

The wreckage after Roe v Wade

Wrap up for the VC winter

Scotland's neverendum

How brainy neurons help you think

JULY 2ND-8TH 2022

# HOW TO WIN THE LONG WAR







**LOUIS VUITTON**  
HIGH JEWELLERY



# NEOM McLAREN ELECTRIC RACING.

## A PARTNERSHIP WITH PURPOSE.



McLaren and NEOM will lead the electric racing charge through Formula E and Extreme E. Being a founding tenant at the OXAGON Research and Innovation Campus, McLaren will also help to develop the engineers of the future; bringing new tech, products and leaders to the world.



## On the cover

After faring well early in the war, Ukraine is losing ground. **What to do: leader**, page 9. Does a long war favour Russia or Ukraine? **Briefing**, page 16. **NATO** is fortifying its eastern borders, but divided over Ukraine, page 27. Can Europe keep the lights on? **Page 66**

**The wreckage after Roe v Wade** America needs to find a better way to resolve its thorniest issues: **leader**, page 10. The fallout from *Roe*, page 33. The record of an activist court, page 34. Bans don't make abortion much rarer. But they can make pregnancy care worse, page 54

**Wrap up for the VC winter** The venture-capital bust is bad, but not as bad as the dotcom fiasco: **leader**, page 11. Which tech darlings are safe, which are uneasy and which are doomed, page 57. The Chinese state is reshaping one of the world's biggest startup scenes, page 59

**Scotland's neverendum** Nicola Sturgeon plans another vote on independence, page 21

**How brainy neurons help you think** The closer you look, the cleverer they seem, page 72

→ 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](http://economist.com)

## The world this week

7 A summary of political and business news

### Leaders

9 **Ukraine**

How to win the long war

10 **Rights and wrongs**

After the shattering of *Roe*

11 **Technology investing**

The reckoning

11 **Global financial centres**

A new order in Asia

12 **The missing**

Mexico's shame

### Letters

14 On artificial intelligence, greener buildings, inventory cycles, the subjunctive, cheap wine

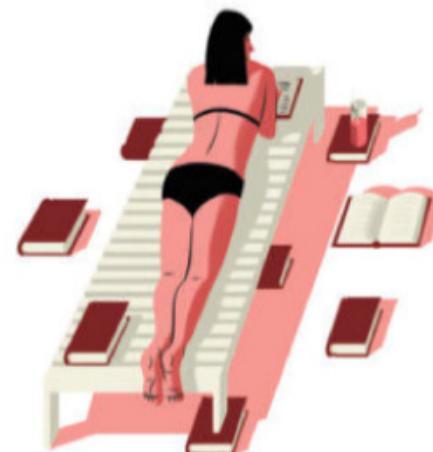
### Briefing

16 **The long war**

Can Ukraine outlast Russia?



**Bartleby** What you should read this summer, when the office is a distant memory, page 62



## Britain

19 North Sea oil and gas

20 Robots and asparagus

21 Scottish independence

21 Child care and growth

22 The Met under pressure

22 Vanishing Londoners

24 No one wants Boots

26 **Bagehot** Boris Corbyn



## Europe

27 NATO's Madrid summit

28 The battle for Snake Island

29 The taciturn Olaf Scholz

29 Russia and the Balkans

30 France's radical new MPs

32 **Charlemagne** Changing Poland



## United States

33 The abortion battle

34 The Supreme Court's term

35 Gun reform, at last

36 The lifeguard shortage

36 Election administration

37 Another tragedy in Texas

38 **Lexington** A valedictory



## The Americas

39 Missing Mexicans

41 Rains in Brazil



## Middle East & Africa

43 Meddling in Congo

44 Mobile money agents

45 Israel's new allies

45 Yemen's ticking bombs

46 Moustaches and the man



**Asia**

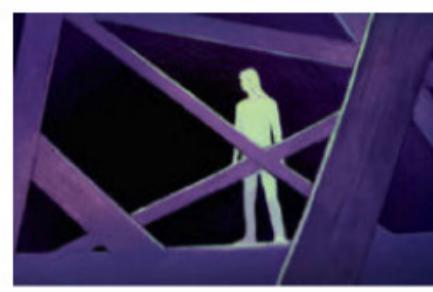
- 47** Politics in Singapore  
**48** Will Laos default?  
**49** Dissent in India  
**49** Resisting the Taliban  
**50** **Banyan** An era ends in the Philippines

**China**

- 51** The path to communism  
**52** Uneducated workers  
**53** The importance of VPNS  
**53** Speakeasies v snitches in Shanghai

