attacks and pirates. "You can't control the sea," says The Nippon Foundation Executive Director Mitsuyuki Unno."There can be strong winds, rough seas and fishing boats and recreation boats can appear out of nowhere. There's always the fear of collision," Mr Unno explains.

A consortium of more than 40 Japanese companies specialising in container ships, passenger ferries, AI, and telecommunications are working behind the scenes to make these vessels a commercial reality. Their goal is to put fully autonomous ships into operation by 2025 and to have half of all Japanese coastal ships running autonomously by 2040.

PIONEERING TECHNOLOGY IN UNCHARTERED WATERS

Autonomous vessels are a complex combination of IoT, ICT, AI and state of the art image recognition technology. The latest demonstration has given the green light to move forward with the most difficult obstacle which is developing AI image capture that can detect other ships and ultimately allows for safe navigation. Mastering the technology to dock a vessel, which is considered the most difficult manoeuvre, depends on perfecting AI with image capture technology.

Satoru Kuwahara who is DFFAS (Designing the future of fully autonomous ship) consortium's project director says short range navigation planning will be controlled by the autonomous vessel rather than the team at the control centre. This means having confidence in the integrated technology onboard for safe navigation. "There is still room for improving algorithms so they match the skill level of humans in terms of short-term manoeuvring."

Embracing fully autonomous vessels also leaves them vulnerable to electronic hijacking and pirates. Mr Kuwahara stresses the biggest priority is protecting the lives of crew members which is already guaranteed by going digital. Preventing cyber attacks play a significant role compared to conventional ships. Communication with ships will be backed up by satellites and IT security software inbuilt to the systems on land. But Mr Unno likens the challenge to climbing a mountain in which the project has only passed the halfway mark.

Japan has the world's second largest shipping industry and third largest shipbuilding industry. But it risks being overtaken by other rising economies. Mr Unno believes Japan has a global headstart developing autonomous shipbuilding technology. But he concedes that every step of the way could be plagued by setbacks.

"We still need to do more and more simulations, and we also need to put the simulations to practical use on actual shipping routes. We need more data which will increase the number of opportunities for AI to learn from this data."

THE ECONOMIC POTENTIAL OF FULLY AUTONOMOUS VESSELS

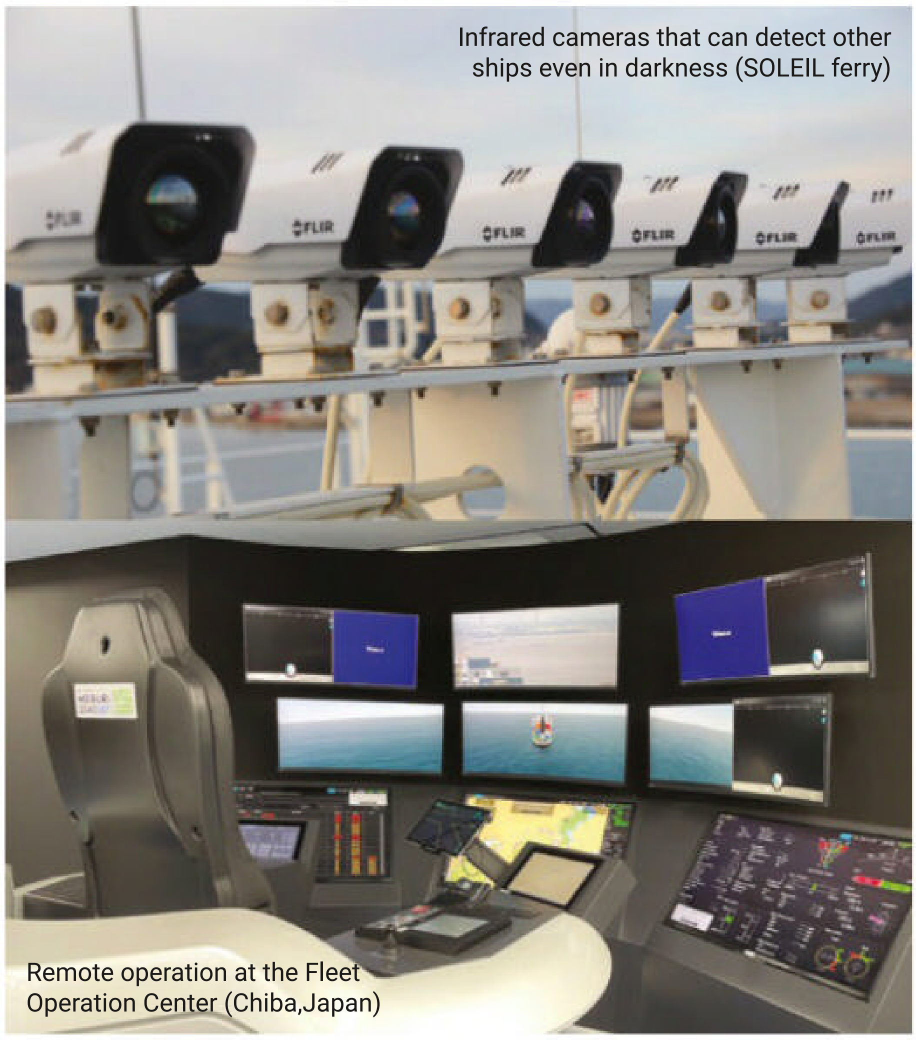
Container ships are big business and improving operational and logical efficiency could play a role easing supply chain bottlenecks plaguing the global economy. Domestic vessels account for 40 percent of Japan's logistical network. They are credited for transporting large-scale items such as construction materials across the Japanese archipelago.

In Japan, the maritime industry is feeling the effects of a rapidly ageing population and a severe labour crunch. According to Japan's Ministry of Land, Infrastructure, Transport and Tourism, there were 28,435 sailors employed in coastal shipping as of 2019. But almost half of them are over 50 and this creates further repercussions for safety. It's believed that 70 to 80 percent of maritime accidents are a result of human error. Fully autonomous vessels are seen as an effective way to reduce the number of ocean accidents and the workload for Japan's ageing seafarers.

Improving the technical capability of the industry is a part of a wider logistical reform that carries cost savings to other sectors reliant on container shipments.

Mr Masanori Muto of Mitsubishi Research Institute says fully autonomous vessels can provide 24/7 services without crews which will increase revenue potential. This could play a role in increasing the viability of shipping routes to remote islands which are currently suffering from cost issues.

Mr Muto says R&D in autonomous vessels also gives the Japanese maritime industry a competitive edge that could see players outside the sector investing in fully autonomous vessels as a high value added product. "Fully autonomous vessels could be used for home delivery to coastal and remote island areas. They could also be used to support the offshore wind farms that are expected to be constructed and operated in Japan's EEZs in the future."



Infrared cameras that can detect other ships even in darkness (SOLEIL ferry)

Remote operation at the Fleet Operation Center (Chiba,Japan)

The Nippon Foundation estimates that if 50 percent of the current domestic fleet are converted into autonomous vessels, it would contribute $8 billion (USD) to the Japanese economy. Takeru Suzuki from Mitsui OSK Lines' smart shipping division says the major appeal of the project is enhancing the level of safety through the integration of technology. He says the only way fully automated vessels can take off is by reducing the initial cost of the technology in order to make it profitable for shipping businesses to pursue.

Ships cost millions to build and maintain and shipping delays caused by accidents can result in millions of dollars being lost. Improved safety performance is expected to bring down insurance premiums and ultimately cost savings to consumers.

Long before the onset of the covid-19 pandemic the industry was losing its appeal to young people. Digitisation could be the bait that attracts a younger tech savvy generation of seafarers who no longer need to set foot on a ship. Executive Director of the International Association of Maritime Universities, Takeshi Nakazawa says maritime education for fully autonomous ships will require future seafarers to be able to deal with unforeseen problems that AI systems cannot. This means maritime education will shift beyond just on board training to learning how to handle ships with different levels of automation and working with AI, ICT and ship experts to solve problems as they arise.

THE NEED FOR LEGAL FRAMEWORKS

As Japan races to develop fully autonomous vessels the legal system is left to play catch up. Current regulations in Japan do not allow fully autonomous vessels to operate without someone on board. Mr Kengo Minami from Nihon University's College of Law says there is the complicated task of amending current maritime laws such as the Seafarer Law, Ship Officers and Small Vessel Pilots Law as well as the Ship Safety Law. He believes that without laws governing remotely piloted vessels, a licensing system should be considered.

Another major point of contention is accident liability in the case of a collision between autonomous vessels and regular ships which does not cover the case of a self navigating, fully autonomous vessel.

A VISION FOR THE FUTURE

Japan is a leader in the realm of fully autonomous shipping. The project's technological milestones aim to lead the way for international standards conducive to the newly developed technology.

Mr Unno believes there is no limit to what fully autonomous ships can achieve. The hurdles posed by gruelling preliminary verification tests has not deterred the consortium from envisioning a future where Japan and the international community harnesses the potential of these burgeoning vessels.

無人運航船プロジェクト MEGURI 2040
日本財団 THE NIPPON FOUNDATION

Technology in Europe

New kids in the bloc

AUSTIN AND BERLIN

An EU law aims to make it easier for startups to prosper. Will it?

IN THE EARLY 1970s a handful of former employees at IBM, then the world's biggest computer-maker, spent weeks pulling double shifts. During the day they quizzed the workers at a nylon plant in southern Germany about what exactly made their factory tick. At night they painstakingly turned this knowledge into code and tested it. The result of all this toil was one of the world's first comprehensive pieces of business software. The company behind it, SAP, is still Europe's mightiest technology titan by revenue, with annual sales of nearly €30bn ($33bn). It has a market value of €123bn as it celebrates its 50th anniversary on April 1st (no joke).

Such stamina is a feat, but also raises worrying questions about the European tech industry. Why has SAP remained Europe's top digital firm for so long? Why has the continent spawned no trillion-dollar Apfel or Amazonie? Might one eventually emerge? And could such a development be speeded by the EU's landmark technology law, the Digital Markets Act (or DMA for short), which the bloc was expected to approve after *The Economist* went to press on March 24th?

SAP's longevity is the easiest to explain. Once firms opt for a certain type of business software, it becomes tedious (and sometimes impossible) to replace it. That guarantees the purveyor a regular revenue stream and a captive market for extensions. SAP also had the foresight to design its software from the start so that it did not become obsolete when the underlying computing infrastructure changed. As a result, it is one of the few information-technology giants that has survived three "platform shifts": from mainframe computers to more distributed "client-server" systems, then to the internet and, now, to the computing cloud.

Why SAP remains a lonely European presence in a digital realm lorded over by American tech behemoths is less obvious. Oft-heard explanations include the continent's risk-averse entrepreneurs and consumers, a lack of venture capital (VC), red tape and a fragmented home market. Benedict Evans, a former venture capitalist who now publishes a widely read newsletter, thinks the reason is far simpler: tech grew big in its birthplace, Silicon Valley. Until a few years ago, even aspirant American tech hubs, such as Austin, Miami and New York, did little better at spawning digital darlings than Berlin, London or Paris.

SAP itself is proof that appearing in the right place at the right time is instrumental to making it in tech. The firm's headquarters may have risen on an asparagus field a 15-minute drive south of Heidelberg, but the region combined many factors that contributed to the firm's success: more than one well-organised factory whose business processes lent themselves to being turned into software; plenty of accountants and physicists who could hone SAP's programs; no VC firms to badger it to ship half-baked products in search of a quick buck. Because the German market was relatively small, SAP also designed its code to work with many currencies—a feature that its American rivals, including Oracle, had to add laboriously after the fact.

These days breeding tech stars is easier. Demand for digital services is growing in Europe, attracting money, experienced entrepreneurs and startup-friendly rules, such as a more relaxed attitude to employee stock options, says Annabelle Gawer, who runs the Centre of Digital Economy at the University of Surrey. The number of European tech firms worth more than $1bn, both listed and unlisted, has exploded in recent years. When Mosaic Ventures, a VC firm in London, surveyed such companies earlier this year, before a wobble in tech valuations, it counted about 180 new ones since 2010, collectively worth some $1trn (see chart).

Continental drift

European technology companies*

Valuation or market capitalisation, Dec 31st 2021, $bn

Source: Mosaic Ventures

*Valued at $1bn or more and founded after 2010

The DMA is meant to spur even more such breeding by creating a level playing field on which startups can compete against America's tech titans. Its provisions will apply to "gatekeepers" which operate one or more "core platform services" and, according to the latest leaks, have a market capitalisation of more than €75bn and had annual revenue in Europe of more than €7.5bn in the last three financial years. The services in question include online search, social networks, video-sharing, operating systems, cloud-computing and online advertising: the bread and butter of America's big tech, in other words.

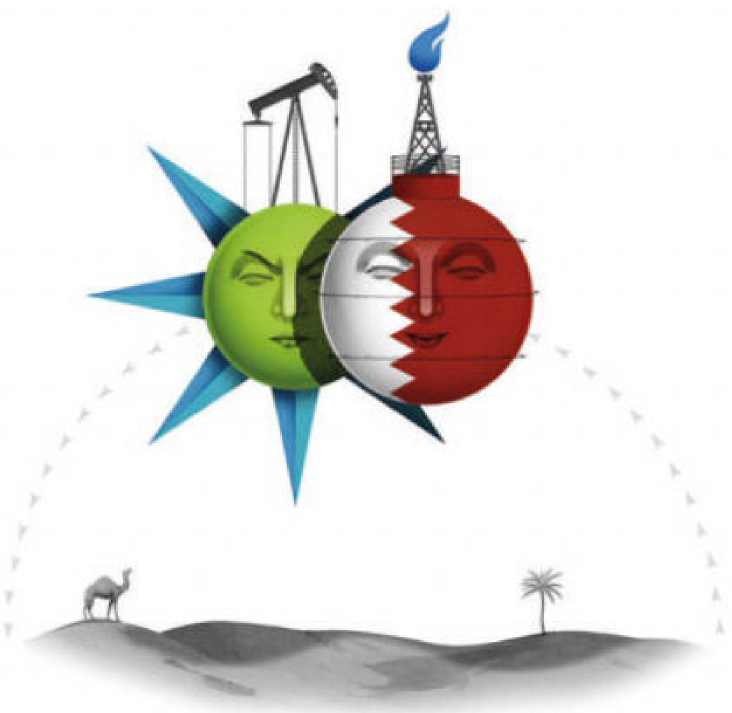
Specifically, the DMA may, among other things, compel Apple to let iPhone-users bypass its app store and "sideload" software from elsewhere; force Meta to make its WhatsApp and other messaging services work with rival ones; and require Google to show content from European publishers in its search engine. Without such rules, says Margrethe Vestager, the EU's top trustbuster, "others will not get room to grow".

Perhaps. But the DMA may also make it harder for European firms to become really big. Some entrepreneurs may prefer to avoid the hassle of complying with its strictures. Investors' enthusiasm for firms whose growth prospects could be crimped as a result may also be chilled. And enforcing the new rules against deep-pocketed American firms may be tough, says Thomas Vinje, a veteran antitrust lawyer at Clifford Chance, a law firm. To avoid having the DMA applied differently in the EU's 27 member states, the European Commission will be in charge. But the 80 officials it has initially delegated to the task may struggle with their in-trays. Britain's Competition and Markets Authority plans to employ three times as many people to perform a similar function for just one country.

After 50 years SAP is at last seeing serious challenges to its dominance of European techdom. Adyen, a listed Dutch digital-payments provider, has a stockmarket value of more than $60bn. Klarna, a privately held Swedish one, is valued at $46bn. It would be an irony if the EU's new rules made it harder for such upstarts to grow beyond a certain size—and an even bigger one if they allowed SAP, whose business software is not deemed a core platform service, to hold on to its crown. ■

Schumpeter | The Gulf between them

Saudi Aramco's importance to the West may be eclipsed by its Qatari nemesis



To SAUDI ARABIA, Qatar is little more than a sore thumb sticking out into the Persian Gulf. For decades the kingdom has looked down on its neighbour as an irritating pipsqueak, with which it has little in common except the desert. Saudi Arabia has historically cut more of a dash in global affairs; the vast fields of natural gas that Qatar controls have never provided it the same clout as its rival's oceans of oil. Saudi Aramco, which produces 12.8m barrels of oil equivalent per day, has just attained a market value of more than $2.3trn, making it the world's second-most-valuable listed company after Apple. Alongside it, QatarEnergy, which produces less than a third as much, looks like an emir's plaything. Now Russia's war on Ukraine has also exposed a stark contrast in the attitude of the two countries to the world beyond their borders. Their different approaches to energy geopolitics could have big repercussions for both firms, as well as for the West and the East.

Saudi Arabia undoubtedly believes it is on a roll—and in some ways it is. On March 20th Aramco, the world's biggest oil exporter, revealed that soaring oil prices had enabled it to more than double net profit to $110bn in 2021, when crude averaged around $70 a barrel. With oil prices now above $100, the bonanza will grow. The company plans to raise capital expenditure to $40bn-50bn this year, up from $32bn in 2021. That will help it towards a goal of adding 1m barrels a day (b/d) of oil-production capacity by 2027.

This stands in contrast to a broad decline in oil investment from the industry as a whole, partly because of pressure to avert climate change. Ironically, the world's most carbon-emitting company, if you count the pollution from burning its oil, appears to be the giant doing the best out of the energy transition.

At the same time, Saudi Arabia's assertiveness on energy matters is growing. European leaders such as Emmanuel Macron in France and Boris Johnson in Britain have of late set aside revulsion caused by the murder in 2018 of Jamal Khashoggi, a Saudi journalist who wrote for the *Washington Post*, and have visited Muhammad bin Salman, the crown prince. Mr Johnson pressed him to pump more oil to replace Russia's war-disrupted barrels—but got nowhere. So far the kingdom has remained staunchly committed to miserly short-term oil-production increases agreed with the OPEC+ cartel, which it and Russia in effect control.

If anything, Saudi allegiances now lean more East than West. A few weeks ago Aramco finalised a long-mooted investment in a refining complex in northern China. It will supply most of the 300,000 b/d of crude the complex needs. The kingdom's rulers are in talks with China to price some of the crude supplies in yuan, the *Wall Street Journal* has reported. If this happens, that would dent the dominance of the dollar in the oil market and jeopardise a deal dating back to the Nixon era when the Saudis created petrodollars in exchange for American security guarantees. Bloomberg recently reported that India's Adani Group, owned by one of the country's wealthiest tycoons, may be considering a range of potential partnerships in Saudi Arabia, including buying a stake in Aramco—a further sign of closer ties with Asia.

There are good commercial reasons for Saudi Arabia's eastward pivot. More than a quarter of its oil exports go to China. Only 10% go to Europe, and 7% to America. Still, Prince Muhammad's regime is unnecessarily antagonising the West by resisting calls to increase output, which it could do without compromising its business. In fact, its resistance seems almost out of spite—and appears to have less to do with commerce and more with the kingdom's security concerns, including ways to contain Iran and its proxies, which it feels President Joe Biden's administration is ignoring. Underscoring such worries, in the past week Yemen's Houthi rebels struck some Aramco facilities with missiles.

As with Aramco, QatarEnergy's customers are also mostly Asian. But the emirate, one of the world's biggest exporters of liquefied natural gas (LNG), has a more pragmatic approach to the outside world. It wants strong commercial relations with China—partly to ensure its LNG exports to the Asian giant are not displaced by Russian gas. But that does not prevent it from maintaining strong ties with America. It is loth to put geopolitics ahead of QatarEnergy's economic interests.

Such commercial pragmatism was apparent during the blockade of Qatar by a quartet of Gulf states, including Saudi Arabia and the United Arab Emirates (UAE), in 2017-21, notes Steven Wright of Hamad Bin Khalifa University in Doha. During the stand-off, Qatar kept natural gas flowing through the Dolphin pipeline to the UAE in order to convince the world it was a reliable supplier. It is apparent again in Qatar's response to Europe's gas crisis. In the run-up to the war in Ukraine, it too, like Saudi Arabia, declined Western pleas to send Europe more fossil fuels. Its reasons, though, were more commercial than mercenary. Most of its LNG was simply tied up in sacrosanct long-term contracts. Now that it has spotted a new commercial opportunity as Europe seeks to reduce its reliance on Russian gas, QatarEnergy is happily talking with Germany about long-term gas supplies.

Dinosaurs in the desert

The biggest contrast between the two energy giants may come amid the energy transition. Aramco is betting that its low-cost and, as crude goes, clean oil has a future for years to come. Like Aramco, QatarEnergy is pouring money into more production—in its case, a $30bn expansion of its natural-gas export capacity.

But a decade from now, when electric cars will no longer be burning Aramco's oil, many of them will still be charged using electricity generated with QatarEnergy's gas. After that, both energy giants see the future in producing hydrogen. At that point, Qatar's efforts to keep on good terms with potential customers on both sides of the geopolitical divide will look more commercially prudent than Saudi huffiness. ■

ECONOMIST IMPACT

Reimagining the future of work

Innovation@Work Global Week 2022

March 28th-31st 2022, virtual & in-person (London)

More than:

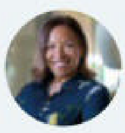
5,000 attendees | **500** London attendees | **120** speakers | **65** sessions

Join the most respected global corporations as they reveal how adapted business models and workforce strategies extend beyond the traditional office.

Ashok Vaswani
Chief digital strategy officer
Barclays

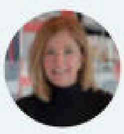
Nadine Thomson
Global chief technology officer
MediaCom

Wagner Denuzzo, LCSW
Vice-president, head of capabilities for future of work
Prudential Financial



Cynthia Burks
Chief people and culture officer
Genentech

Ari Simon
Head of social impact and philanthropy
Pinterest



Joan McGrail
Chief human resource officer
New Balance Athletics

Register free
innovationatwork.economist.com

Lead sponsor: MURAL

Diamond sponsors: alight, BAIN & COMPANY, Boston Scientific, indeed

Platinum sponsors: Cognizant, citrix

Gold sponsor: CODE42

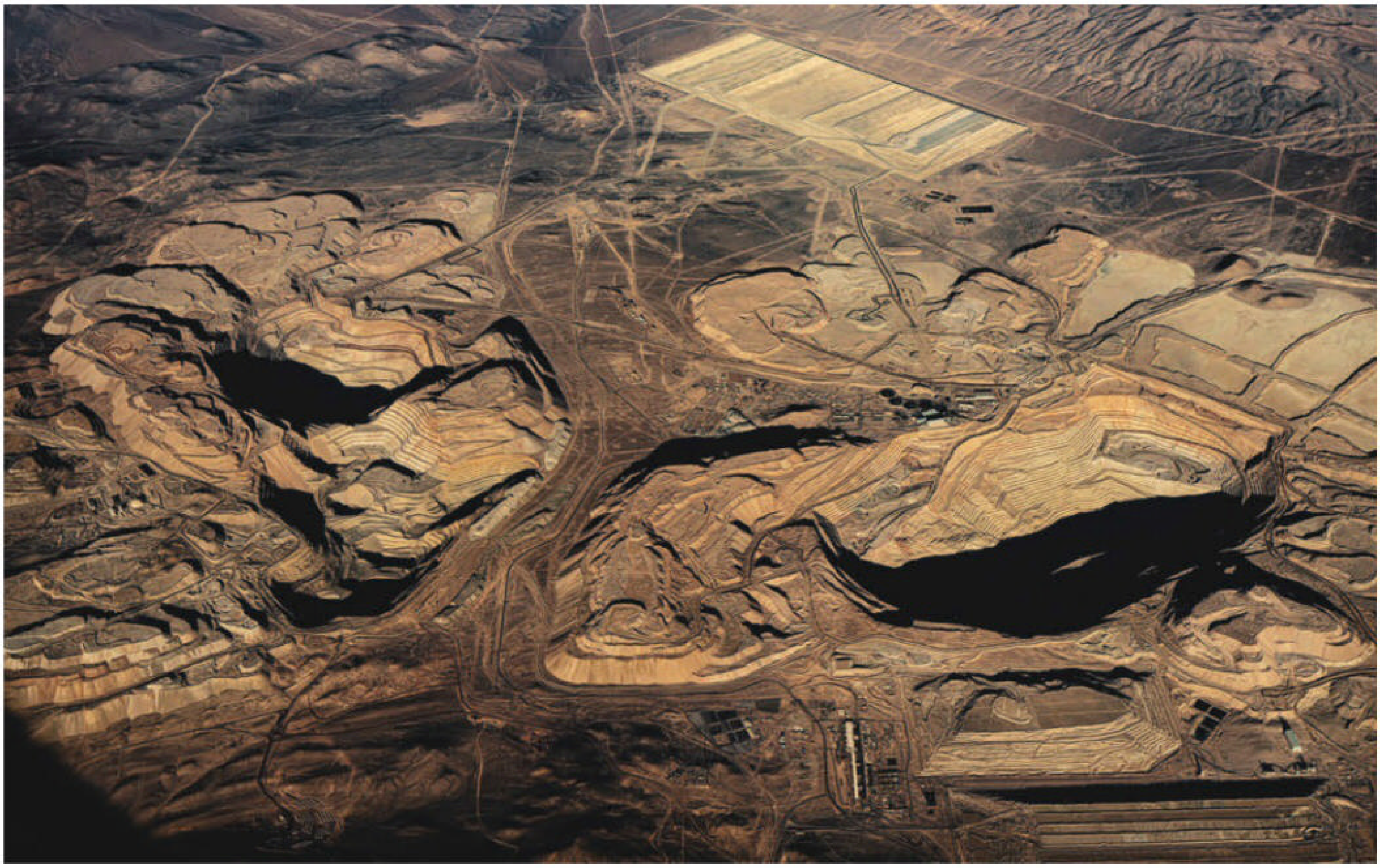
Silver sponsors: DocuSign, M-Files, remote

Book signing sponsor: Potential Project

Wellbeing sponsor: clockwise

Tech Demo sponsor: Arrow Labs

Accredited by: CPD Certified



Green commodities

The new superpowers

KOLWEZI, PARIS AND SAN PEDRO DE ATACAMA

Meet the commodities giants vying to power the energy transition

In mid-February Russia seemed on the verge of a revolution with a distinctly reddish tint. Alisher Usmanov, an oligarch, was developing Udokan, a copper mine in Siberia that required removing an entire mountain top. In the Arctic tundra Kaz Minerals, a mining firm, had raised enough cash to build Baimskaya, a rival mine so remote that it needed its own port, icebreaker and floating nuclear plant. For years the projects had been put on hold because of their immense costs. But expectations of soaring demand for copper, used in everything from grids to turbines, had boosted prices of the auburn metal, making the mines viable.

Now the copper price is even higher. But the projects are in trouble. Insiders say they are short of vital foreign equipment that has been blocked by the West after Russia's invasion of Ukraine, and that they are starved of the funds they had expected from blacklisted Russian banks. Mr Usmanov, too, faces sanctions. A spokesman for Udokan says, "We are doing everything we can to ensure business continuity." Yet even if the mine starts producing this year as planned, it is unclear who will buy its output. Foreigners, even the Chinese, are shunning Russian production.

As the world weans itself off dirty fuels, it must switch to cleaner energy sources. The International Energy Agency (IEA), an official forecaster, predicts that wind and solar could account for 70% of power generation by 2050, up from 9% in 2020, if the world embarks on a course to become carbon-neutral by 2050. That translates into huge demand for the metals, such as cobalt, copper and nickel, that are vital for the technologies underpinning everything from electric cars to renewables; the IEA reckons that the market size of such green metals would increase almost seven-fold by 2030. And much like fossil-fuel reserves, these commodities are distributed unevenly (see chart 1 on next page). Some countries have none at all. Others are blessed with vast deposits.

The metals rush will not be as big as the oil-and-gas boom that toppled King Coal after the second world war. But there are some echoes with the past. Between 1940 and 1970 the share of hydrocarbons in the energy supply of rich countries rose from 26% to nearly 70%. Once-marginal economies in the Middle East were transformed into uber-rich petrostates. Between 1970 and 1980 the GDP per person of Qatar and Saudi Arabia grew 12- and 18-fold, respectively. Bedouin villages became boom towns; fishing *dhows* gave way to supertankers and luxury yachts.

This time the transition will bring windfalls to countries we dub the "green-commodity superpowers". We calculate that this club, many of which are poor economies and autocracies, could pocket more than $1.2trn in annual revenue from energy-related metals by 2040.

With the opportunity, however, come ▸▸

→ Also in this section

risks. As the troubled mining projects in Russia show, important investments can become victims of local conditions and geopolitics. Huge rents could corrode domestic markets and political institutions; autocrats enriched by electrodollars could make mischief beyond their borders. Saad Rahim of Trafigura, a trading firm, says the shift to clean fuels is "less an energy transition than a commodity transition". It will be a turbulent one.

The green boom is not just another "supercycle", as prolonged periods of high commodity prices are known. The last such cycle, early this century, was fuelled by rapid urbanisation and industrialisation in China. The combined real GDP of Brazil and Russia, two resource-rich economies, grew by two-thirds between 2000 and 2014. But the rally was largely driven by China alone. When the country's leaders decided it should build fewer factories and flats, the commodity giants suffered. The green transition, by contrast, stems from the decisions of many governments, not one. And decarbonising the world is likely to be the job of decades.

Another big difference lies in the materials in demand. China's splurge burned through heaps of coal, iron and steel. The green boom centres on non-ferrous metals that are more niche. Their combined annual revenues today, at $600bn, is equivalent to only a fifth of that of the bulk materials that China favoured. There may be more explosive growth to come.

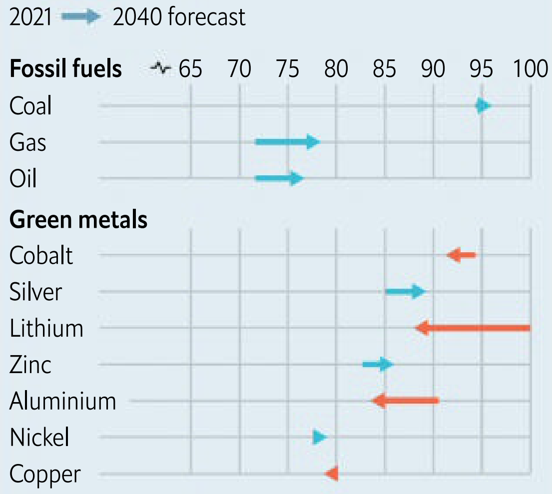
To understand which commodity producers stand to win and lose from a green transition, we construct a simple scenario for the use of ten "energy-linked" commodities in 2040, assuming that global warming by 2100 stays below 2°C. Based on data from a range of industry sources, we project demand and revenue for three fossil fuels (oil, gas, coal) and seven metals (aluminium, cobalt, copper, lithium, nickel, silver and zinc) that are critical to building an electricity economy. We assume that prices remain at today's elevated levels, prompting miners to exploit untapped deposits. And we assume that a producer's market share in 2040 is in line with its share of known reserves.

Our findings suggest the world will be less reliant on energy-related resources in 2040 than it is today—largely because wind and sunshine, the sources of the future, are free. Total spending on our basket of ten commodities falls to 3.4% of global GDP, from 5.8% in 2021. Spending on fossil fuels, relative to world GDP, falls by half (and would shrink further were it not for gas). The revenue from green metals remains smaller, but rises from 0.5% to 0.7% of GDP. It nearly triples in absolute terms.

The number of big producers of energy-linked commodities falls over time: 48 stand to pocket sales equivalent to more

Material heft

Top ten producing countries' share of revenues, %



Sources: Benchmark Minerals; Bloomberg; IEA; IMF; Liberum Capital; LME; Refinitiv; Rystad Energy; USGS; Wood Mackenzie; *The Economist*

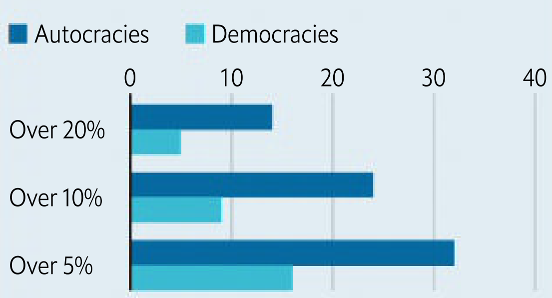
than 5% of their GDP, down from 58 in 2021 (see chart 2). More than half of total spending goes towards autocracies.

You can group producers into three buckets, based on the expected change in their revenues from the ten energy-linked commodities between now and 2040. The first comprises the winners—the green superpowers. These electrostates include some rich democracies. Australia has troves of every metal included in our sample. Chile is home to 42% of the world's lithium reserves and a quarter of its copper deposits, much of them in the Atacama desert (pictured on the previous page). Others are autocracies. Congo has 46% of global cobalt reserves (and produces 70% of the world's output today). China is home to aluminium, copper and lithium. Poorer democracies in Asia and Latin America may also hit the jackpot. Indonesia sits on mountains of nickel. Peru holds nearly a quarter of the world's silver.

The second bucket comprises countries with revenues that stay flat, or fall a little. It includes the low-cost members of the Organisation of the Petroleum Exporting Countries (OPEC)—including Iran, Iraq and Saudi Arabia—and Russia. Although oil revenue shrinks, their share of it expands

The energy majors

Number of countries by commodity revenue as % of GDP*, 2040 forecast



*Regime type as of 2021

Sources: Benchmark Minerals; Bloomberg; IEA; IMF; Liberum Capital; LME; Our World in Data; Refinitiv; Rystad Energy; USGS; Wood Mackenzie; *The Economist*

from 45% today to 57% in 2040. Other countries, such as America, Brazil and Canada, lose fossil-fuel earnings but are able to tap vast mineral deposits.

Higher-cost petrostates lose the most. Many oil-rich nations in north Africa (Algeria, Egypt), sub-Saharan Africa (Angola, Nigeria) and Europe (Britain, Norway) see their revenues shrivel. Small states like South Sudan, Timor Leste and Trinidad have theirs hit hard. The pain does not spare some Gulf states: the proceeds captured by Bahrain and Qatar, for instance, decline by a fifth or more.

What might prevent the new commodity superpowers emerging? The key ingredient is capital spending. The IEA estimates that major mines that came online in the past decade took, on average, 16 years to build. To meet booming demand by 2040, the industry must splash out on new projects now. The sums required are big. Julian Kettle of Wood Mackenzie, a consultancy, reckons $2trn must be spent on green-metal exploration and production (E&P) by 2040. Recent projects suggest digging out enough copper and nickel alone would require $250bn-350bn in capital expenditure (capex) well before 2030.

Pedal to the metal

Some of the outlay is taking place. Anglo American, a miner, aims to expand its copper output by 50-60% by 2030. "We will deliver our part of the bargain," says Mark Cutifani, its boss. Many others will not. Burnt by the commodity crash of the mid-2010s, mining majors have reduced investment. Liberum Capital, an investment bank, calculates that annual copper E&P capex has fallen by half since 2014, to $14bn. As prices rise, so do profits. But cash is being given back to investors rather than redeployed. "Supply growth has almost become a dirty word," says Stephen Gill of Pala Investments, a venture-capital firm.

Only China is spending a lot. In Kolwezi, in Congo's cobalt belt, barefoot children greet all foreigners with shouts of "*ni hao*". Chinese groups have nabbed most big commercial deposits; Albert Abel, an artisanal miner, complains they have bought most small mines too. Glencore, an adventurous Swiss trader, is the only Western firm to have a foothold. In Indonesia Chinese miners are clearing swathes of rainforest to dig out nickel.

The capex drought is a result of three daunting problems: the industry's limited firepower, diminishing investment returns and rising political risk. Start with firepower. Though what miners must spend over two decades is equivalent to only four years of typical oil E&P capex, it still seems beyond the capacity of the comparatively tiny sector. Even big miners can only fund one serious project at a time.

This might be fixed by tapping capital


Mining lithium in Chile

providers beyond the majors' usually cautious public-market investors. These could include vertically integrated manufacturers that rely on scarce minerals. Tesla, an electric-car maker, has promised to buy the future nickel production of mines in Australia, Minnesota and New Caledonia. Private-equity firms and state-backed national champions tasked with securing supply could also chip in.

A second problem is the worsening quality of mineral deposits. Udokan says it is the last potential mine with copper content above 1% of the rock. The average grade of Chilean copper has fallen by 30% over the past 15 years, to 0.7%. Lower grades are pushing up extraction and processing costs (and carbon emissions). "Today we use 16 times more energy to make the same pound of copper as we did 100 years ago," says Mr Cutifani.