**International**

- 54** The effects of abortion bans

**Business**

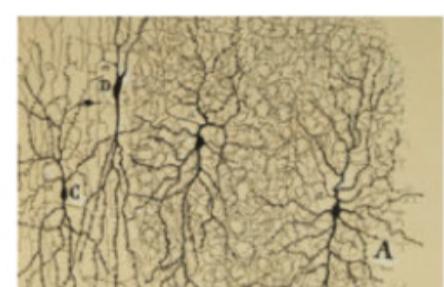
- 57** The startup shake-out  
**59** China's vc-industrial complex  
**61** Herbal health  
**61** Japanese energy's Russia problem  
**62** Bartleby Beach read-nots  
**63** Schumpeter Mars unwrapped

**Finance & economics**

- 65** Asia's financial centres  
**66** Europe's energy crunch  
**67** Will inflation stay high?  
**68** Price gauges in America  
**69** The Turkish lira  
**69** Betting on mergers  
**70** **Buttonwood** Past market crashes  
**71** **Free exchange** Forward guidance

**Science & technology**

- 72** How neurons work  
**73** Friends smell alike  
**74** Faeces banks

**Culture**

- 75** A ballerina at war  
**76** A novel of motherhood  
**77** Escape from Auschwitz  
**77** Regulating tech  
**78** Michael Armitage's innovative art  
**79** **Johnson** The miracle of writing

**Economic & financial indicators**

- 80** Statistics on 42 economies

**Graphic detail**

- 81** Young children benefit from male teachers

**Obituary**

- 82** Gilberto Rodríguez Orejuela, boss of the Cali cartel

The Economist

Volume 444 Number 9303

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](http://Economist.com/offers)

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

To manage your account online, please visit  
[my.economist.com](http://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 00800 77112711 or +44 (0)203 868 6843.

**PEFC certified**

This copy of *The Economist*  
 is printed on paper sourced  
 from sustainably managed  
 forests certified by PEFC  
[www.pefc.org](http://www.pefc.org)



Finland and Sweden were formally invited to join **NATO**. Turkey, a member of the alliance, had been blocking their membership bids, claiming that they were too hospitable towards Kurdish separatists (whom Turkey considers terrorists). Turkey backed down after the two Nordic countries promised to be tougher on terrorism.

Jens Stoltenberg, NATO's secretary-general, called **Russia** the alliance's "most significant and direct threat". NATO will increase the number of its troops ready to deploy at short notice from 40,000 to 300,000. President Joe Biden announced new land, air and sea deployments across Europe, including a permanent army HQ in Poland, America's first on NATO's eastern flank.

Russian missiles hit a shopping centre in **Kremenchuk**, a city in central Ukraine. At least 18 people have been confirmed killed. At a meeting in Germany the leaders of the G7, a club of rich countries, called the attack a "war crime".

Judges in Louisiana and Utah temporarily blocked enforcement of "**trigger laws**" banning abortion. Both states were among 13 with laws activated on June 24th, when the Supreme Court overturned *Roe v Wade*, which had established a national right to abortion. Abortion clinics in Louisiana and Utah may stay open, at least for now.

Other American states sought to guarantee **legal abortion**. Lawmakers in California approved a ballot measure to enshrine a woman's right to an abortion in the state's consti-

tution. Minnesota's governor signed an order banning state agencies from co-operating with other states' criminal investigations into women who travel to Minnesota to seek terminations.

A former White House aide testified that **Donald Trump** knew his supporters could turn violent when they gathered at the Capitol on January 6th 2021. Cassidy Hutchinson—who worked for Mr Trump's chief of staff, Mark Meadows—told a congressional investigation that Mr Trump cursed secret-service agents who refused to take him to join the insurrectionary mob, and then tried to seize the wheel of his limousine.

More than 50 people died after being left in an abandoned lorry in San Antonio, Texas, some 250km from America's border with Mexico. The route is popular with people-smugglers. There was no air-conditioning. Guatemalans, Hondurans and Mexicans were among the victims.

**If at first you don't secede** Scotland's first minister, Nicola Sturgeon, named October 19th 2023 as the date for a second referendum on independence. Ms Sturgeon accepted that her plan will be subject to legal scrutiny by Britain's Supreme Court. Scots rejected independence in 2014 by 55% to 45%. Recent polls suggest they would do so again by a narrower margin.

London's **Metropolitan Police** was placed under special measures by the policing inspectorate. The force has been plagued by scandal, including the rape and murder of a woman by an officer in 2021. In April Dame Cressida Dick, the Met's commissioner, was forced to step down.

**Sri Lanka** said it would close schools in urban areas until July 10th and stop supplying private vehicles with fuel to address an acute shortage. The country ran out of foreign

currency and defaulted on its external debt in May. It has struggled to import basic necessities, including food and medicine. It is negotiating with the IMF for a bail-out.