Innovation may help. Last year BHP, another miner, and Equinor, Norway's state-backed energy firm, invested in an artificial-intelligence startup that sifts through 20m pages of state and scientific archives to identify where new deposits might lie. In time technological breakthroughs could even make exploring sea floors profitable. The world's 67,000km of mid-ocean ridges contain a lot of copper, cobalt and other minerals. This, too, could mint electrostates: Fiji (8%) and Norway (5.5%) hold the most economic rights to those ridges.

Yet innovation also makes future returns less certain. The durably high prices that miners need to invest will also encourage big buyers to seek alternatives to the dearest metals. Tesla's batteries include less than 5% cobalt, down from one-third just a few years ago. Innovation could also facilitate recycling. By 2040, the IEA reckons, extracting cobalt from old batteries could help meet 12% of total demand.

Game of stones

Perhaps the biggest risk to investment comes from politics. The minerals mania stands to make some poor economies rich overnight. The story of commodity booms over centuries, including the hydrocarbon bonanza, shows that this resource blessing can also be a curse, which could in turn discourage further investment.

Gigantic oil rents have made many countries unstable. Rival factions vie to control riches, fuelling inequality and strife. Vast dollar inflows buoy local currencies, crushing exporters. Debt binges during boom times trigger fiscal crises when the cycle turns. Resentful populations make domestic politics even more fractious. Take Nigeria. In 1965 it exported ten different commodities, from cocoa to tin. Two decades of oil discoveries later, petroleum accounted for 97% of its merchandise exports, and had contributed to political instability.

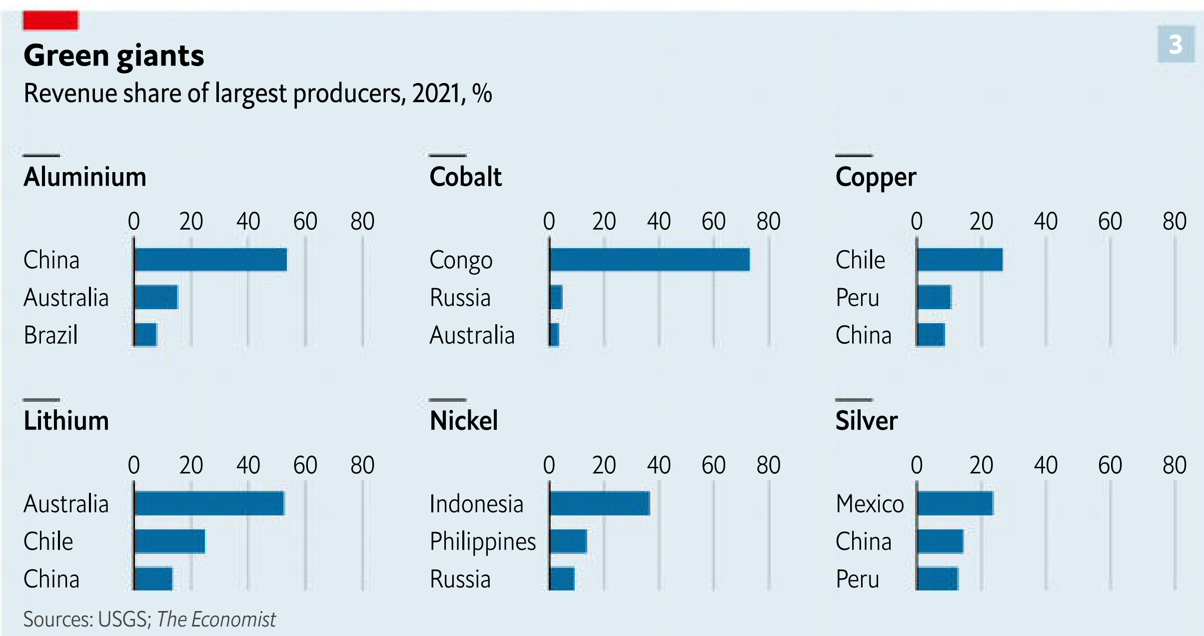
The worry now is that history repeats itself. Some electrostates are poorly equipped to manage windfalls. The majority of the world's 96 commodity-linked sovereign-wealth funds are backed by sales of fossil fuels; only seven green-metals exporters have established rainy-day funds, according to Global SWF, a data provider. That is despite a big need for them: much of the spending on metals is expected to take place by 2050, after which demand will ebb and exporters could face leaner times.

Even the prospect of a bonanza could tempt governments to extract more rents from firms. Some tensions are already emerging. Rio Tinto, the world's second-largest miner, was able to restart a long-stranded Mongolian project only after agreeing to write off $2.4bn in loans to the government. In January Serbia withdrew the firm's exploration permits after protests over plans for a big lithium mine. Peru's new leftist president is mulling higher taxes; one of its biggest copper mines has been blockaded for weeks by locals demanding a share of profits. Chile is debating nationalising copper and lithium as it works on a new constitution.

This volatile environment suggests metals may have to become pricier still before foreign firms think it worth taking a gamble. Price rises so far have already sent some Western miners to frontiers once deemed too perilous to explore. On March 20th Barrick Gold, a Canadian firm, signed a deal to invest $10bn in a copper mine on Pakistan's border with Iran and Afghanistan. BHP is returning to Africa with an investment in Tanzania.

But prices may still not be high enough. Last year Ivan Glasenberg, then Glencore's boss, said copper may have to hit $15,000 a tonne, up from today's record $10,000, to truly incentivise new supply. The higher prices go, however, the more they run the risk of depressing demand, or making local politics yet more volatile. Either could cause investment to stall again.

Many would-be green giants know they can help avoid climate catastrophe. "If we stop mining, we won't be able to cut emissions," says Juan Carlos Jobet, a former energy minister of Chile. To realise their superpowers, though, they will need to break the curse. ■



Oil

A volatile mix

HONG KONG

The three big uncertainties clouding the oil market

ALMOST A MONTH after Russia's invasion of Ukraine sent the oil price surging, turbulence in one of the world's most crucial commodities markets shows little sign of coming to an end. The price of a barrel of Brent crude oil surged to $121 on March 23rd, as storm damage halted exports from a Russian pipeline. Over the past fortnight it has whipsawed from a peak of $128 to as low as $98. The pandemic-related chaos of 2020 aside, the OVX index of oil-market volatility has rarely been higher in the past decade than it has been this month.

The swings reflect the interplay between the geopolitical and economic forces buffeting the world today, from war to rising interest rates and covid-19. Even beyond the outcome of the conflict in Ukraine, there are three big sources of uncertainty for the oil market. The first is what the members of the Organisation of the Petroleum Exporting Countries (OPEC) do as the West's sanctions bite and Russian production is shunned. America has banned imports of Russian oil; even in countries that have not taken that step, prospective buyers are struggling to transact with the Russian financial intermediaries that have been cut off from the plumbing of global finance as a result of sanctions, and may fear fresh sanctions to come.

On March 16th the International Energy Agency, an official forecaster, said that international markets could face a shortfall of 3m barrels of oil per day from April as a consequence. (The world consumed about 98m barrels a day last year.) The disruption in what was once a fluid global market is best illustrated by the gap between the prices of the Brent benchmark and Urals oil. On January 31st it stood at about 60 cents per barrel. By March 23rd it was around $30.

Toing and froing

Brent crude oil price, $ per barrel

Source: Refinitiv Datastream

Ural alone

Price difference between Brent crude and Urals oil, $ per barrel

Source: Refinitiv Datastream

This leaves a great deal of power in the hands of the two countries that are most able to offset a chunk of the Russian shortfall: Saudi Arabia and the United Arab Emirates. So far, both have resisted pleas to raise output substantially. At a meeting in early March, OPEC and its allies (including Russia) merely confirmed existing plans to raise overall output by 400,000 barrels per day. Their next gathering, at the end of this month, will be watched closely. Even small shifts in public pronouncements have the potential to set off swings in the oil price.

The second seam of uncertainty relates to the capacity of American shale-oil production to meet the supply shortfall. During the first fracking boom, which lasted from around 2010 to 2015, American output surged, causing the oil price to slump and weakening OPEC's hand. But conditions in the American economy have changed dramatically since, leaving analysts and industry insiders doubtful that shale can rise to the challenge.

For a start, financing conditions are less encouraging than they were during the boom in 2010-15. The Federal Reserve is expected to raise interest rates several times this year and next: two-year Treasury yields are just above 2%, compared with the sub-1% levels that persisted during most of the past boom. Another constraint on production comes from America's tight labour market. Just over 128,000 people were employed in oil-and-gas extraction in February, down from more than 200,000 at the height of the fracking boom in late 2014. With the headline unemployment rate at 3.8% and employers struggling to fill vacancies already, finding several tens of thousands of workers to move across the country will be no mean feat.

The industry's attitudes have also shifted. Both American producers and their potential creditors are now far more cautious about borrowing. Banks and asset managers are bound by stricter environmental standards. That is one factor driving costs higher. In the first quarter of 2022 energy-exploration and production firms reported the steepest increase in lease-operating expenses (ie, the recurring costs of operating wells) in at least six years, according to a survey by the Dallas Fed. Drillers themselves, having struggled to make consistent profits in the past, are far keener on capital discipline this time, too.

The third component of the volatility in the oil price is to do with demand. China's "zero-covid" strategy is being tested to an extreme degree. The country has recorded its highest numbers of cases since the pandemic began, and big cities are facing rolling lockdowns again (see next story). Platts Analytics, a commodities-research house, suggests that the restrictions could cut oil demand by 650,000 barrels per day in March, roughly equivalent to Venezuela's oil output.

Even before the lockdowns began, there were signs of a deceleration in China's economy, particularly in the property sector. Any sign that the slowdown in the world's biggest importer of energy is becoming broad-based would mean more tumult for commodities.

The machinations of OPEC, the shale calculus in America, and the health of the Chinese economy: any one of these sources of uncertainty would usually be sufficient to generate price swings. Together, they make a flammable mix. ■

Investing in China

Departing thoughts

Why foreign punters are feeling jittery about China

STATE MEDIA have not tried to hide the fact that billions of dollars in global investors' funds have drained away from China in recent weeks. They have attributed the outflows—$11.5bn since the start of March—to volatility in global markets, a hawkish Federal Reserve and the impact of Russia's invasion of Ukraine on global supply chains. One government publication downplayed the seriousness of the situation and speculated that foreign money will soon come pouring back in.

Indeed, China's markets have experienced short spells of outflows in recent years only to see them reverse quickly, usually within two months. Onshore markets have mainly been a sure bet since the inclusion of many mainland-traded securities in several global indices, such as MSCI's flagship emerging-markets index, starting in 2018. Tens of billions of dollars' ▸▸

worth of inflows have been ushered into China's markets each year since then. Occasional outflows, once in 2019 and twice in 2020, have occurred in that time. During the most severe bout in July 2020 about $12bn drained away before net inflows resumed two and a half months later.

This time around, however, foreign investors say that deeper, structural problems are sapping China's markets. The outflows have been more violent. And they have been accompanied by a global sell-off in Chinese securities. The Hang Seng tech index, which tracks many of China's biggest tech groups listed in Hong Kong, is down by 45% compared with a year ago. The NASDAQ Golden Dragon China index, which includes similar companies listed in America, has fallen by 58% over the same period. "A bounce is unlikely to come easily until investors see structural forces change again," says Kevin Lai of Daiwa Capital Markets, a broker.

Reports in the state media notwithstanding, the outflows do not appear to be closely linked to Fed tightening. Even as China has seen equity outflows, not much capital has flowed out of other emerging markets (see chart on next page).

Instead investors point to China-specific factors. State meddling in the private sector and with tech companies has, of course, become commonplace. Another worry is that Xi Jinping's support for Russia could lead to sanctions on Chinese firms. The war has also led to increased concerns over Taiwan, which China claims as its own and has vowed to take back. Fears over a Chinese invasion have for the first time led some investors to add geopolitical risk to their frameworks for assessing their Chinese investments. The ▸▸

Buttonwood Twisted metal

The parallels between the LME's nickel-trading debacle and the LIBOR scandal

IN "CASINO", A film from 1995, Joe Pesci plays Nicky Santoro, a violent gangster with a short fuse. Santoro has been losing heavily at blackjack. If the next card is a picture card, he will lose some more. The dealer turns the king of clubs. Santoro angrily flicks the card back and, in the saltiest language, orders the dealer to try again. A nervous floor manager nods his assent. The dealer turns the queen of hearts. Santoro grows angrier. The dealer tries again. The same sequence—picture card, profanity, fresh deal—is repeated, until Santoro has a winning hand.

In real-life casinos, as in financial markets, you do not get another free go if your bets go awry. Nor do not get your money back—except, apparently, at the London Metal Exchange (LME). This week the buying and selling of nickel on the exchange is slowly getting back to normal. But the cancellation of some inconvenient trades prior to a two-week hiatus in active nickel trading has damaged the reputation of the LME and the standing of London as a financial centre. A parallel that springs to mind is LIBOR—another London-branded benchmark that global finance lost faith in.

Start with a recap. The price of nickel, a metal used in stainless steel and electric-vehicle batteries, had been rising in the wake of the invasion of Ukraine. Russia produces a fifth of the world's purest-grade nickel. Stocks were already low. Then, on March 7th, nickel prices rose by 66% to $48,000 a tonne. In the early hours of March 8th the price doubled. The LME suspended trading in nickel, judging that prices no longer reflected the underlying physical market. But it went further. It cancelled all trades made after midnight. The price rises, the exchange said, had created a systemic risk to the entire market.

What happened was a classic short squeeze. At its centre was Tsingshan Holdings, a Chinese nickel producer, which had short positions (bets on falling prices) on the LME but also away from the exchange. Its attempt to cover the shorts by buying back nickel at inflated prices only drove the price higher. The fear was that Tsingshan could not make its margin calls, interim payments to parties on the other side of the trade. That might have taken down some of the LME's member-brokers. Exchanges call a halt to trading from time to time. But the cancellation of trades is extremely rare. And in other asset markets, the parties who lose out to extreme price moves have to take those losses. They don't get to flick the cards at the dealer and expect him to try again.

The LME justified its actions as protecting the integrity of the physical market. In doing so, it created a divide. On one side are the miners and metal-bashers that rely on the exchange for trading, pricing and hedging services. On the other side are fund managers, who use its futures and options to gain exposure to commodities as an asset class. The LME, which has a parent company in Hong Kong, seems to have favoured the first group over the second. For some, this was the right call. They see the exchange as a venue for metals trading, not a casino. But speculators are vital. Producers sell futures to insure themselves against a price rout that would threaten their solvency. Someone has to take the other side.

This is where the parallel with LIBOR comes in. The London Interbank Offered Rate was supposed to represent the interest rates at which banks lent to each other overnight. It was based on a survey of bankers. During the financial crisis of 2007-09, some bankers submitted false quotes to serve their private interests. Trust was destroyed. But so embedded was LIBOR as a benchmark, that it has taken many years to phase it out.

Though nothing the LME has done is illegal, trust in it has also been compromised. The metals prices set on the exchange are far less central to finance, but they are nonetheless the benchmark for industry pricing. And as with LIBOR, it is not easy for users to quickly take their business elsewhere. Like all established exchanges, the LME benefits from the power of networks: the more traders it attracts, the more others flock to it. A consequence is that the LME has a formidable market share in metals trading.

Like many London institutions, it leans on its heritage. It has a 145-year history, and is the last open-outcry venue in Europe. Viewed from New York or Connecticut, though, heritage looks like backwardness, and the LME's face-to-face trading a sign of its insularity. For now nickel trading has resumed in London. Players have returned to the tables, a few of them cursing like Santoro. But the game will never be quite the same again.

risk premium that investors deem acceptable to hold Chinese assets is rising, leading some to lower their allocations. The longer the war in Ukraine drags on, the higher the premium could go.

Moreover, China's weakening control over the Omicron variant of covid-19 darkens the economic outlook. The response to a worsening outbreak in Shanghai, home to many foreign executives, has become an embarrassment for local officials. International flights have been diverted. A chaotic, rolling lockdown of districts is being implemented. The gates of residential communities are being welded shut to keep dwellers from leaving. The situation, in China's most developed city, and two years into the pandemic, reveals Mr Xi's lack of an exit strategy from the crisis. The property market has also continued to wobble. On March 22nd Evergrande, a troubled developer, said Chinese banks had claims on $2bn of its cash, another bad sign for foreign creditors hoping to recover their investments.

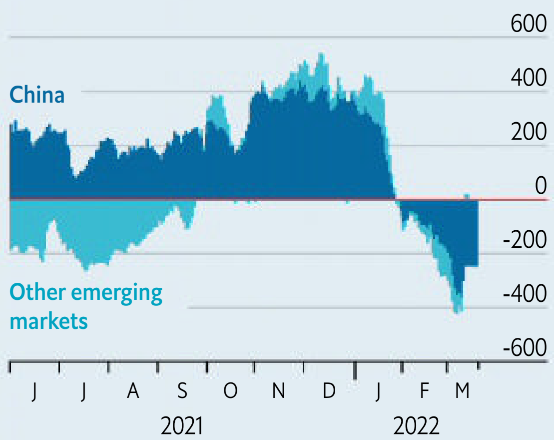
The market sell-off has jolted officials into action. The financial stability and development committee (FSDC), chaired by Liu He, a top economic adviser, is spearheading an attempt to regain investors' confidence. Starting on March 16th Mr Liu and the FSDC have promised to increase lending growth and push state-owned funds to buy more stocks.

China's leadership will support the listing of firms in America and ease its crackdown on tech companies. Housing-market policies will become more accommodative. And the government is also preparing to tackle the Omicron outbreak with self-testing kits and Pfizer's Paxlovid pill, which helps protect infected people against serious disease.