Ferdinand "Bongbong" Marcos replaced Rodrigo Duterte as the president of the **Philippines**. Mr Marcos was elected in May, along with Sara Duterte, Mr Duterte's daughter, who is now vice-president. He has offered few details as to how he will govern. Between 1965 and 1986 his father, also called Ferdinand Marcos, led a regime that looted the country and tortured and murdered its opponents. A popular uprising restored democracy.

**Japan** asked 37m people in and around Tokyo to switch off unnecessary lights to avoid blackouts. Tokyo is suffering its worst June heatwave since 1875, which has sent demand for electricity surging. Supply has been tight since a strong earthquake prompted the shutdown of several power plants in March.

Guillermo Lasso, the president of **Ecuador**, survived an impeachment attempt. It came after two weeks of protests. The protesters, most of whom are indigenous people, have been marching to complain about rising food and fuel prices. Several people have died, including a soldier who was killed after an attack on a fuel convoy.

A fire during a prison riot in south-west **Colombia** killed 49 prisoners. Around 30 others were injured, including guards. The country's prisons are overcrowded, as are those in much of Latin America.

**Sudan** shelled Ethiopian military positions in al-Fashaga, a disputed territory on the border, days after Ethiopian forces or one of their allied militias captured and murdered seven Sudanese soldiers. Meanwhile pro-democracy activists called for large protests on June 30th against Sudan's military government, which seized power over the course of two coups.

**Burkina Faso's** army gave civilians two weeks to evacuate a vast stretch of the country for an indefinite period ahead of a planned military operation, suggesting that anyone who remains will be considered an enemy. The army has been losing ground to jihadist insurgents, who now have the upper hand in some 40% of the country.

At least 23 people were killed in a stampede during an attempt by around 2,000 migrants to cross a fence from **Morocco** into Melilla, a Spanish enclave on the African coast. The UN denounced the excessive use of force by authorities on the border.

Naftali Bennett, **Israel's** departing prime minister, said he will not stand in the general election on November 1st, which will be Israel's fifth in four years. His year-old governing coalition imploded after the defection of one of its members and its failure to renew a law governing Jewish settlements in the occupied West Bank.

**On the road again** President Xi Jinping of **China** travelled to Hong Kong for the anniversary of its handover from British rule in 1997. It was his first trip outside the mainland since the start of the pandemic. Beijing and Shanghai reported no new locally transmitted cases of covid-19 on June 27th, the first time that has happened in months. China cut the quarantine period for international travellers from at least two weeks to one.



Several American companies responded to a Supreme Court decision to overturn *Roe v Wade*, the ruling that declared abortion a constitutional right in 1973. Amazon, Apple, Meta, JPMorgan Chase, Microsoft and Nike were among those that pledged to cover travel costs for employees seeking abortions and other medical care not available in their state.

**Consumer confidence** in America fell to its lowest point in over a year in June amid concerns about inflation, according to a survey by the Conference Board, a research organisation. The six-month outlook of consumers on the state of the economy and labour market was the bleakest in nearly a decade. In Britain, consumer confidence fell to its lowest level since records began in 1974, data published by GfK, a consumer-goods research company, showed.

**Lufthansa**, a German airline, became the latest carrier to cancel thousands of flights because of staff shortages at airports. The carrier will slash over 3,000 flights to and from Frankfurt and Munich this summer. This follows weeks of disruption at airports across America and Europe.

#### On the hook

**Russia** defaulted on its foreign debt for the first time since 1918 after Western sanctions blocked it from paying its creditors. Despite having sufficient foreign currency to service its debt, Moscow failed to make interest payments of about \$100m on two bonds, both of which were originally due on May 27th, but carried a 30-day grace period.

**EY**, an auditing firm, was fined \$100m by the Securities and Exchange Commission (SEC), America's securities regulator, settling claims that dozens of its audit staff cheated on ethics exams. EY was also accused of misleading investigators. The penalty is the highest ever imposed by the SEC on an auditor. It is double the amount paid in 2019 by KPMG, a rival firm, for altering old audit work using stolen data.

The board of **Disney** voted to extend Bob Chapek's contract as chief executive for three more years, putting an end to speculation about his future at the media conglomerate. Mr Chapek, who took over in 2020, had faced criticism over Disney's response to a law in Florida dubbed "Don't Say Gay" by its critics. The law is aimed at preventing discussion of gender identity and sexual orientation at primary schools.

**Credit Suisse**, Switzerland's second-largest bank, was found guilty by the country's top criminal court for its role in the laundering of drug money by Bulgarian clients between 2004 and 2008. The lender was fined SFr2m (\$2.1m) and ordered to pay €18.6m (\$19.5m) in compensation to the Swiss government.

An appeals court granted **Juul Labs'** request for a temporary stay on a nationwide ban of its vaping products by regulators at America's Food and Drug Administration. The decision allows the e-cigarette maker to keep selling its products while the case goes through further scrutiny. Juul leads America's e-cigarette market, with a 35.7% share of sales.

#### Hanging up the boots

**Walgreens Boots Alliance**, a pharmacy giant, abandoned its sale of the Boots chain in Britain. The drugstore owner blamed market turmoil and weaker credit conditions for insufficient offers for the business, which includes the No7 beauty brand. Walgreens put the business up for sale in December in order to focus on health care in America.

**Citadel**, a hedge fund, and Citadel Securities, a trading firm, are moving their offices to Miami. They are the latest companies to leave Chicago, following long-held concerns by Ken Griffin, their billionaire founder, about the city's crime rates. Boeing and Caterpillar recently announced that they would relocate from Chicago to suburban Washington, DC, and Dallas, respectively.

Managers at **Royal Mail**, a British postal service, voted to go on strike in the latest case of industrial action across the country. Postal workers are voting over the next few weeks. It follows strikes on Britain's train networks in June as higher fuel and energy costs eat into household budgets. Pay rows in other industries threaten further disruption over the summer.

**Toyota**, the world's largest carmaker, recalled a fleet of 2,700 electric vehicles over faulty wheels less than two months after launching its first batch of battery-powered sport-utility vehicle. The company plans to spend \$35bn to roll out 30 electric car models by 2030.

**Novartis**, a Swiss drugmaker, said a restructuring to save at least \$1bn by 2024 could lead to the loss of 8,000 jobs, or around 7.4% of its workforce globally, including up to 1,400 in Switzerland.

**Unilever**, a consumer-goods giant, sold the Israeli branch of its Ben & Jerry's ice cream business to its local licensee. The deal follows Ben & Jerry's decision in 2021 to halt sales in Israeli settlements, citing human-rights concerns.



# How to win the long war

After doing well early in the war, Ukraine is losing ground. What next?

UKRAINE WON the short war. Mobile and resourceful, its troops inflicted terrible losses and confounded Russian plans to take Kyiv. Now comes the long war. It will drain weapons, lives and money until one side loses the will to fight on. So far, this is a war that Russia is winning.

In recent days its forces have taken the eastern city of Severodonetsk. They are advancing on Lysychansk and may soon control all of Luhansk province. They also threaten Slovyansk, in the north of next-door Donetsk. Ukrainian leaders say they are outgunned and lack ammunition. Their government reckons as many as 200 of its troops are dying each day.

Fortunately for Ukraine, that is not the end. The Russian advance is slow and costly. With NATO-calibre weapons, fresh tactics and enough financial aid, Ukraine has every chance of forcing back Russia's armies. Even if lost territory will be hard to retake, Ukraine can demonstrate the futility of Vladimir Putin's campaign and emerge as a democratic, Westward-looking state. But to do so it needs enduring support. And that is still in doubt.

On the face of it, a long war suits Russia. Both sides are using huge amounts of ammunition, but Russia has vastly more. The Russian economy is much larger than Ukraine's and in far better shape. In pursuit of victory, Russia is willing to terrorise and demoralise the Ukrainians by committing war crimes, as it did by striking a shopping mall in Kremenchuk this week. If needs be, Mr Putin will impose grievous suffering on his own people.

However, the long war does not have to be fought on Mr Putin's terms. Potentially, Ukraine has vast numbers of motivated fighters. It can be supplied by the West's defence industry. In 2020, before sanctions, the economies of NATO were more than ten times bigger than Russia's.

Ukraine's turnaround begins on the battlefield, by stopping and reversing the Russian advance (see Briefing). Mr Putin's generals will continue to have more weapons, but the sophisticated NATO systems now arriving have longer range and greater accuracy. By adopting tactics devised in the cold war, when NATO too was outnumbered by the Red Army, Ukraine should be able to destroy Russian command posts and supply depots. Ukraine scored a success on June 30th, when it used NATO weapons to drive Russian forces off Snake Island, a strategic prize in the Black Sea. It should aim to impose a "hurting stalemate", in which it takes back similarly symbolically important territory, such as the city of Kherson, imposing a heavy price on Russia.

If Russia starts to lose ground on the battlefield, dissent and infighting may spread in the Kremlin. Western intelligence services believe that Mr Putin is being kept in the dark by his subordinates. He has a habit of replacing his commanders—reportedly including General Alexander Dvornikov, brought in after the invasion's first chaotic weeks. The West can raise the cost to Russia of a long war by continuing to press sanctions, which threaten lasting harm to Russia's economy. It can split Russia's elites from Mr Putin by welcoming dissenters from business and politics, and encouraging them to see that their country should not throw away its future on a pointless and costly campaign.