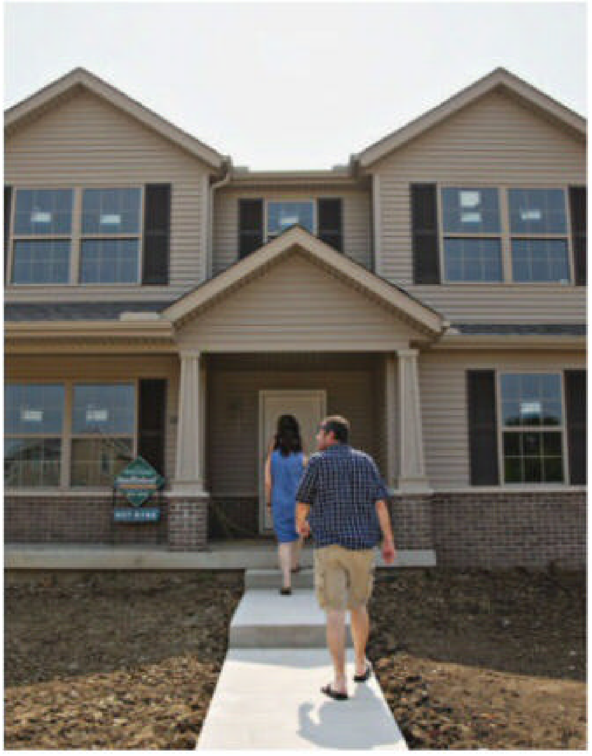
Mr Liu hopes to better communicate China's economic plans to the market in the future. But the important thing, says Laura Wang of Morgan Stanley, a bank, is how quickly the authorities can execute their promises. It will take more than talk to stanch the outflows. ■

Role reversal

Daily equity flows to emerging markets, $m



Source: Institute of International Finance



House prices

Coming of age

Millennials are stoking the property boom—at last

HOME OWNERSHIP had long been a distant dream for many millennials. But after years of putting off marriage, delaying parenthood and battling student debt, the so-called Generation Rent is at last emerging as a big driver of the housing boom in the rich world.

Typically defined as those born between 1981 and 1996, millennials make up the largest generation ever in America. As more of them reach their peak buying years, they are becoming a force to be reckoned with in the property market. In America they represent the fastest-growing segment of buyers and have accounted for more than half of all mortgage applications over the past two years. CoreLogic, a research firm, estimates that millennial homebuying was responsible for more than 60% of property-sales growth in 2020. British millennials are now more likely to own their home than to rent. And nearly half of adults aged 25-35 in Canada have bought property.

More millennials will reach the age of 32, the median age for first-time buyers, over the next two years than ever before. If the additional demand is to be satisfied American builders will need to construct as many as 2m houses each year, according to Jefferies, an investment bank. That compares with housing starts of 1.6m in 2021.

But the homebuying frenzy reflects more than millennials simply getting older. Following lockdowns and other sweeping changes to daily life during the pandemic, a growing number of millennials want larger family homes with more dedicated office space for remote work. Those who already own property are trading up for more space. This, in addition to stamp-duty tax cuts, helped push the number of first-time buyers in Britain to its highest level in nearly two decades in 2021. Some have brought forward plans to buy. In America nearly a third of young adults polled by Clever Real Estate, a property firm, said that covid-19 had nudged them into house-hunting earlier than planned.

The millennial push is reshaping property markets. For one thing, millennials are swapping flats for family homes. The vast majority of young buyers in America bought a single-family home in 2021. Many are also leaving cities, or trading expensive areas for cheaper ones. Young adults are less tied to London, says Lucian Cook of Savills, a property firm. The number of millennials in Britain's smaller cities, such as Manchester, Glasgow, Edinburgh and Bristol, is growing far more quickly than that in the Big Smoke.

Remote work is also opening up more affordable places to live. In America buyers are flocking to sunbelt hotspots, like Phoenix and Tampa. Zillow, a property firm, estimates that a typical renter in San Francisco would have to set aside 2.4% of their income for six or seven years to save enough for a 20% deposit on a starter home in Austin or Phoenix. For a similar property in San Francisco they would have to save for more than 70 years.

Will millennial home ownership continue to power the market? The growing number of millennials entering their buying years will keep momentum going, and flexible work could continue to make cheaper areas more attractive. The question is what happens to affordability. Interest rates in many places are going up: the Federal Reserve expects to raise rates six more times this year. That could cool demand and increase mortgage-servicing costs. Rising interest rates in the 1980s, for instance, depressed housing markets just as baby-boomers reached their peak buying years. The difference now, though, is that rates are low by historical standards and expected to rise only gradually.

Severe constraints on housing supply, however, may mean that affordability remains strained. Shortages of labour and materials will make it harder for builders to put new homes on the market. Record-low inventory and fierce bidding wars could mean fewer homes to choose from. For some millennials, the dream of home ownership may still prove out of reach. ■

Correction In last week's story on windfall taxes ("Power grab") we said that America's tax on oil producers was implemented in 1986. In fact it began in 1980. Sorry.

Free exchange | An EPIC challenge

Have economists led the world's environmental policies astray?

If the world economy fails to decarbonise, it will not be because of the cost. The gross investment needed to achieve net-zero emissions by 2050 can seem enormous: a cumulative $275trn, according to the McKinsey Global Institute, a think-tank attached to the consultancy. But over a period of decades the world would have had to replace its cars, gas boilers and power plants anyway. So the additional spending needed to go green is in fact much smaller: $25trn. Spread that over many years and compare it to global GDP, and it looks significant but manageable, peaking at 1.4% between 2026 and 2035. And that is without counting the returns on the investment. British officials reckon that three-quarters of the total cost of the transition to net zero will be offset by benefits such as more efficient transport, and that the state may need to spend only 0.4% of GDP a year over three decades.

The challenge of getting to net zero, therefore, is not primarily budgetary but structural: how do you design politically viable policies to ensure the transition actually happens? That is the question Eric Lonergan, an economist and fund manager, and Corinne Sawers, a climate consultant, take on in their new book "Supercharge Me: Net Zero Faster".

The authors are not kind to economists, who typically want to put a price on emissions and then let markets do the work. Economists have, the authors allege, skipped a chapter in the textbooks. They have focused on externalities, the damage done to society when carbon is emitted. But they do not think about the elasticity of demand—the extent to which prices change behaviour.

Carbon prices do not alter people's choices much when there are too few substitutes for dirty goods, or when those substitutes are too expensive. High fuel taxes, for example, tend to provoke a political backlash against environmentalism—think of France's *gilets jaunes*—but do not much alter transport emissions. Britain has had one of the highest levels of fuel duty in the rich world in recent decades, note Mr Lonergan and Ms Sawers, but drivers' take-up of electric vehicles has been unremarkable.

The authors argue that getting people to make the big leaps needed to decarbonise, such as buying an electric car or installing a domestic heat pump, instead requires "extreme positive incentives for change" (EPICS). They laud Norway for exempting electric vehicles from road tax, cutting their parking charges in half and giving them access to bus lanes. (More than 90% of cars sold in the country are now electric.) They propose big mortgage discounts for homeowners who retrofit their properties. And they want the state to generously subsidise lending to green projects while exempting them from a range of taxes. "To succeed we have to fight on all fronts," they write.

Their assault on carbon pricing is not entirely without merit. The theoretical attraction of the policy is that it leads the market to discover the cheapest ways to cut emissions, where behaviour is easily changed, while allowing other parts of the economy to choose to pay the toll. Economists in Barack Obama's White House were among those who puzzled over the "social cost of carbon"—the optimal carbon price that would deter some emissions, but not those that were sufficiently beneficial to the economy to offset their effect on global temperatures.

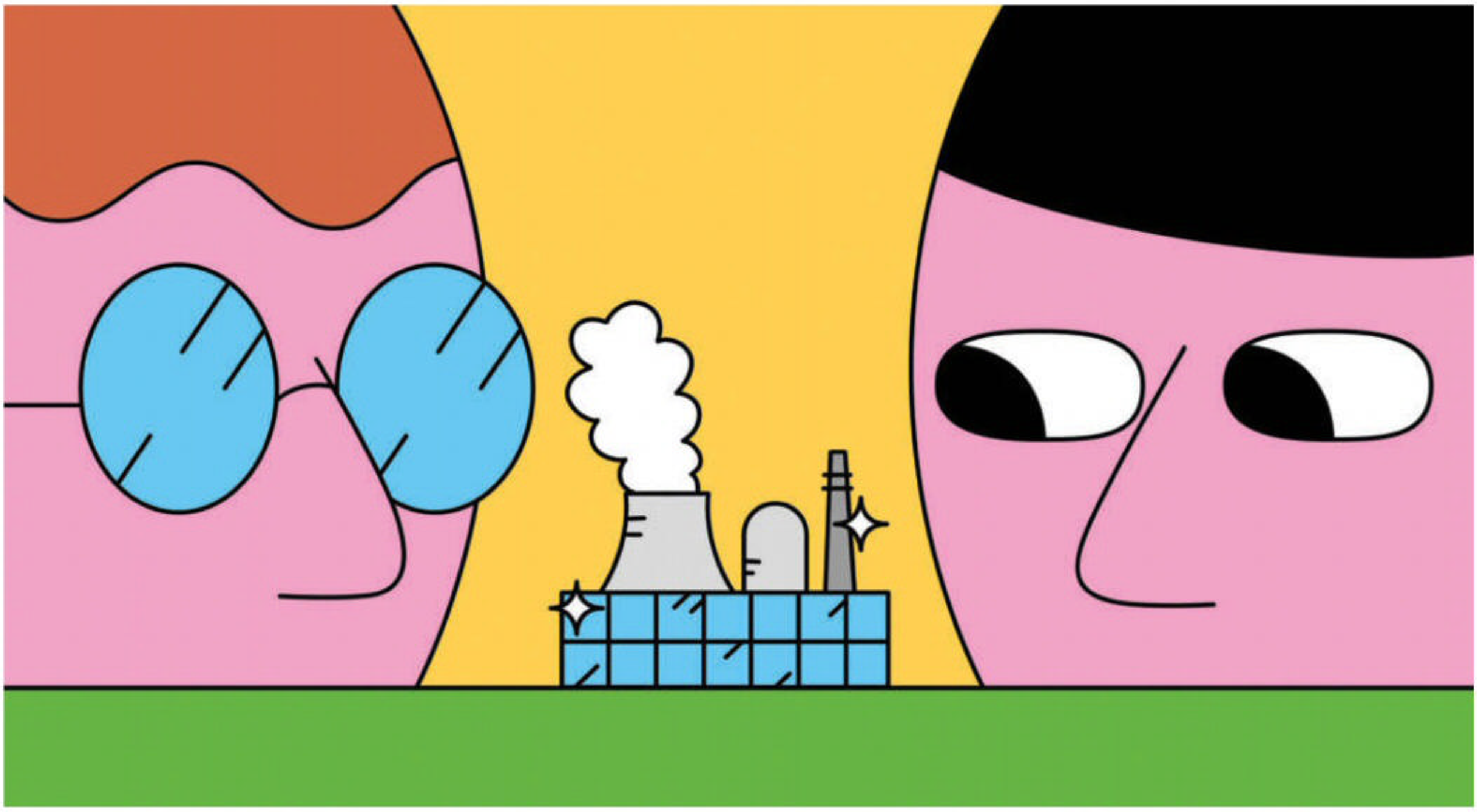
But in a world of fixed-date net-zero targets this sort of logic loses power. Such goals concern all pollution, not just that which is easily abated. Saying there is a maximum permissible amount of global warming of 1.5-2°C above pre-industrial levels—the targets in the Paris agreement—is like saying there is a point at which the social cost of carbon is infinite. In this world policymakers are not setting a carbon price to distinguish between emissions. They are trying to change behaviour. It may be that EPICS or investments in green technology are a more politically viable route to doing so than raising the carbon price to whatever level is necessary to extinguish inelastic demand for fossil fuels.

Yet the authors push their criticism of carbon prices too far. They praise Britain's adoption of wind power, but fail to note the role that its "carbon price floor", a minimum levy bolted on to the EU's emissions-trading scheme, played in the transition. They lament the "complexity" of carbon taxation, while also advocating a fiddly green corporate tax. And they fail to notice the flawed political economy of their kitchen-sink approach. For example, they call on central banks to provide the green subsidies they desire. To whom would the central bank be accountable? And once the principle that monetary policy does not allocate capital is conceded, what is to stop other demands being made on it? Carbon pricing is simple and transparent by comparison.

Casting the net wide

Moreover, there is an important role for carbon pricing even in a net-zero world. One area of technological possibility concerns the removal of carbon dioxide from the atmosphere. The potential for "direct air capture", or a well-governed market for carbon offsets such as planting trees, restores the logic of using carbon prices to discriminate between emissions as well as simply deterring them. If such advances materialise, the carbon price might eventually be the exact cost of extracting carbon from the atmosphere, with the market determining the size of the gross flows on either side of the net-zero ledger.

Even if Mr Lonergan and Ms Sawers are right that some EPICS are needed to make the journey to net zero politically easier, then, economists' long-standing arguments for carbon pricing still have considerable merit. And the world has been slowly coming round: in 2021 more than 20% of greenhouse-gas emissions were covered by a carbon-pricing scheme, up from about 5% a decade ago. The path to net zero will involve more than set-it-and-forget-it carbon pricing. But economists' favourite climate-change policy remains an essential one. ■



Nuclear energy

Pint-sized power stations

Amid war, a climate crisis and high gas prices, developers of small modular reactors hope their time has come

NUCLEAR POWER has never quite lived up to its promise. Reactors have proved much more expensive than hoped. Accidents and leaks have given it a reputation for being risky despite its zero-carbon credentials. (Attempts to point out that coal-fired power kills far more people than the nuclear variety have failed to convince many voters.) Nuclear's share of the world's electricity production fell from 17.5% in 1996 to 10.1% in 2020.

But governments committed to ambitious climate-change targets have been giving the technology a second glance. In January the European Union added nuclear power to a list of projects eligible for green finance. Russia's invasion of Ukraine, meanwhile, has sent fossil-fuel prices soaring, and put energy security at the top of the political agenda in Europe, which currently relies heavily on Russian natural gas. The nuclear industry reckons it has just the answer: a new generation of small modular reactors (SMRs), designed to be cheaper, quicker and less financially risky to build.

In 2019 Russia connected the *Akademik Lomonosov*—an experimental ship-borne SMR—to its power grid. China, which has more big reactors under construction than anywhere else, hopes to have its first commercial SMR operating in Hainan by 2026. Last year Britain's government said it would accelerate plans to build 16 SMRs designed by Rolls-Royce. NuScale Power, an American firm, hopes its first SMR, to be built at Idaho National Laboratory, will be providing power by 2029. The International Atomic Energy Agency reckons "about 50" SMR designs are being worked on around the world.

Of Henry Ford and fission

As the name suggests, SMRs are smaller than standard nuclear plants. Typically, they are intended to produce less than 300MW of electricity, roughly a fifth of what a standard reactor might manage.

Their size means that, as with cars, toasters and tin cans, their developers aim to use mass production in factories to cut costs.

"In a typical large reactor you're assembling most things in the field," says Chris Colbert, NuScale Power's chief strategy officer. "You might have 8,000 people working on the site." NuScale, with plants designed to produce 77MW of electricity, hopes to move as much of that work as possible into special factories, for later assembly on site. Factories offer protection from weather delays, he says. And having a regular supply of work in one place means there is no need to train a new batch of construction workers for every plant. "Something that takes 17 hours in a field might take just a single hour in a factory," he says. Instead of tying up capital for decades building a big plant, customers could see a return on investment much sooner.

NuScale's design has a 23-metre-tall, lozenge-shaped reactor vessel that sits in a steel-lined subterranean pool of cooling water (see diagram on next page) and is capped by a reinforced-concrete reactor building. Several plants can be combined into a large power station, or a few used to provide power to a single site. Such modularity implies redundancy, too, since individual reactors can be switched off for refuelling while the rest keep running.

Going small also offers opportunities to simplify the design, which helps keep costs low. The cooling water in NuScale's plant circulates through the core by simple convection, requiring no pumps or moving parts. And smallness, says Mr Colbert, brings safety benefits, too. Even if the internal cooling were to fail, the external water in the pond has enough capacity to absorb the diminutive reactor's heat production. Besides its putative plant in Idaho, NuScale has seen expressions of interest from Kazakhstan, Poland and Romania.

Other SMRs stretch the definition of "small". Rolls-Royce's are designed to produce 470MW of electricity—more than most of the first-generation Magnox nuclear power stations Britain began building in the 1950s. That requires the sorts of active safety systems found in ordinary nuclear power stations, such as coolant pumps and backup generators to ensure constant running if something goes wrong. This adds complexity, and therefore cost.

But most analysts reckon bigger size means economies of scale, and thus cheaper power. "The reason we're at 470MW is that's the most power we can get out of our footprint, while keeping every component fitting on a lorry," says Alastair Evans, a spokesman for Rolls-Royce. The firm hopes that, when and if its production line is up and running, each of its jumbo SMRs should cost £1.8bn ($2.4bn) and take around four years to build. It has seen interest from America, the Czech Republic and Turkey.

NuScale, Rolls-Royce and the China National Nuclear Corporation, which is building the plant in Hainan, are sticking with tried-and-true designs. All their proposed plants are light-water reactors (LWRs), which use ordinary water both to cool the core and to moderate the speed of the nuclear chain-reaction. Since most of the world's existing reactors are also LWRs, they hope sticking with the same general design will speed up regulatory approvals. (NuScale's design was approved by America's Nuclear Regulatory Commission in 2020, four years after it was submitted.)

Other designs are more exotic, relying on molten lead or sodium, or gaseous helium, instead of water, to cool their cores. X-Energy and U-Battery, American and British firms respectively, are betting on miniature helium-cooled reactors. These operate at much higher temperatures than LWRs. The helium in U-Battery's reactor will reach temperatures of about 750°C, says Tim Abram, the firm's chief engineer.

This means that, besides electricity, such reactors could also sell heat. Many industrial processes run at high temperatures. At the moment, that comes mostly from burning fossil fuels. U-Battery hopes its reactors might one day find a home in industries ranging from glass and ceramics to steel, cement and paper. They could even, says Mr Abram, be used to produce hydrogen for energy storage via a process called thermochemical splitting, which employs heat rather than electricity to cleave water into oxygen and hydrogen.

It all looks good on paper. But history counsels a degree of scepticism. Previous attempts to build commercial SMRs, dating back to the 1960s, have foundered on the twin rocks of economics and technology. The biggest difficulty, says M.V. Ramana, a physicist at the School of Public Policy and Global Affairs at the University of British Columbia, is that small reactors start at a disadvantage to their bigger cousins. The cost of building a reactor grows more slowly than its power output, he says. Other things being equal, bigger means cheaper.

Whether mass production can overcome that disadvantage remains to be seen. NuScale's Idaho plant is paid for in part by federal subsidy. But costs have risen, says Dr Ramana, from $3.6bn in 2017 to $6.1bn in 2020. Several of the firm's commercial partners pulled out of the project in 2020. That is not encouraging for a technology which must compete for low-carbon investment with solar and wind energy, the costs of which continue to fall.