Will the West stay the course? At a summit on June 23rd, the European Union awarded Ukraine candidate status, promising a deep level of engagement over the next decade. At another summit in Germany this week, the G7 affirmed and strengthened sanctions against Russia. And at a third in Madrid, NATO acknowledged the Russian threat by substantially increasing its presence on the alliance's eastern front (see Europe section).

Yet Ukraine is a heavy burden. Western defence industries are formidable, but struggle to produce large volumes, especially of ammunition. Ukraine's government has a monthly deficit of \$5bn and the country will need rebuilding after the war. Public support for Ukraine in the West will be buffeted by a host of pressures, from inflation to elections—including, as soon as 2023, campaigning in America that may involve a presidential bid by that Ukrainophobic Putin admirer, Donald Trump.

And the global costs of a long war will grow. Mr Putin has been blockading exports of grains and sunflower oil from Ukraine's ports, which will cause unrest and starvation in poorer importing countries. He seems to be trying to create gas shortages in the EU this winter by preventing members from building stocks over the summer (see Finance & economics section). If unity falls apart over energy, as EU states hoard gas, it will disintegrate over Ukraine, too. To complicate matters further, NATO members worry that if Ukraine gains the upper hand, Mr Putin will escalate. That could draw them into a catastrophic war with Russia.

You can see where Mr Putin is heading. He will take as much of Ukraine as he can, declare victory and then call on Western nations to impose his terms on Ukraine. In exchange, he will spare the rest of the world from ruin, hunger, cold and the threat of nuclear Armageddon.

To accept that deal would be a grave miscalculation. Ukraine would face permanent Russian aggression. The more Mr Putin believes he has succeeded in Ukraine, the more belligerent he will become. He set out his ambitions in a speech this month, smirking as he talked about how Peter the Great seized parts of Sweden. He will fight tomorrow with whatever weapons work for him today. That means resorting to war crimes and nuclear threats, starving the world and freezing Europe.

The best way to prevent the next war is to defeat him in this one. Leaders need to explain to their people that they are not only defending an abstract principle in Ukraine, but also their most fundamental interest: their own security. The EU needs to shore up its energy markets so that they do not fracture next winter. Ukraine must have more weapons. The risk of escalation today is real, but if a bad peace is forced on Ukraine Mr Putin's nuclear threats will not stop. They will only become more dangerous, especially if Russia's conventional forces are at a disadvantage.

In the long war ordinary Russians will suffer and Ukrainians endure unspeakable pain for Mr Putin's vanity. To prevail means marshalling resources and shoring up Ukraine as a viable, sovereign, Western-leaning country—an outcome that its defiant people crave. Ukraine and its backers have the men, money and materiel to overcome Mr Putin. Do they all have the will? ■



## Rights and wrongs

# After the shattering of Roe

America needs to find a better way to resolve its thorniest issues

**I**T WAS HARDLY a surprise. The Supreme Court's move to overturn *Roe v Wade*, the decision in 1973 that American women had a constitutional right to abortion, had been expected since a draft majority opinion was leaked in early May. And drama from the court was almost inevitable after Donald Trump seated three justices, giving it a 6-3 conservative supermajority instead of the 5-4 balance, with a swing vote in the middle, that had prevailed since the 1970s. Even so, when the ruling in *Dobbs v Jackson Women's Health Organisation* came on June 24th, it was a shattering blow to those, like this newspaper, who believe in the right to abortion. Chief Justice John Roberts, who cautioned against a "dramatic step", could not prevent the court from withdrawing a right that Americans had relied on for nearly half a century and which a majority of them have consistently supported.

The ruling is the most striking of the court's decisions in its current term, but abortion is not the only area where it has radically tipped the scales. The justices have also loosened gun laws and eroded the separation of church and state (see United States section). If their final big verdict goes as expected, they are about to limit the Environmental Protection Agency's ability to regulate emissions from power plants, undermining the Biden administration's hopes of halving climate-changing carbon-dioxide emissions by 2030. Just 25% of Americans have confidence in the court, an all-time low, according to recent Gallup polling. That has not deterred the justices from embarking on a spree of judicial activism that will further deepen cracks in America.

The impact of the abortion ruling is immediate and severe. The court has sent the matter back to the states, 13 of which have trigger laws that ban abortion or will do so soon. Women in conservative states have for years had to make long, costly journeys to find health care that in most of the rich world is available free and close to home. The sudden disappearance of abortion provision in more than a dozen states will cause the most harm among the poorest women, and those suffering complications in pregnancy (see International section). One consequence may be a further rise in America's maternal-mortality rates, already the highest by far among rich countries.