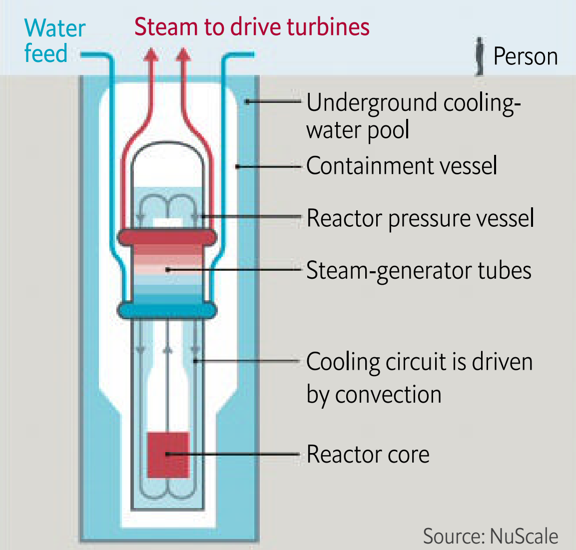
If at first you don't succeed...

Nuclear power is, however, these days looking less expensive than it did. One big plant under construction in Britain, on the coast of Somerset, had to be promised an inflation-linked electricity price starting at £92.50 per megawatt-hour in 2013. At the time, this deal was condemned as too expensive. But amid gas shortages and a dearth of wind, British electricity costs have been above that level for most of the past six months.

The International Energy Agency points out that once the need for storage or backup generation is taken into account renewables are more expensive than their sticker price suggests. And, as Russia's invasion of Ukraine shows, energy policy must weigh factors beyond bean-counting. Whether SMRs can help make nuclear power attractive again remains to be seen. But their advocates are unlikely to get a better chance to make their case. ■

Pool party

NuScale reactor



Source: NuScale

The war in Ukraine (I)

Dealing with degradation

Ukraine's internet is holding up better than expected to Russian attacks

DEGRADING AND ideally destroying your opponents' ability to communicate are elementary military tactics. And, in its war on Ukraine, Russia has certainly attempted to do this. These days, closing down communications focuses on the enemy's internet capabilities. So it is not surprising that analyses by NetBlocks, a firm in London that monitors internet activity, suggest that the number of devices connected to Ukraine's internet has fallen by nearly a quarter since Russia's onslaught began. Alp Toker, NetBlocks' founder, describes that loss as striking. But it could be a lot worse, for it means that most Ukrainians are still online. What is going on?

For one thing, Ukraine boasts an unusually large number of internet-service providers—by one reckoning the country has the world's fourth-least-concentrated internet market. This means the network has few choke points, so is hard to disable. In this, indeed, it fulfils one objective of the internet's ancestor from the 1970s, ARPANET, which was intended to be similarly resilient to attack. Repair crews, for their part, are toiling heroically, including, when possible and more efficient, by fixing equipment owned by competitors.

As for cyber-attacks, at the invasion's outset hackers shut down a proportion of the satellite links that Viasat, an American firm, provides to clients who include Ukraine's armed forces. That attack appears to have been an upload of malware disguised as a legitimate software update. Overall, however, cyber-attacks have not been as disruptive as feared. This suggests that "cyber aid" provided by the West in recent years was money well spent. Josh Lospinoso, who used to help America's army and National Security Agency (NSA) develop hacking software, says Ukraine's cyber-resilience could be a sign that agencies in NATO countries are assisting on the sly.

Beyond all that, Russian units seem to be leaving parts of the network alone, at least for now. These include sections that are accidentally providing them with data on targets, reckons Kenneth Geers, also once an official at the NSA and now working at the NATO Co-operative Cyber Defence Centre of Excellence, in Tallinn, Estonia. Dr Geers says Russians are feeding information to artillery teams by scanning social media and studying intercepted texts and calls, looking for messages that reveal military savvy and intent. If they can ▸▸

find out where the senders are, artillery strikes may follow.

That implies Ukrainian carelessness. But another reason Russian forces are deliberately preserving parts of Ukraine's telecommunications is that their own gear for military communications is scarce or underperforming.

Pursuing plans B and C

On the whole, though, Russia wants to stop Ukrainians conversing. So, to counter the loss of power and connectivity thus imposed, a range of lash-ups, workarounds and jury-rigs are being prepared.

Some use available materials. Yuri Vlasyuk, boss of iLand, a computer store in Kyiv, says batteries that power electric vehicles are being employed to make power banks for use during blackouts. However, electric cars are still uncommon in Ukraine, so Mr Vlasyuk called some friends in the Czech Republic and Lithuania to help out. Eventually, they managed to ship several hundred electric-car batteries to Kyiv. If the electricity does go out there, the assembled battery packs will power smartphones and other gear. Mr Vlasyuk says his gizmos have been distributed across Kyiv and to soldiers on the front.

An additional approach is to extend a phone's range—a handy trick if nearby cell towers are destroyed. This can be done using commercial devices called signal boosters, but makeshift range-extension antennae also work. These are made with lengths of coaxial cable and conductive household materials, "copper wire, Coca-Cola can, empty, this kind of stuff", says a retired radio-communications engineer in Warsaw who follows wartime jury-rigging of this sort. In the right conditions, such contraptions can triple a mobile phone's range to about 15km, greatly increasing the number of towers it is able to talk to.

Then there are shortwave-radio hams. Many of Ukraine's roughly 15,000 amateurs are now manning radios for military or intelligence units, says Artem Biliy, a ham operator in Lviv. To assist with this, Ukraine has temporarily banned conventional ham transmissions. But, if needed, hams could constitute a sort of alternative internet, Mr Biliy notes. With the use of modem software, digital data on smartphones and computers can be converted into analogue signals for shortwave transmission. Using the same software, radio operators hundreds of kilometres away can translate the signals into text or images. But this is cumbersome. It takes several minutes to send a low-resolution photo from one ham radio to another.

Which is where Elon Musk comes in. Responding to a plea for help from Ukraine's government, Mr Musk, head of SpaceX, an American rocketry firm, quickly provided internet terminals that connect to a constellation of satellites called Starlink. Because Starlink satellites orbit a mere 550km up, the service is faster than those that rely on geostationary satellites nearly 36,000km away.

Early batches of these terminals went to eastern and central Ukraine. The first shipment to the country's west arrived in Lviv on March 22nd. Lviv IT Cluster, a group of information-technology firms that are collaborating with SpaceX, is speedily distributing the terminals. How many there are is a secret. But Stepan Veselovskyi, Lviv IT Cluster's head, says there are enough for hospitals, utilities and rescue services, and also for "critical" government offices, military units and businesses. Smartphones and computers that connect to a Starlink terminal via Wi-Fi download about 150 megabytes of data a second, enough for 12 minutes of video.

To assist their wartime use, SpaceX has tweaked the terminals to draw power from vehicle cigarette-lighter sockets, and has provided special adapters to that end. It has also shipped more conventional power sources, in the form of solar arrays, battery packs and electricity generators. Starlink is the closest thing Ukraine will get to a backup internet. Russian officials are angry. Dmitry Rogozin, head of Russia's space agency, Roscosmos, slammed Starlink as "the West we should never trust".

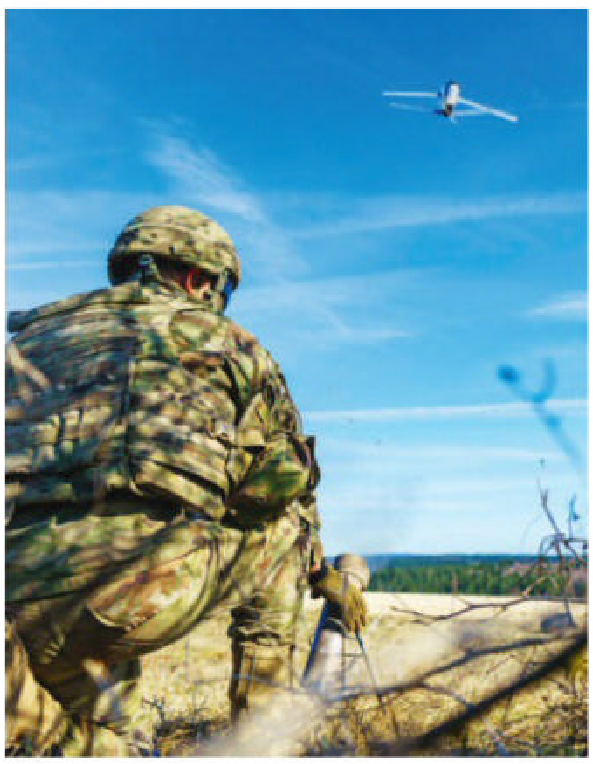
Using Starlink does carry a risk. The terminals' emissions make them bright targets for missiles designed to seek radar emplacements, says a colonel in Ukraine's army. For this reason, he says, troops will use Starlink only as a backup. Also, though Starlink is useful, if internet and telecoms networks were to break down it would be able to connect only a tiny fraction of Ukraine's population. That population does, however, seem so far to be making a pretty good fist of keeping these networks going by other means. ■

The war in Ukraine (II)

Loitering with intent

Baguette-sized flying bombs are about to enter service in Ukraine

Javelin anti-tank missiles supplied to Ukraine by America are imposing a heavy toll on Russian forces. Now, the Americans are sending a batch of 100 somewhat different portable weapons—so-called loitering munitions. The difference is that, with a Javelin, you have to choose the target before you launch the missile. With a loitering munition, you don't. Rather, you can fly it to a target-rich environment and pick out the richest of the lot to attack.



Seek and destroy

The Javelin, a modern successor to the Bazooka, weighs 20kg with its launcher and can hit something up to 4km away. Switchblade, as the loitering munition in question is known, is subtler. The version most likely to be delivered (though no one will confirm this) weighs but 2.5kg, yet has a range of 10km. Though it cannot penetrate tank armour, its grenade-sized warhead is effective against unarmoured vehicles and groups of troops. That, as Nick Reynolds, an analyst at RUSI, a British defence think-tank, observes, means they can be used in particular against artillery batteries, whether of guns or rocket launchers—which are "softer" targets than tanks. This may be increasingly important as Ukraine's cities are subjected to heavy artillery bombardment.

Like Javelin, Switchblade is launched from a tube. But rather than being a sleek rocket capable of travelling supersonically, it is a miniature aircraft—a drone—with wings that flip out after launch (hence its name) and an electric propeller which drives it forward at a leisurely 100kph for a flight that can last up to 15 minutes. It is controlled using a tablet that displays videos from an optical camera and an infrared thermal-imager which are on board the craft. When the operator spots a target, he or she locks onto it and the drone accelerates towards it at up to 160kph, chasing it automatically if it takes evasive action.

Robert Bunker, director of research and analysis at C/O Futures, a security consultancy in California, says that the precision thus offered allows Switchblade to focus on high-value targets: not just artillery, but the headquarters and command vehicles of artillery units. The close-up view provided by camera and thermal-imager means that targets can be picked with care.

Moreover, if the operator realises a mistake has been made as the drone closes in, the attack can be called off and the weapon flown back into the sky until another target has been identified. That gives Switchblade an advantage over a different sort of loiterer, armed drones. These, in the form of missile-carrying Bayraktar TB2 drones from Turkey, helped Ukraine mount its defence in the early phases of the war. But they are the size of light aircraft and need considerable supporting infrastructure, such as runways and refuelling facilities. A Switchblade, by contrast, can be carried around in a backpack (it is about the size of a baguette) and deployed whenever needed. It is also cheaper, far easier to distribute and can be used with minimal training.

Though thousands of Switchblades have been used in action by American forces in Iraq and Afghanistan since their introduction in 2011, they have until now flown under the metaphorical as well as the physical radar. No video has been released of them in combat. And they have been exported only to Britain, probably America's most trusted ally.

Ukraine, however, is well prepared to use them. Its military planners realised some time ago that loitering munitions could be an effective equaliser for a smallish country threatened by a large neighbour. In 2017 the government signed a deal with WB Group, a Polish electronics company, to buy supplies of its catapult-launched Warmate loiterer, which has a weight of 5.3kg and a range of 15km—though legal problems interfered with its planned deployment last year, and whether it is now in use is not public information. Nevertheless, in December the defence ministry announced that dedicated loitering-munition units would be formed within Ukraine's army, to act as parts of "brigades of the future".

On top of all this, several Ukrainian firms are developing loiterers. The most advanced project is run by Athlon Avia, one of many enterprises which sprang up to aid the armed forces before, during and after the Crimean crisis of 2014. Since then, Athlon has become a full-fledged drone-maker, and one of its products, the ST-35, is a loitering munition. This weapon passed flight tests with the Ukrainian army in 2020—though whether it has yet been deployed has not been announced.

The ST-35 is launched in an unusual way. Instead of being fired from the ground it is taken aloft by a multicopter drone which, after releasing it, then acts as a communication link. That gives an effective control range of 30km.

Three other Ukrainian firms—Adrones, CDET and Cobra—are also working on the idea, and although none had a deployable system when the current war started, experience has shown that Ukrainian armourers excel at improvisation and at turning out usable products rapidly in difficult conditions. Weapons which offer the potential of striking unseen from long range, whether supplied from America or from Poland or in haste from local workshops, are particularly valuable. Their success may also give an insight into how important they could be in future wars. ■

Cyborg insects

Roaches to the rescue

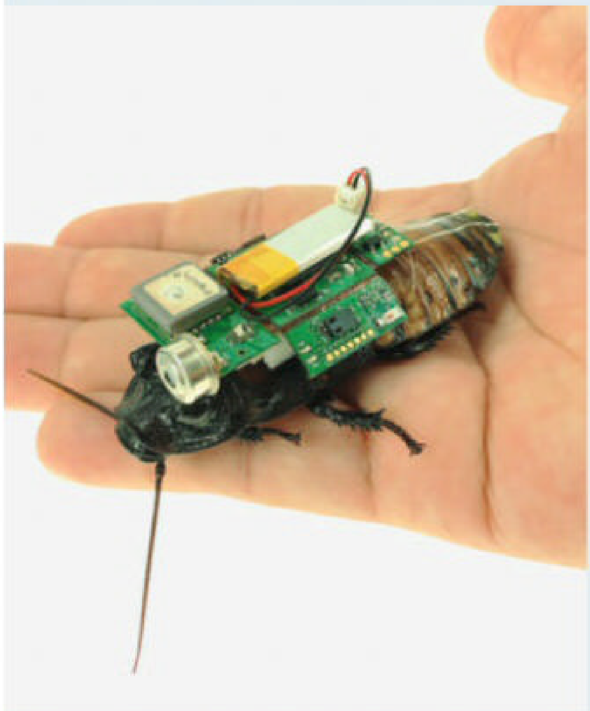
SINGAPORE

Robotised arthropods may search collapsed buildings for survivors

WHY GO TO all the trouble of designing and building a drone if nature has already done most of the job for you? That is the attitude taken by the small but determined band of researchers who are trying to robotise insects. Some are working on turning flying critters like beetles into such cyborgs—perhaps for use in military reconnaissance or espionage. Others prefer to concentrate on the creepy-crawly side of entomology, by taking electronic control of cockroaches.

The first cyber-roach goes back to 1997, when Shimoyama Isao of Tokyo University sent electrical signals to a cockroach's antennae, causing it to turn either left or right depending on which antenna was stimulated. Others have built on this approach by recruiting extra sense organs, such as the rear-facing cerci. They have also begun fitting the insects with instrument packs that might let them do a useful job: searching collapsed buildings for survivors.

One such is Sato Hirotaka of Nanyang Technological University, in Singapore. He has been working on cyber-insects



A roach in the hand...

(including flying versions, in the form of giant flower beetles) for 15 years. Now, he has added another twist to cyber-roaches. Instead of having their movements dictated by remote control, his are autonomous agents. They are run by algorithms that respond directly to sensors in their backpacks.

The insects thus fitted out by Dr Sato are Madagascar hissing cockroaches, which are about 6cm long. The backpacks contain a communications chip, a carbon-dioxide sensor, a motion sensor, an infrared camera and a tiny battery.

For search-and-rescue operations in collapsed buildings, fleets of these roaches would be released into the rubble, to crawl their way through while searching for signs of life such as movement, body heat and elevated CO_2 levels from respiration. The artificial intelligence that decides whether a set of signals actually indicate the presence of a human being is programmed directly into the camera. If it thinks it has spotted someone, it alerts a rescuer.

To test this arrangement, Dr Sato and his team ran trials in a simulated disaster zone. They laid out concrete blocks of various shapes and sizes in an area of 25 square metres. Interspersed among these were a number of people, and also some decoys, such as a heat lamp, a microwave oven and a laptop. They then released the cyber-roaches, having first programmed into them the search's start and end points. The software proved able to recognise humans correctly 87% of the time, a success rate Dr Sato thinks could be improved still further by collecting multiple images from different angles.

The next phase of the project is to refine the system for use out of doors. That done, manufacture of the backpacks and automation of their attachment to the insects will need to be commercialised. If all goes well, Dr Sato reckons the result could be available for deployment within five years.

Understanding Russia's president

Greyness, greed and grievance

The West has struggled to grasp the threat posed by Vladimir Putin, as a bibliography of his long rule shows

HE WARNED US. Vladimir Putin gave notice of who he was, and what he was capable of, in "First Person", a transcript of interviews published in 2000, at the start of his overlong rule. In his youth, he recalled, he had been a tough little hoodlum who fought rats in the stairwell of his communal-apartment building and, later, brawled with strangers on the streets of Leningrad. "A dog senses when somebody is afraid of it," he had learned, "and bites." He prized loyalty and feared betrayal. He was hypersensitive to slights, to both his country and himself (concepts which, in the decades that followed, became perilously blurred). He bore grudges.

One of them was over the collapse of the Soviet Union. In the interviews he reminisced about a jaunt to Abkhazia and a judo tournament in Moldova: the Soviet empire had been his wealth and pride, and when it fell, he took it hard. "I wanted something different to rise in its place," he said of the lost Soviet influence in eastern Europe. Frantically burning papers as a KGB officer in Dresden in 1989, grieving the "paralysis of power" that seemed to have afflicted Moscow, he came to associate protesting crowds with disintegration. Corruption, meanwhile, was only to be expected in Russia, he implied—"and if somebody thinks that somebody stole something, let him go and prove it."