It is true that *Roe* rested on shaky legal arguments. This left the right it sought to enshrine open to repeated legal attack by a highly motivated minority. The resulting fight has poisoned politics and dragged the court into the partisan mire. It has also now put other cherished rights at risk. The rulings that established the rights to contraception and same-sex marriage, for example, rest partly on the same interpretation of "due process" under the 14th Amendment that underpinned the right to abortion. In his opinion last week Clarence Thomas, the most conservative justice, made it clear that he believes these are ripe for reversal.

Thankfully, America is not about to ban gay sex or same-sex marriage. Too many voters would resist any such effort, and the court does not seem to have an appetite for it. Samuel Alito, the justice who wrote the opinion for the conservative majority overturning *Roe*, sought to throw cold water on the idea: "Nothing in this opinion should be understood to cast doubt on prece-

dents that do not concern abortion," he wrote. Yet Justice Alito and Justice Thomas noted in 2020 that they would like to overturn the 2015 decision that established a constitutional right to same-sex marriage. Those rights no longer look quite so secure.

The repercussions of the court's activism will play out over years, and the response should be calibrated accordingly. The short-term priority for defenders of abortion rights must be to help women in states where it is now banned or hard to obtain. That means support for travel to states where abortion remains legal. It also means making sure women have ready access to a method of abortion that did not exist at the time of *Roe*: abortion medication, which allows women to end pregnancies at home safely up to 11 weeks. The Food and Drug Administration has dropped a requirement that obliged a woman to collect one of the two drugs involved from a health-care provider. But it still imposes unnecessary rules on supply of the drugs. They should go. Better access to contraception, resisting conservative efforts to restrict funding for reproductive health, would help reduce demand for abortions in a country that has a high rate of unintended pregnancies compared with many others in the West.

The Justice Department rightly plans to push back against states that try to prevent access to abortion medication. But however tempting it may be, the Biden administration cannot use its majority to force through new national rules by ending the filibuster in the Senate (which requires 60 of the 100 votes to pass most laws), because such a move itself lacks support. Packing an expanded court with liberal justices would be no way to settle complex arguments, and could rebound badly once political power changes hands.

In the medium term it would be nice to think that the justices, mindful of the court's diminishing reputation, will start to exercise more self-restraint, including an embrace of term limits for themselves. Sadly, there is little sign that they will be in a mood for that. It will instead fall to voters to signal to conservatives that there are costs to running amok, and to influence the laws, state by state, that better reflect what Americans really want on the thorniest issues such as abortion—which one side believes to be murder and the other a fundamental right for women. A polarised country seems poorly prepared for the sort of debate this requires. But it is what America needs, and in some of the more finely balanced states it is possible to imagine the re-emergence of the art of compromise.

## Never surrender

That points to the longer-term solution, which is federal legislation to fill the vacuum that sucks in the justices. The conventional view is that this cannot happen, because of congressional gridlock. Yet that is not necessarily so, as the gun law just signed by President Joe Biden shows—the most significant gun-control legislation in nearly three decades, passed by the Senate on the day that the Supreme Court moved in the opposite direction on guns. With sufficient pressure from voters, even Congress could, eventually, stir itself into action. ■



## Venture capital

# The reckoning

## The startup bust is bad, but not as bad as the dotcom fiasco

THE VENTURE-CAPITAL bull run of the past two decades transformed what was once a cottage industry in Silicon Valley into a huge machine for building globally dominant companies. Over \$600bn of venture funds were invested worldwide last year, nearly ten times the level a decade ago. Venture capital (vc) spread into new sectors, drew in new participants and became more global. Valuations rocketed as a sense took hold that the good times would never end.

Now the war in Ukraine, China's purging of its tech industry and rising interest rates mean capitalism's moon-shot machine is earthbound (see Business section). Public markets were the first to be hit. The NASDAQ index, which is weighted towards technology companies, has fallen by nearly 30% so far this year in a gruesome reckoning. The amount of capital raised through initial public offerings so far in 2022 is down by about 50% globally and by more than 70% in America compared with the same period last year.

The public-market bloodbath is inevitably hurting the vc world. Losses in end-investors' public portfolios put pressure on their private ones. Pension funds and endowments that committed large amounts of "dry powder" to private markets are trying to preserve cash by asking vcs to slow their pace of investing. Because there are more crossover funds, such as Tiger Global Management, which invest in several corners of the capital markets, the connection between public and private valuations has strengthened. Global investments made by vc funds in startups in May were worth \$39bn, about 30% less than the monthly average for 2021. Already, 68% of vc funds are reporting markdowns of valuations in their portfolios.

Startups that rely on vc cash are, unsurprisingly, feeling the pain. Fledgling firms with little cash saved, especially in com-

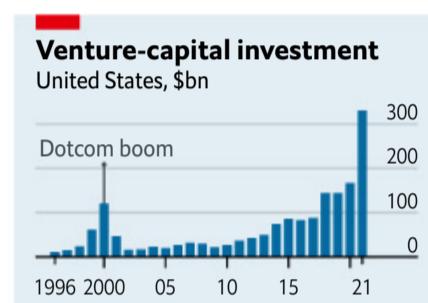
petitive sectors such as food delivery, will fare worst. And after a long boom, expect some dubious behaviour to be revealed. One concern is how interlinked tech firms might be. Some apparently profitable startups are earning money by providing services, from digital marketing to cloud computing, to other startups that are losing money and that in turn rely on endless blank cheques from their vc sponsors.

Pessimists note that vc slumps take years to bottom out. Downturns caused by inflation and an oil shock meant the amount of money flowing into vc funds fell by 94% between 1969 and 1975. After the peak of the dotcom bubble, the rate at which vc funds deployed capital fell for more than two years.

Yet despite all this, the correction will not be as bad as the crash of 2000-01. For one thing, plenty of startups have built up war chests and so have healthy balance-sheets. Assuming a typical cash-burn rate, all but three of the 70-odd biggest software startups have raised enough funds to last until 2025.

The vc industry is more institutionalised, too. Self-sustaining vc networks from Europe to Asia are less dependent on flighty American capital and have enduring links to local financial firms and entrepreneurs (see Business section). End-investors such as pension funds and endowments have experienced enough of tech's transformative effect on the economy to know not to run away.

Most important, the opportunity for innovation remains vast. The potential market for technology products has expanded hugely, beyond the bastions of business and consumer computing, to affect all parts of the business world, from biotech to supply-chain monitoring. What emerges from the chaos will be a leaner and more efficient industry—and one that will remain a powerful force. ■



## Global financial centres

# A new order in Asia

## Singapore is on top in Asian finance. The biggest risks to its primacy are at home

INTERNATIONAL FINANCIAL centres play a crucial role in the world economy. They act as launching pads for ideas and bring together expertise, capital and entrepreneurs. Right now the map of Asian financial hubs is being redrawn (see Finance & economics section). The city-state of Singapore looks to be the main beneficiary—provided it can handle some of the downsides of being a global centre for other people's business.

Asia makes up more than a third of global GDP and its weight in the world economy is continuing to rise. The role of entrepôts is especially important in the region, which hosts a baffling mix of political and legal systems. Plenty of economies are smoothed by their regulatory regimes, and the region's two emerging giants, China and India, have partial capital controls.

As a result, businesses operating in Asia have a high demand for places that are open and which transcend national differences. In the past 200 years many hubs have played this role, including Calcutta (now Kolkata) in India and Penang in modern-day Malaysia. In the 1980s Tokyo had hopes of becoming top dog, but they were dashed by Japan's financial crisis.

Now the options are shrinking. As China grows more authoritarian, the chances of Shanghai resuming its pre-1949 role as a global hub have receded. In a recent survey by the American Chamber of Commerce in Shanghai, only one American firm in the 133 that were surveyed planned to increase its investment in China. Even after this week's announcement that China's quarantine rules are being relaxed, memories of Shanghai's draconian

► nian lockdown lingers. Hong Kong is suffering, too. This week marks the 25th anniversary of its return to Chinese sovereignty. Many of its freedoms have been torn up by thuggish Communist Party rule. In commerce there are growing doubts over the independence of its judiciary and institutions.

Singapore is best placed to benefit. It has an effective and predictable government, a reliable legal system and a business-friendly regulatory environment. The government's long commitment to a neutral role in international affairs allows it to act as a hub for both Western and Chinese capital and businesses. The city has improved its ability to identify dodgy money. Speech is still more curtailed than in America or Europe, but is far freer than in mainland China—or, sadly, Hong Kong.

Reflecting this, companies ranging from BlackRock, an American asset-management giant, to Sinovac, a Chinese pharmaceutical firm, are expanding in Singapore. Over 100 family offices have domiciled their wealth there this year, bringing more capital from the West, China and the rest of Asia to the city.

Singapore is also becoming a tech centre. It hosts both American firms building a base in Asia, and Chinese tech contenders launching their international operations. Alphabet, Meta and Microsoft, and Alibaba, Tencent and TikTok have all made the

little red dot their regional or global home. By contrast, China's "great firewall" prevents its cities from becoming bases for global tech firms (see China section). Hong Kong has also floundered over technology. The city's intellectual-property payments and high-tech exports as a share of total trade are ranked 54th and 121st in the world respectively. By contrast, Singapore comes 15th and 1st respectively on the same two measures.