Sometimes the Mr Putin of "First Person" appears frank, at others, cagey and withdrawn. Few people knew him well; he was seen as a grey man, inscrutable. Greyness, grievance and the greed of corruption have been the dominant themes in books written about him in English since. As he amassed resentments, secrets, assets and fears, the emphasis on these features has shifted. Looking back at a bibliography of Mr Putin shows how he has been changed—or exaggerated—by power, and how haltingly the world has grasped the threat he poses.

As Mr Putin rose without trace from St Petersburg to Moscow in the 1990s, then from the leadership of the FSB (the principal successor to the KGB) to the presidency, greyness was the main tone. Given his oxymoronic slogans, such as "managed democracy" and the "dictatorship of the law", and his moves to neuter Russia's media, courts, parliament and oligarchs, observers rarely mistook him for a genuine democrat. But some saw his co-operation with the West after the September 11th attacks as the start of a permanent realignment, not just a tactical feint. Many were slow to realise that his abuses were bound to seep across Russia's borders.

In "Putin: Russia's Choice" (2004) Richard Sakwa thought the country had shaken off nationalism and imperialism; he was confident its economic modernisation and global integration would continue. Andrew Jack was warier in "Inside Putin's Russia" (2004), noting Mr Putin's democratic backsliding and disregard for human rights. The "contradictions of economic liberalism and political authoritarianism will eventually clash", he predicted. But he judged this "liberal Chekist" to be more reliable than his predecessor, Boris Yeltsin.

The comparison was widespread: outsiders' sanguine views of Mr Putin were initially coloured by a feeling that things had been worse, and could yet be again. He seemed caught in a familiar Russian alternation between embracing and rejecting the West. The question seemed to be how useful or obstructive he would prove to Western plans—not whether he might try to remake the world.

Darkness and the don

David Satter was among the first Anglophone analysts to gauge the evil in the system. In "Darkness at Dawn" he accused the FSB of orchestrating a string of bombings in Russia in 1999 that killed around 300 people and ignited the second Chechen war—thus helping Mr Putin, who oversaw the fighting, to secure the presidency. Few were ready to digest that theory; several Russians who pursued it came to a sticky end. (Swap the word "Ukraine" for "Chechnya", and Mr Putin's comments on the war in "First Person" eerily fit today's carnage and lies. His "historical mission" was to prevent Russia's collapse, he claimed; what might look like aggression was really self-defence.)

In time writers understood that all of Mr Putin's Russia, not just Chechnya, was ruled through power rather than by the law. As the rackets and redistribution of wealth became brazen, and the lifestyles of insiders pharaonic, greed ousted greyness as the main motif in commentary. The mafia became the preferred analogy for Mr Putin's clique of *siloviki*, or strongmen.

In "The Man Without a Face" (2012), for instance, Masha Gessen characterised Mr Putin, then set to reclaim the presidency after a pro-forma stint as prime minister, as a killer and extortionist. This version of him—a KGB thug turned mafia godfather—had been "hidden in plain sight", but obscured by wishful thinking and that grey veneer. Death and terror were politically useful to Mr Putin, the author wrote. He made no distinction between the state's interests and his own.

The gangster network was definitively elaborated in "Putin's People" (2020). In the system of "KGB capitalism" that Catherine Belton described, government in Russia was a machine for extracting rents and expropriating assets, politics a squabble over who got them, and the president its referee. The *siloviki* were bound together by a regime of mutual blackmail, in which secrets were both weapons and liabilities; for his part, Mr Putin had spilled too much blood and made too many enemies to retire. Besides self-enrichment, the spoils were used to undermine the West, black cash sloshing around the world to fund "active measures" and the "restoration of the country's global position".

The third characteristic—grievance—was always visible too. Notoriously, in 2005 Mr Putin described the fall of the Soviet Union as "the greatest geopolitical catastrophe of the 20th century". After annexing Crimea in 2014, he said the Soviet collapse had left Russia pillaged and shamed. But the fact that his imperial bluster was much more than camouflage for graft, and where it might lead, took far too long to sink in.

In "The New Tsar" (2015), Steven Lee Myers perceptively identified the Orange revolution in Ukraine in 2004 as a breaking-point. Huge protests overturned the result of an election rigged in favour of Mr Putin's candidate. The reversal combined personal humiliation with a geopolitical rebuff; his fear of crowds, and sense of the jeopardy of democracy, were inflamed.

He "nursed the experience like a grudge", Mr Lee Myers wrote, tightening the screws in Russia, ramping up his propaganda and setting up tame youth movements to dominate the streets. Mr Putin's bleak Chekist mindset could not admit the possibility that Ukrainians were turning West—and rejecting him—of their own volition. Convinced that the CIA had paid or cajoled them, he embarked on a spiral of meddling that culminated in the latest invasion. By 2014, thought Mr Lee Myers, he had found a "millenarian" mission as the indispensable leader of an exceptional power. "The question now was where would Putin's policy stop?"

Among chroniclers of the Putin imperium, Clifford Gaddy and Fiona Hill best guessed the answer. In "Mr Putin: Operative in the Kremlin" (2015), they saw his efforts to make Russia's economy more resilient, and to eliminate domestic opposition, as a long-haul preparation for confronting the West. His bid to undermine Western democracies through fifth columnists, bribery and *kompromat* was part of the same strategy. The greyness, they wrote, had always been tactical: Mr Putin was "the ultimate political performance artist", his mercurial public persona a way to keep his adversaries off-balance.


Voting like it's 1999

Mr Gaddy and Ms Hill—who became the top Russia adviser in Donald Trump's National Security Council—concluded that he was more than an avaricious gangster. His objective was to survive and overcome his foes, who, in his view, were Russia's enemies too; to that end he was waging a long, hybrid war against the West. He would pounce on weaknesses, the pair warned, and fulfil his threats. "He won't give up, and he will fight dirty." Yet even these authors judged that, if only for reasons of trade, Mr Putin "does not want Russia to end up being a pariah state".

The tsar's ratchet

In retrospect, only the optimists got it wrong. As the novice president, squirming in his suit, aged and ossified into a Botoxed monster—if with the same villainous smile—the greyness faded out of his bibliography. Greed and grievance took over. What outside observers missed, though, was how much, over two decades, the ratcheting effects of power would exacerbate these old features.

According to the inexorable logic of authoritarianism, Mr Putin's domestic repression grew ever more severe. He became more isolated, both diplomatically and among his advisers. He threw off moral constraints in his military campaigns. The nationalist rhetoric hardened into an apocalyptic ideology, which reached deep into history and cast Russia as a bulwark against the decadent West. His fear of crowds became a sort of narcissistic paranoia. He accumulated grudges—not least, against Ukraine—and stuck around long enough to avenge them.

Meanwhile the costs to his people—real Russians, rather than those of a stylised past—have mounted. His regime has always looted the country's resources and lied to its citizens, with a contempt typical of authoritarians. As Russia's soldiers perish on a needless battlefield and its civilians face ostracism, the callousness has become starker. Beyond books about the Kremlin, one insight into that treatment comes from the school of German historians, including Sebastian Haffner, who found a psychological rationale for the devastation Hitler visited on Germany: his rage, they concluded, had always been partly directed at his own country. The ruin Mr Putin is inflicting on Russia (even as he terrorises Ukraine) can be viewed in the same light. He says he loves the mother-land, but his actions suggest the opposite.

The book that most clearly saw where Putinism was heading was not a history or biography but a novel. "Day of the Oprichnik" by Vladimir Sorokin, a Russian author living in exile, is set in 2028. The Russia it depicts seems to exist in two time-frames at once, futuristic technology jostling with medieval barbarity and obscurantism. The country is walled off from Europe and the tsar has been restored. His word is law, but even he must "bow and cringe before China", which (along with gas exports) props up the economy. The oprichnik of the title is one of his elite henchmen—the name comes from an order of pitiless enforcers under Ivan the Terrible. Their methods are murder and torture, their sidelines extortion and theft.

Published in 2006, Mr Sorokin's satirical dystopia has come to seem more prescient than outlandish. The details are grotesque, but also, sometimes, horribly familiar. In the story, when the wall was built "opponents began to crawl out of the cracks like noxious centipedes"—imagery that anticipates Mr Putin's dehumanisation of his critics as gnats. Chillingly, when the oprichniks gather for a debauch, one of their toasts is "Hail the Purge!" ■

Celebrity marriages

Such sweet sorrow

Life and art imitated one another in the explosive union of two stars

Truly Madly. By Stephen Galloway.
Grand Central Publishing; 416 pages; $30. Sphere; £25

In February 1940 Laurence Olivier and Vivien Leigh attended the 12th Academy Awards ceremony. Olivier was nominated as best actor for his performance as Heathcliff in "Wuthering Heights"; Leigh won the best actress Oscar for her turn as Scarlett O'Hara in "Gone With The Wind". Two months later, the lovers embarked on an American theatre tour as Romeo and Juliet. Four months after that, having finalised divorces from their previous spouses, they were able to get married. That all happens within four pages of Stephen Galloway's new joint biography. It must have seemed that the couple were leading the most charmed of lives.

The theme of the book, though, is that if (as its subtitle has it) this was "the romance of the century", the runners-up must have been horrible. Leigh overdosed on sedatives while making "Gone With The Wind", a notoriously long, gruelling and calamity-strewn production. When she won her Oscar, Olivier was "insane with jealousy", he admitted. Reviews of their "Romeo and Juliet" were, he lamented, crushing in their "sheer, savage, merciless cruelty".

And the wedding was "a shambles". The bride and groom argued throughout their 90-mile journey to the ceremony. The justice of the peace was so drunk that he got their names wrong and wound up with a shout of "Bingo!" The tone was set for their 20-year marriage. Noel Coward, a long-term friend, summed up its later days in his diary: "Their life together is really hideous," he wrote. They were "scrabbling about in the cold ashes of a physical passion that burnt itself out years ago...They are eminent, successful, envied and adored, and most wretchedly unhappy."

When their careers separated them, they wrote agonised letters wishing they were together again. When reunited, they were racked by envy, resentment, exhaustion, infidelities, money worries, miscarriages, alcoholism and, in her case, tuberculosis. Leigh craved company, and threw endless parties in their Oxfordshire country home; Olivier wanted to be alone. He, meanwhile, was fixated on scaling ever higher peaks as an actor and director. After they divorced in 1960 Olivier had three children with his next wife, Joan Plowright. Leigh had still not got over him when she died in 1967.

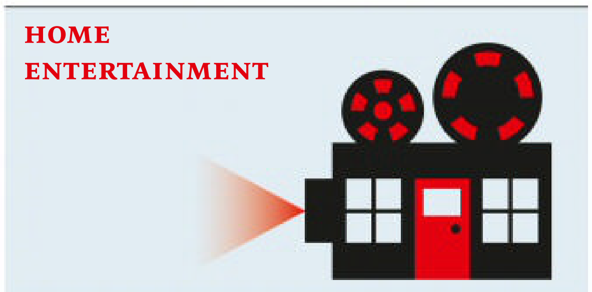
"Truly Madly" is not revelatory. Relying on extensive quotes from previous biographies, and reports in film magazines and newspapers, the book is a well-researched survey of previous writing about the couple. Mr Galloway's personal preoccupation is Leigh's bipolar disorder, which prompted frequent manic episodes. He interviews various psychiatric specialists, and emphasises that her violent outbursts arose from a severe illness and not, as Coward put it, because "she has always been spoilt and when she fails to get her own way she takes to the bottle and goes berserk."

Perhaps she and Olivier each needed a more stable helpmate. For all the trauma, though, they were well-matched in some ways. Olivier directed Leigh in several hit plays, and Leigh, a voracious reader, contributed numerous (uncredited) ideas to his productions. Their tumultuous relationship appears to have enriched their performances, too.

It is hard to say if life was imitating art or vice versa when Leigh played Lady Macbeth, Anna Karenina, and Blanche DuBois in "A Streetcar Named Desire", but she and Olivier saw the parallels between their marital strife and their characters' predicaments. "It was Vivien's illness that made Olivier the great actor he became," Simon Callow, another actor, tells the author. "He was forced to engage with overpowering emotions and to acknowledge that willpower was not the solution to everything."

Something worked, anyway. Leigh won a second Oscar for "A Streetcar Named Desire". Olivier won two for producing and starring in "Hamlet", plus countless other awards. His achievements, especially, were prodigious, and he and Leigh were hailed as the king and queen of British theatre. Unfortunately, as in the Shakespeare plays they made their own, royalty was the stuff of tragedy as well as romance. ■

Love and other demons



Montaigne's "Essays"

Body and soul

A French philosopher offers a lesson in seeing other points of view

LIKE MANY people, as he grew older Michel de Montaigne paid close attention to the workings of his body. He began to feel the cold in his bones; his servants brought him clothes at night "to warm my feet and stomach". He liked to sleep for eight or nine hours, he tells his readers, and avoided "violent activities" that "bring on sweat". He could not eat even two meals a day without vomiting—but if he skipped one, flatulence and a dry mouth ensued.

These are not the typical musings of a renowned thinker, but Montaigne's "Essays" are not typical works of philosophy. In 1570, after sitting in Bordeaux's parliament for 15 years, Montaigne retired to his chateau (pictured). This self-imposed solitude proved productive. He published two volumes of the "Essays" in 1580 and a third in 1588. In their pages he explores topics ranging from friendship to architecture to child-rearing. His prose weaves together history, personal experience and arguments from his favourite philosophers; anecdotes about his napping schedule are juxtaposed with maxims.

It was Montaigne who popularised the essay genre. The name derives from the French verb *essayer*, "to try", and Montaigne viewed his chapters as attempts to understand a topic. In "Of Drunkenness", for instance, he examines philosophers' views on booze (Socrates and Cato both enjoyed a tipple). German drinking habits of the 16th century are mentioned several times, as are the author's own tastes. But he never rules on whether drunkenness is right or wrong. Rather, he lays out a range of opinions and lets the reader decide.

Montaigne strove to see the world from other perspectives. In one chapter he recounts various South American customs, such as an unfamiliar drink ("it tastes a bit sharp") and faith in soothsayers. He knew his European readers would find these habits puzzling, so, by way of balance, he delves into the "strangeness" of French society. He recalls a meeting with some South American tribesmen who, on visiting Rouen in the 1560s, asked why, in Charles IX, the French had a king who was ten years old.

The writer admits that his "Essays" are a personal undertaking rather than an authoritative, objective study. "Reader," he confides, "I myself am the subject of my book." The immediate context included the Wars of Religion that had engulfed France. Conflict between Protestants and Catholics ravaged Bordeaux—the philosopher's siblings were on opposing sides—yet he resisted polarisation. For his time, Montaigne's determination to consider other viewpoints was unusual. It still is.

The "Essays" document a changeable mind as well as a changing body. After the first editions were published, Montaigne edited them extensively, often adding entire paragraphs—which sometimes completely contradicted his original points. He read more books of philosophy, his opinions evolving with each. He contemplated his own mortality, which reshaped his outlook too. The "Essays" are the product of a questing intellect, which rejected dogma in favour of something more nuanced and original. ■

The Sassoon business dynasty

Ghosts of the East

The Global Merchants. By Joseph Sassoon. *Allen Lane; 412 pages; £30*

BEYOND THE crumbling fish dock in Mumbai or on Shanghai's Bund, few know of the Sassoons. Yet theirs was a fabled merchant empire that could once have claimed to be the first truly globe-spanning multinational. In the mid-19th century they were Asia's most powerful business dynasty. Their decline is a warning to tycoons who dream of descendants perpetuating their eminence and riches.

The story begins with David Sassoon. His family were pillars of a Jewish community in Baghdad that dated to the Babylonian captivity. David, like his forebears, was treasurer to the Mamluk rulers of the province. Exactly why he fled from Dawad Pasha, a cruel potentate, is unclear; but as his grandson, Edward Sassoon, recounted, "certain it is that the place got too hot for him." David arrived in Bombay in 1832.

The fact that Edward was an MP in Edwardian England hints at the family's remarkable trajectory. Bombay was the springboard. The Industrial Revolution was in full stride, and the city epitomised a very British marriage of commerce and empire—like much of India, it was run by the East India Company. By the racist standards of the day, Bombay society was tolerant. Enterprising types were welcome, regardless of origins. The family of Jamsetji Tata, India's first industrialist, was soon on warm terms with the Sassoons.

No one doubted David's probity. Along with a canny but cautious business sense, he was notable for his philanthropy, including the unfashionable activity of educating girls. But his strongest ties were with his family. He had eight sons and six daughters by two marriages. In time the sons were sent to run business outposts that stretched from Yokohama to London, via the coast of China, Calcutta and Cairo.

Letters were the family glue, written in the Baghdadi-Jewish dialect. The author of "The Global Merchants" is not a direct descendant of these Sassoons, despite his surname. But he does read the dialect, having himself been born in Baghdad. He brings out both David's care for his children and his strictness: he expected at least a letter a week from each remote emissary.

The family rode the empire's cresting wave. One war in particular turbocharged the Sassoon fortunes, when Britain forced Indian opium on China in 1839. The Sas- ▸▸

soons became drug-runners, with a return trade in Chinese tea, along with Indian cotton, shipped to Britain. America's civil war also favoured the Sassoons, who sent their cotton to Lancashire mills cut off from the plantations of the Confederacy.

The family adopted new technology—they were early users of the telegraph—and diversified into shipping and insurance. A competitor encapsulated the period: "Silver and gold, silks, gums and spices, opium and cotton, wool and wheat—whatever moves over sea or land feels the hand or bears the mark of Sassoon & Co."

Then, in 1864, the patriarch died and sibling rivalry set in. One ambitious son, Elias, set up in competition. Scions drifted to Britain and bought fine houses. The Prince of Wales was a friend. Marriage alliances were made, including with the Rothschilds, whom the Sassoons once regarded as upstarts but carried social cachet.

Moving to Britain sapped the clan's entrepreneurial juices. Now conflict hurt them: a cotton slump after the first world war was vicious. The Sassoons had one last fling in the Shanghai of the 1930s, under Victor, a witty playboy and master of the Cathay Hotel. (This part of the story is more fully told in Jonathan Kaufman's "The Last Kings of Shanghai".) But in the end war—first Japanese aggression, then China's civil war, won by the communists—did for Victor's Shanghai venture too.

What remained of the Sassoon empire was now in the hands of outside executives. The Rothschilds and the Tatas had also brought in outsiders, but remained to supervise them. The Sassoons did not bother. The last traces of their business expired with the outside directors being declared unfit by the Bank of England. ■

Johnson A guide to renamed cities

Some reasons for changing place-names are better than others

Recep Tayyip Erdogan has had enough of bad puns that conflate Turkey, the country he has governed for two decades, with the ugly bird served for Thanksgiving and Christmas. Convinced that his power extends to the English language, late last year Mr Erdogan decreed that his country would henceforth be known to the rest of the world as Türkiye, as it is in Turkish. It plans to register with the United Nations under the new name. State institutions have begun using it already.

Despite the fortune spent on a new publicity campaign, including videos aired on Turkish Airlines the world over, Türkiye is not catching on. At a recent international forum in Antalya, on the country's southern coast, diplomats did not appear in the least interested in using the new name (pronounced with a *ü* somewhat like the German one and a "yeah"-like ending). Their Turkish counterparts occasionally used the old one, then corrected themselves, then realised no one really cared. The only people who stayed on message, at least in public, were foreigners working for Turkey's state propaganda channel, hired as panel moderators, who took turns garbling Türkiye. Mr Erdogan's supporters nonetheless rejoice in the idea that foreigners will be made to call their country by its authentic name. Critics say the move is a populist gimmick.

Almost any place's true name can be a matter for discussion. Three of Turkey's neighbours officially call themselves Hellas, Sakartvelo and Hayastan—better known as Greece, Georgia and Armenia in English. Meanwhile Hindistan, the name for India in Turkish, can also mean "the country of turkeys". There is no neutral, non-political way to refer to almost any square of the globe. Most names annoy somebody.

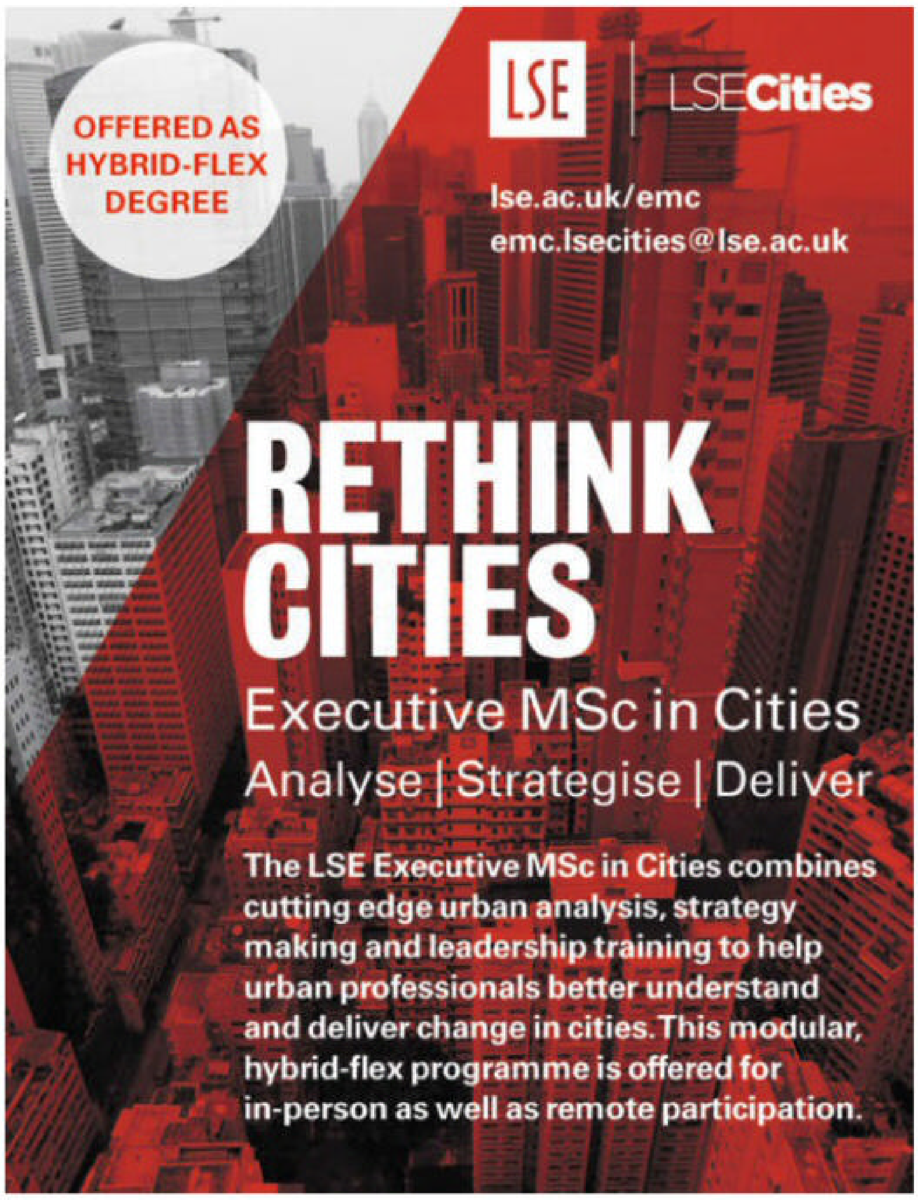
This is most obvious when a territory goes from belonging to one state to another. Westerners were accustomed to referring to cities in Ukraine as Kiev, Kharkov and Lvov. Some grumble at having to learn new names for them—Kyiv, Kharkiv and Lviv. But the old ones were not neutral. They were Russian, and after the country became independent many of its people wanted the Ukrainian versions to be used even in English. Outsiders' decision to use Ukrainian place-names is now a political declaration of support for Ukraine's very right to exist.

A countervailing argument holds that foreign places have long-established English names which it is perfectly normal for English-speakers (and publications) to use. English-speakers refer to Italy and Rome, not Italia and Roma, no matter what locals may say, and this is generally not controversial. For their part, Romans refer to Inghilterra and Londra. Unusually, Italian lobbyists persuaded the International Olympic Committee to officially dub the host of the Winter Olympics of 2006 "Torino", a city universally known in English as Turin. But the committee could not force the change on others: some media outlets went with the Italian name, others stuck with the English equivalent.

Some calls for change involve colonial names or spellings that were imposed by outsiders. India-watchers have had to adjust to Mumbai (once Bombay), Kolkata (Calcutta) and Chennai (Madras), while remembering that institutions like the Bombay Stock Exchange and the University of Madras continue to use their old monikers. Such renamings often purport to hark back to an unsullied past, but are really exercises in nationalist myth-making. Sometimes they are inarguable. Citizens of the Democratic Republic of Congo (once Zaire) understandably wanted to rename their capital, Leopoldville, which recalled a Belgian ruler whose name was a byword for the worst in colonial brutality. It is now Kinshasa.

The trickiest cases involve not out-and-out Kinshasa-style renamings (which are almost always respected), but requests for English-speakers to abandon a well-established English name and adopt something similar, but closer to the natives' own. The Czech Republic has a one-word name in Czech (Česko), and so the Czechs have asked for their country to be called Czechia in English. This has yet to catch on.

Populists and autocrats may think they can dictate place-names, but no amount of decrees can force people to say Türkiye instead of Turkey. And the greater the attempt to strong-arm them into doing so, the greater the chance they will stick with the old version out of stubbornness. As the widespread adoption of Kyiv shows, no one likes a bully.



Tenders

REQUEST FOR PROPOSALS

IN A COMPETITION THAT IS NOT SUBJECT TO OBLIGATION FOR TENDER FOR FURTHERANCE OF PLANNING AND ERECTING A PROJECT ON THE LAND IN BLOCK 7041 PARCELS 28, 38 AND 43

IN NEVE TZEDEK, TEL AVIV, ISRAEL

The owners of the rights in Parcels 28, 38 and 43 Block 7041 in Tel Aviv (hereinafter and as the case may be: **"the Customer"** and **"the Property"** or **"the Land"**), through the undersigned, hereby request any person interested in doing so to submit a bid for the furtherance of planning of the plan (as defined below) until the approval thereof by the planning authorities and for execution of a building project on the Land, and the promoter shall make an offer to each of the individual parties who make up the Customer for purchase of the rights in the Land and/or for making a combination deal and/or the providing of building construction services, in respect of rights (or part thereof) of the individual parties who make up the Customer.

The promoter who wins the competition shall continue to promote and further the **"Elifelet East" TA/4599 Plan** (which is being promoted at present by the Customer) until the approval thereof, on the strength of which it will be possible to erect a 40 floor tower having a mixture of uses (residence, commerce and employment including hotels), preservation of 3 existing buildings and the construction of new buildings in the area of the plan, all in accordance with the zoning designations thereof, the uses in accordance therewith and the conditions thereof (hereinafter: **"the Project"**, **"the Designated Area"** and **"the Plan"**).

The conditions of the request, the manner of submitting the bid, the text of the agreement, which is identical or similar to that which will be signed between the individual parties who make up the Customer and the bidder whose bid is accepted, and additional details regarding the Land and the owners of rights therein, are all included in the request booklet to make bids that will be prepared by the undersigned (hereinbefore and hereinafter: **"the Booklet"** or **"the Request Booklet"**). **It will be possible to purchase the Request Booklet at the offices of Advocates Abraham Neeman & Co.**, at 72 Pinchas Rosen Street, Tel Aviv (6th floor), in consideration for a sum of NIS 2,340 (including VAT), against the signature of a deed of undertaking for the safeguarding and maintaining of secrecy during the process of the competition.

Bids in connection with the Land as described at the head of this Notice, must be submitted in writing to the undersigned, at the address mentioned in Paragraph 14 below, and in accordance with the conditions in the Booklet, **not later than May 8, 2022 at 17:00**. The undersigned reserves the right to postpone the date for submission of bids, and to accept bids that are lodged even after the abovementioned date, without being required to give notice to that effect to any of the bidders and/or the interested parties, all in accordance with the provisions of the Booklet.

Additional explanations can be obtained from counsel for the Customer, at the law office of Abraham Neeman & Co., of 72 Pinchas Rosen Street, Tel Aviv (6th floor), Tel. 03-6078400, Fax. 03-6078401, Email: aberger@neemanab.co.il or stav@neemanab.co.il (it is necessary to refer to Adv. Amir Berger or to Adv. Stav Dadon Marom).

Yours faithfully,

Adv. Amir Berger, Law Office of Abraham Neeman & Co.
In the name of the customer

Economic & financial indicators

Economic data

	Gross domestic product % change on year ago latest		quarter*	2022†	Consumer prices % change on year ago latest		2022†	Unemployment rate %		Current-account balance % of GDP, 2022†	Budget balance % of GDP, 2022†	Interest rates 10-yr gov't bonds latest,%	change on year ago, bp	Currency units per $ Mar 23rd	% change on year ago
United States	5.6	Q4	7.0	3.4	7.9	Feb	5.2	3.8	Feb	-3.3	-7.4	2.3	58.0	-	
China	4.0	Q4	6.6	5.2	0.9	Feb	2.4	5.5	Feb‡§	1.8	-5.0	2.6 §§	-51.0	6.36	2.2
Japan	0.4	Q4	4.6	2.9	0.9	Feb	1.2	2.8	Jan	2.4	-5.3	nil	-8.0	119	-8.6
Britain	6.5	Q4	3.9	4.1	6.2	Feb	5.4	3.9	Dec††	-3.3	-5.4	1.5	59.0	0.76	-5.3
Canada	3.3	Q4	6.7	3.8	5.7	Feb	4.5	5.5	Feb	0.3	-4.8	2.3	74.0	1.26	-0.8
Euro area	4.6	Q4	1.0	3.9	5.9	Feb	3.7	6.8	Jan	3.0	-4.1	0.5	76.0	0.91	-7.7
Austria	5.5	Q4	-2.0	3.2	5.9	Feb	4.0	4.9	Jan	1.0	-3.8	0.9	93.0	0.91	-7.7
Belgium	5.6	Q4	2.1	3.9	8.0	Feb	4.6	5.6	Jan	1.3	-4.7	0.9	92.0	0.91	-7.7
France	5.4	Q4	2.9	3.4	3.6	Feb	3.7	7.0	Jan	-1.3	-5.8	0.8	86.0	0.91	-7.7
Germany	1.8	Q4	-1.4	3.2	5.1	Feb	4.2	3.1	Jan	6.5	-2.6	0.5	76.0	0.91	-7.7
Greece	7.4	Q4	1.7	3.7	7.2	Feb	4.7	13.3	Jan	-4.6	-4.7	2.7	177	0.91	-7.7
Italy	6.2	Q4	2.3	4.4	5.7	Feb	3.5	8.8	Jan	3.5	-5.5	2.0	131	0.91	-7.7
Netherlands	6.2	Q4	3.8	3.1	6.2	Feb	6.4	3.4	Feb	5.9	-4.9	-0.2	36.0	0.91	-7.7
Spain	5.2	Q4	8.3	5.5	7.6	Feb	4.5	12.7	Jan	1.4	-5.5	1.3	94.0	0.91	-7.7
Czech Republic	3.7	Q4	3.8	2.7	11.1	Feb	9.3	2.3	Jan‡	-2.8	-4.6	3.6	162	22.4	-2.1
Denmark	4.3	Q4	4.5	2.7	4.8	Feb	2.0	2.7	Jan	8.6	nil	0.7	71.0	6.73	-7.3
Norway	5.4	Q4	0.3	3.3	3.7	Feb	3.6	3.3	Dec‡‡	9.2	2.6	1.4	76.0	8.72	-2.1
Poland	7.6	Q4	7.0	4.2	8.5	Feb	7.9	5.5	Feb§	-1.1	-4.0	4.9	343	4.25	-8.7
Russia	4.3	Q3	na	-10.1	9.2	Feb	15.0	4.4	Jan§	8.5	-6.7	12.5	551	108	-31.1
Sweden	5.2	Q4	4.6	3.3	4.3	Feb	3.0	7.9	Feb§	4.3	0.1	0.9	48.0	9.44	-9.5
Switzerland	3.7	Q4	1.1	3.0	2.2	Feb	1.1	2.2	Feb	5.1	0.5	0.5	76.0	0.93	nil
Turkey	9.1	Q4	6.2	3.3	54.4	Feb	43.7	12.1	Jan§	-2.6	-3.9	25.0	1,144	14.8	-51.4
Australia	4.2	Q4	14.4	3.3	3.5	Q4	3.8	4.0	Feb	1.3	-3.2	2.6	82.0	1.35	-4.4
Hong Kong	4.8	Q4	0.8	0.9	1.7	Feb	2.8	4.5	Feb‡‡	1.9	-6.6	2.0	57.0	7.82	-0.8
India	5.4	Q4	26.6	7.2	6.1	Feb	4.9	8.1	Feb	-1.1	-6.4	6.8	59.0	76.1	-4.7
Indonesia	5.0	Q4	na	5.1	2.1	Feb	3.6	6.5	Q3§	0.2	-4.9	6.7	-2.0	14,340	0.5
Malaysia	3.6	Q4	na	4.0	2.3	Jan	2.9	4.2	Jan§	2.9	-6.1	3.7	25.0	4.21	-2.4
Pakistan	6.0	2021**	na	3.0	12.2	Feb	8.0	6.9	2019	-5.1	-6.3	11.7 †††	133	181	-13.9
Philippines	7.7	Q4	13.0	6.0	3.0	Feb	4.1	6.4	Q1§	-1.7	-7.4	5.5	91.0	52.4	-7.1
Singapore	6.1	Q4	9.5	3.8	4.0	Jan	2.9	2.4	Q4	17.5	-0.9	2.2	60.0	1.36	-1.5
South Korea	4.1	Q4	5.0	2.9	3.7	Feb	3.2	3.4	Feb§	3.5	-2.9	2.7	64.0	1,216	-7.0
Taiwan	4.9	Q4	7.6	4.5	2.4	Feb	2.4	3.7	Jan	14.7	-1.2	0.9	42.0	28.5	-0.1
Thailand	1.9	Q4	7.5	3.2	5.3	Feb	2.8	1.5	Dec§	0.5	-4.6	2.3	47.0	33.5	-8.1
Argentina	11.9	Q3	17.3	3.2	52.3	Feb	53.8	8.2	Q3§	1.5	-4.3	na	na	110	-16.9
Brazil	1.6	Q4	2.2	0.3	10.5	Feb	7.6	11.2	Jan§‡‡	-2.0	-7.7	11.9	321	4.95	10.5
Chile	12.0	Q4	7.5	3.0	7.8	Feb	8.9	7.3	Jan§‡‡	-2.7	-4.1	6.2	299	796	-10.0
Colombia	10.7	Q4	18.2	4.2	8.0	Feb	6.2	14.6	Jan§	-4.4	-6.0	9.7	360	3,816	-6.8
Mexico	1.1	Q4	0.1	1.9	7.3	Feb	5.1	3.6	Jan	-0.9	-3.3	8.4	209	20.3	1.0
Peru	3.2	Q4	-12.9	2.3	6.1	Feb	6.1	9.4	Feb§	-2.6	-2.8	6.6	188	3.79	-2.1
Egypt	9.8	Q3	na	5.3	8.8	Feb	7.0	7.4	Q4§	-4.1	-6.9	na	na	18.2	-13.9
Israel	11.0	Q4	17.6	4.3	3.5	Feb	2.9	3.9	Jan	3.7	-2.3	2.1	105	3.22	2.5
Saudi Arabia	3.2	2021	na	5.0	1.6	Feb	1.8	6.6	Q3	6.3	2.0	na	na	3.75	nil
South Africa	1.7	Q4	4.7	2.1	5.7	Feb	4.8	34.9	Q3§	-0.9	-6.0	9.7	22.0	14.9	-1.1

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 Mar 23rd	% change on: one week	% change on: Dec 31st 2021
United States S&P 500	4,456.2	2.3	-6.5
United States NAScomp	13,922.6	3.6	-11.0
China Shanghai Comp	3,271.0	3.2	-10.1
China Shenzhen Comp	2,163.2	3.7	-14.5
Japan Nikkei 225	28,040.2	8.8	-2.6
Japan Topix	1,978.7	6.8	-0.7
Britain FTSE 100	7,460.6	2.3	1.0
Canada S&P TSX	21,932.2	2.2	3.3
Euro area EURO STOXX 50	3,869.2	-0.5	-10.0
France CAC 40	6,581.4	-0.1	-8.0
Germany DAX*	14,283.7	-1.1	-10.1
Italy FTSE/MIB	24,298.7	0.1	-11.1
Netherlands AEX	721.8	2.6	-9.5
Spain IBEX 35	8,328.4	-0.6	-4.4
Poland WIG	64,374.3	3.0	-7.1
Russia RTS, $ terms	936.9	nil	-41.3
Switzerland SMI	12,099.5	1.7	-6.0
Turkey BIST	2,183.1	4.5	17.5
Australia All Ord.	7,665.0	3.1	-1.5
Hong Kong Hang Seng	22,154.1	10.3	-5.3
India BSE	57,684.8	1.5	-1.0
Indonesia IDX	6,996.1	0.1	6.3
Malaysia KLSE	1,597.9	1.7	1.9

	index Mar 23rd	% change on: one week	% change on: Dec 31st 2021
Pakistan KSE	43,203.8	-1.8	-3.1
Singapore STI	3,364.3	2.2	7.7
South Korea KOSPI	2,735.1	2.9	-8.1
Taiwan TWI	17,731.4	4.7	-2.7
Thailand SET	1,678.0	0.6	1.2
Argentina MERV	90,106.6	3.0	7.9
Brazil BVSP	117,457.3	5.7	12.1
Mexico IPC	55,154.7	3.3	3.5
Egypt EGX 30	11,743.9	9.7	-1.4
Israel TA-125	2,104.4	3.5	1.5
Saudi Arabia Tadawul	12,944.2	2.3	14.2
South Africa JSE AS	74,838.1	1.8	1.5
World, dev'd MSCI	3,012.8	2.6	-6.8
Emerging markets MSCI	1,140.7	5.5	-7.4

US corporate bonds, spread over Treasuries

Basis points	latest	Dec 31st 2021
Investment grade	146	120
High-yield	381	332

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

Commodities

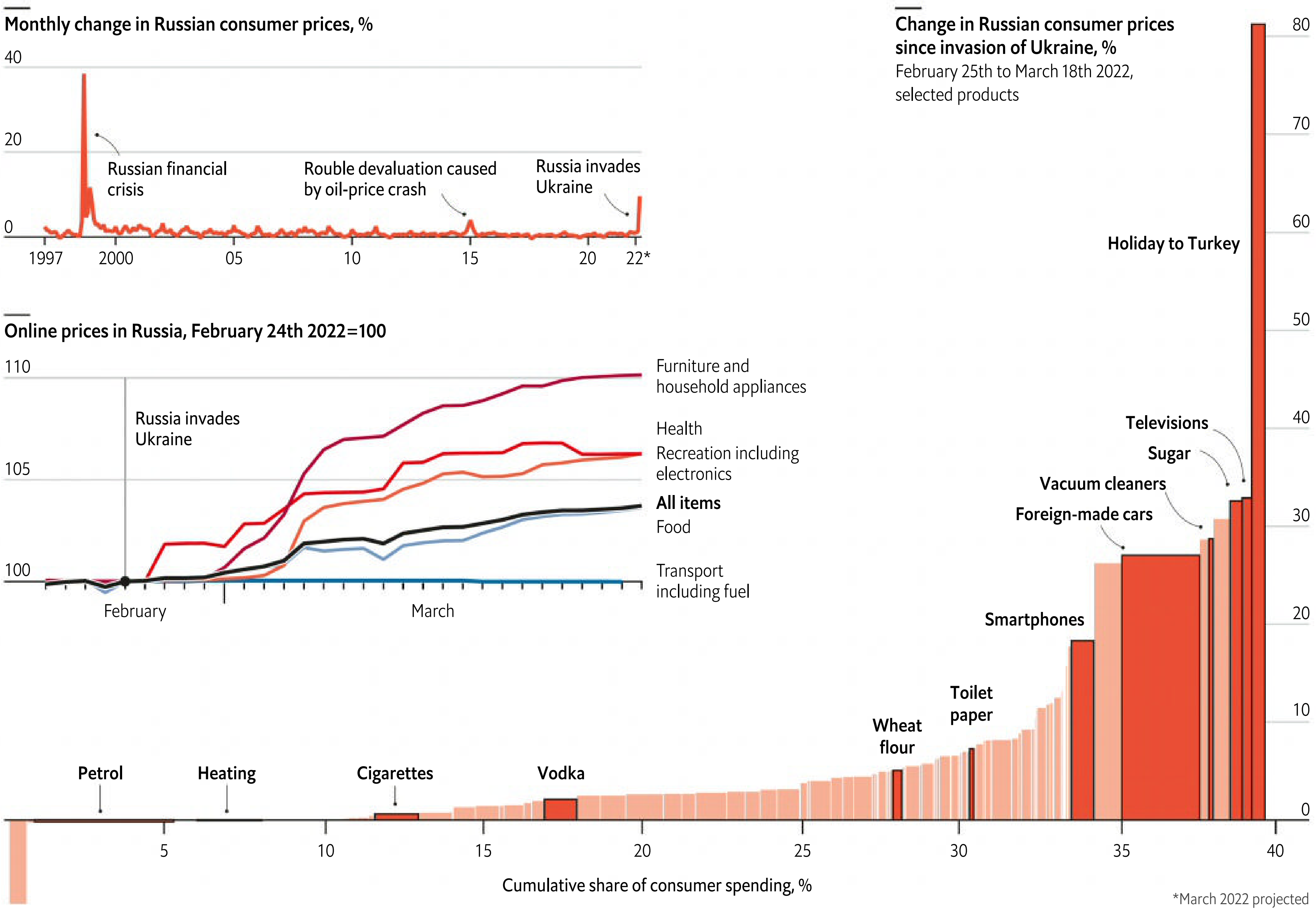
The Economist **commodity-price index**

2015=100	Mar 15th	Mar 22nd*	% change on month	% change on year
Dollar Index				
All Items	191.0	190.1	4.9	16.6
Food	167.0	164.7	5.9	30.7
Industrials				
All	213.4	213.8	4.3	8.2
Non-food agriculturals	191.4	180.7	-0.2	19.9
Metals	219.9	223.6	5.4	5.8
Sterling Index				
All items	223.1	218.8	7.6	12.5
Euro Index				
All items	193.0	191.2	7.9	25.6
Gold				
$ per oz	1,925.1	1,919.0	1.0	11.1
Brent				
$ per barrel	99.3	115.4	19.1	90.2

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

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

→ The war in Ukraine has already raised the prices paid by Russian consumers



*March 2022 projected

Sources: Rosstat; State Street Global Markets, PriceStats; *The Economist*

Starting to bite

Russian consumers are already feeling the cost of war

In December Vladimir Putin, Russia's president, said that inflation was "the main problem" for Russia's economy and citizens. Today, the country's greatest woe is its invasion of Ukraine, in which thousands of soldiers have already died. But inflation has not gone away. On the contrary, the war has sped it up to levels not seen since Russia's financial crisis of 1998.

On March 23rd the government announced that consumer prices rose by 1.9% in the seven days to March 18th, following increases of 2.1% and 2.2% during the previous two weeks. In total, that brought inflation during the first 21 days of the war to 6.4%, compared with 0.8% in the 21 days preceding it. At the wartime rate, consumer prices would triple every year. Moreover, the inflation index assigns hefty weights to the prices of heating and petrol, which have been flat for weeks. Had they risen in line with the cost of fuel in global markets, inflation would have been even higher.

Surging demand and tightening supply have both played a role. As war broke out, fearful Russians stocked up on staple foods like sugar, flour and buckwheat. NielsenIQ, a research firm, estimates that between February 21st and March 6th retail sales of sugar, cereals and other non-perishable goods rose by 46% compared with a year earlier. Such panic buying, driven by viral photos of shoppers fighting over groceries, has led to shortages of what the government deems "socially important goods".

So long as Western sanctions remain in place, an even bigger driver of inflation is likely to be the difficulty of acquiring goods that Russia does not produce at home. In addition, whatever the country does import in spite of sanctions has become more expensive, because the rouble has lost nearly a third of its value against the dollar. Since the war began, official statistics show that the prices of smartphones have jumped by 18%, those of foreign cars by 27% and those of televisions by 33%. Given the government's deluge of false propaganda about its war, scepticism might be warranted about its economic statistics. However, independent estimates by PriceStats, an American firm that tracks prices of items sold online, actually show slightly less inflation, suggesting that Russia is not tampering with the data.

The government has tried to stabilise the rouble by requiring exporters to sell 80% of their foreign currency within three days of obtaining it. The Central Bank of Russia (CBR) has also begun buying the country's sovereign debt, and raised its benchmark interest rate to 20%. Yet in its statement listing the causes of this "temporary but inevitable period of increased inflation", the bank omitted the shortages of imported goods caused by Western sanctions. Getting those sanctions lifted would almost certainly require ending the war—a decision that rests with Mr Putin, not monetary policymakers.

The CBR surveyed economic analysts in early March. On average, they predicted that in 2022 Russia's GDP would shrink by 8% and inflation would come to 20%. With total price increases already at 8% this year, meeting this forecast would require inflation for the rest of 2022 to fall to one-seventh of its current level. ■

The girl who loved reading

Autherine Juanita Foster (née Lucy), a shy pioneer of desegregation, died on March 2nd, aged 92

FRIDAY FEBRUARY 3rd 1956 was one of those cold-misty mornings in Tuscaloosa, Alabama. Autherine Lucy needed her umbrella, as well as her hat, to walk into her first class at the University of Alabama. She had been driven by her best friend, Pollie Anne Hudson, the 60 miles from Birmingham. Under her raincoat she was wearing her best heels and a peach dress, a good pastel colour to be inconspicuous in, because she had no intention of causing a fuss. All she wanted was to finish her education in the best place in the state. When she pictured herself among those red-brick Greek-revival buildings, she would think: "Girl, you've got great aspirations!" But why not? She could blend quietly in and study to become a librarian. No one should mind. What was harder to hide that Friday was that a lawyer had come with her, a university policeman was close behind her, and her skin was black.

The law was on her side; in 1954, in *Brown v Board of Education*, the Supreme Court had ruled that public schools and colleges could not discriminate by race. But the deep South had dug in. By 1956 no African-American, male or female, had yet been admitted to any white public school or university in Alabama. She was the first, arriving just as a bus boycott by black passengers in Montgomery was putting the whole state on edge. This was why she was apprehensive, as she walked on with her handbag dangling clumsily from her arm. She was the first, and she was the only one.

That had not been the plan. She was meant to enter with Pollie Anne, who had decided that they should apply to UA together. Two young black women graduates would take on the all-white state establishment. It sounded like a joke, but Pollie Anne, who was in the youth chapter of the NAACP, was so extrovert and forceful that Autherine could only go along. In 1952 they both applied and were accepted, until the dean discovered they were black and they were unacceptable again.

The whole thing could have ended there, and part of her wished it had. But the NAACP took up their case, as did two top-flight lawyers, Arthur Stores (the lawyer in the car with her) and Thurgood Marshall, who in 1967 became the first black justice on the Supreme Court. For three years they built a case against UA, which the *Brown* ruling made unassailable. The university managed to ban Pollie Anne, because she had been pregnant out of wedlock when she applied, which was against the rules. It could find no dirt on Autherine, so it had to let her in.

Her parents deeply disapproved of this campaign. Her father was a sharecropper, working hard to feed a brood of ten children by making axe handles and baskets as well as picking cotton. He told the newspapers that he had raised his youngest daughter to know better. He himself respected white people, and always went to the back door; he feared for her safety if she acted otherwise. She too, an intensely shy, dreamy child who loved reading and always trailed behind in the cotton fields, was unsure that she wanted to be part of a national struggle. Even her name bothered her, that awful "Autherine". She thought of changing it to Hilda, until someone told her that was a cow's name. The NAACP did not seem crazy about her either, and she overheard remarks that she and Pollie Anne were not the best or most scholarly candidates to head the fight. Day after day she prayed about it all, but in the end she decided that going to UA was what she had to do.

So there she was, on that Friday, more than three years after she had applied to come. The first class was geography. When she went in, sitting in the centre of the front row with police still hovering round the door, silence fell. Several students moved away, leaving her alone in the row. Most just stared, but a few were even friendly. The most hurtful thing was that she could not eat in the cafeteria or live in the dormitories with the other female students. She ate alone, and after classes was driven back to Birmingham.

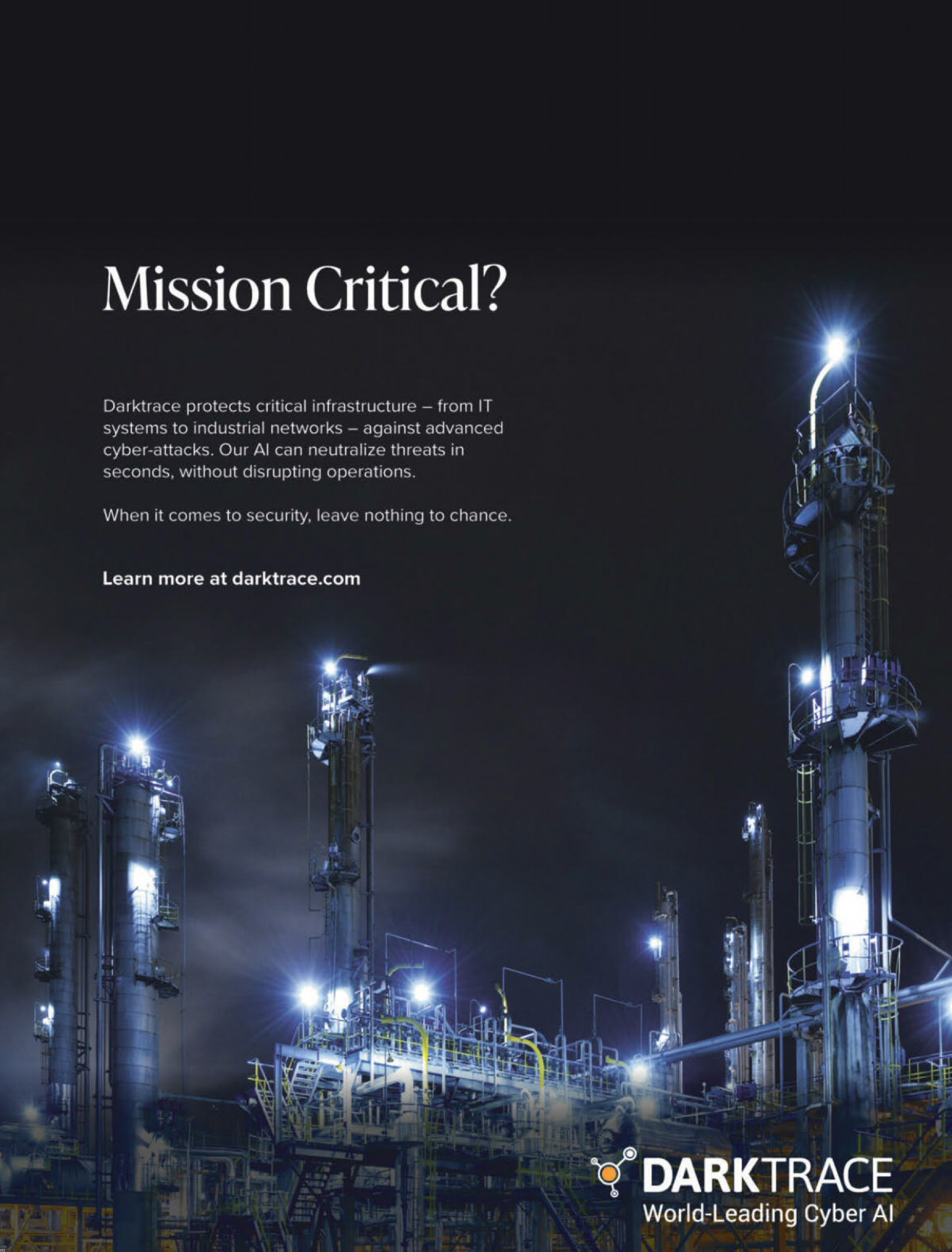
The second day, too, went pretty well. The nights were a different story, when male students and blue-collar Tuscaloosans burned crosses, waved Confederate flags, chanted racist slogans and attacked black drivers in their cars. On February 6th that mob was waiting for her when she arrived, hurling eggs and stones and yelling for her to leave. Huddling down in terror she was driven from class to class, using the back doors, and in the end took refuge in the Bibb Graves Hall, where she stayed for hours. She actually thought she might die there, in the very building—with its huge library—where she had wanted to study for so long.

She was rescued, but the university now had good safety reasons to suspend her. It swiftly did so, and attempts to build a new case against it backfired so badly that she was expelled. This looked like the end of her academic career. She was now celebrated as a civil-rights pioneer, and for a few months she made speeches like an activist. But she was tired and disheartened, with no mind to dwell on hateful things. Besides, her heart was full of her new husband Hugh Foster, a minister, the growing family they had together and the need to keep moving from church to church, so she soon gave up all campaigning. The main legacy of her three days at UA was the difficulty, now she was famous or rather infamous, of getting a teaching job in the South.

In 1988, however, she was invited to give a history lecture there. A little later, she found that her expulsion had been rescinded. Immediately she signed up for the graduate programme in education, and in 1992 received her master's degree alongside her student daughter Grazia, who was graduating. She was given a standing ovation as she walked onstage, looking out this time not on affronted stares but on smiles of genuine affection.

There was more. In 2010, a red-brick clock tower on campus; in 2019 an honorary doctorate. This year came an especially sweet moment, when the Bibb Graves Hall, where she had huddled and prayed and cried on that long-ago February day, listening to the rage outside, was renamed after her. Back then she had had no notion who Bibb Graves was. But besides being a two-time governor of Alabama, he was also a Grand Cyclops of the Ku Klux Klan. ■


CSC:Miami
Content Supply Chains must be forensic in their detail.
Television broadcasters have long relied on instinct, market knowledge and spreadsheets to forecast TV viewership - but instinct needs to partner with information; market knowledge is never enough; and spreadsheets are no way to excel.
As witness to these challenges, Fractal undertook its own detective work.
By combining AI, data engineering and user-centric design, Fractal created an industry-first TV forecasting system for Europe's leading media and entertainment company. The result? Up to 30% improvement in forecast accuracy.
Fractal: perfectly targeted and timed TV, no drama.
fractal


Mission Critical?
Darktrace protects critical infrastructure – from IT systems to industrial networks – against advanced cyber-attacks. Our AI can neutralize threats in seconds, without disrupting operations.
When it comes to security, leave nothing to chance.
Learn more at darktrace.com
DARKTRACE
World-Leading Cyber AI