### Small and dutiful

Singapore faces risks, inevitably. The Chinese government could come to its senses and reverse the policies stifling its own international hubs. India may deregulate and open up to international capital flows, giving Mumbai a greater role in global finance.

For all its strengths in asset management and hosting multinationals, Singapore is relatively puny in share trading and in banking. Maintaining diplomatic neutrality as America and China clash will be fiendishly difficult. And Singapore's domestic political system, though stable by global standards, faces a leadership succession in the ruling party and resentment towards wealthy expatriates as the island grows more crowded (see Asia section). Still, the city-state possesses rare and valuable attributes. A bigger role in the region is there for the taking. ■

## The missing Mexico's shame

**Staggering numbers of Mexicans are disappearing. Here's how to save some of them**

THE NUMBERS would be shocking in a war-torn dictatorship, let alone a peaceful democracy. In May Mexico's official tally of missing people exceeded 100,000 (see Americas section). That cumulative total does not include those who have subsequently been found, either alive or dead. Some 52,000 unidentified corpses lie in morgues across the country. Hardly any cases result in justice for the victims or their families.

The root of the problem is drug prohibition. Narcotics are popular but illegal nearly everywhere. Mexico has a long land border with the United States, the world's biggest market. Control of smuggling routes generates vast profits, which criminal gangs fight to control. Some seek to intimidate rivals by dumping fresh corpses in the street. But most prefer a more discreet approach. Victims are abducted, murdered and buried in lonely patches of desert. All their families know is that they have a hole in their midst.

The problem is getting worse. Each day 25 people are reported missing, up from one a day in 2006. Some 80% of reported disappearances have occurred since that year. The pace at which Mexicans went missing rose sharply after Felipe Calderón, president from 2006 to 2012, stepped up the war on drugs by sending the army to fight criminal gangs and kill their leaders. The newly leaderless gangs splintered: the number of criminal groups more than doubled between 2010 and 2020. With more gangs fighting over the same turf, the number of murders soared—and so did the number of unsolved disappearances.

These are a symptom of the impunity enjoyed by Mexico's criminal underworld, as is the state's failure to investigate them properly. The victims are mostly poor, and many are gangsters.

Voters and officials have long dismissed them as people who chose "the wrong path", though plenty were witnesses or, increasingly, women who were kidnapped and trafficked. The only people who have doggedly tried to find the disappeared are their mothers. Groups of relatives have clubbed together to interview witnesses, search for mass graves and fill the gap left by an indifferent state. It was only after 43 student teachers vanished in 2014 (and were apparently murdered with the collusion of corrupt officials) that the government set up a national commission to search for missing people and required police to accept reports of disappearances promptly.

Andrés Manuel López Obrador, Mexico's president since 2018, has taken a different approach to the drug war, which has also failed.

Under the slogan "hugs not bullets", he has told the army not to confront drug gangs. In effect, he has left them to get on with their business. The violence has intensified and the pace of disappearances has increased. In May the government passed a law to set up a forensic centre and national DNA database to identify bodies of the missing. Mr López Obrador has increased the National Search Commission's budget, but at \$37m a year it is just 1% of what he is spending on a new tourist railway in 2022.

Until the United States legalises drugs, Mexico will always have a gang problem. Yet it could reduce the harm if it did more to end impunity for murder. A good start would be to investigate every disappearance properly. That means hiring more forensic experts, building more laboratories and cleaning out corrupt police forces. By one estimate it could take 35 years just to clear the backlog of unidentified bodies. The time to start is now. ■



# Head in clouds? Or real-world strategy?

■ ■ ■

With today's pressure to make big changes fast, EY-Parthenon teams can help CEOs create a real-world strategy: one that is both ambitious and actionable. As one of the largest strategy consulting organisations, we help you design and deliver corporate, transaction and turnaround strategies that create long-term value.

[ey.com/uk/RealWorldStrategy](http://ey.com/uk/RealWorldStrategy)

■ ■ ■

The better the question. The better the answer.  
The better the world works.



**EY Parthenon**  
Building a better working world

**Lower expectations for AI**

Your briefing on the charismatic foundational models in artificial intelligence obscured what aspect of AI is actually useful ("The world that Bert built", June 11th). The technologies you covered will provide little value in optimising energy production, securing the next generation of telecommunications infrastructure, or proving the safety of an aeroplane. These are the everyday problems on which we must today focus our efforts in applying AI. As a comparison to our being misled, we might count the years in which fully autonomous driving has been predicted to arrive soon.

A vanishingly small number of firms have internet-scale data along the lines of Meta or Amazon. For everyone else, what is needed are the construction of provably compositional systems using a combination of deterministic AI working alongside the more flashy Hollywood-ready developments you highlighted.

The trendy foundational models of deep learning are not software composable. This is a limitation of the models and means that they will always have weaknesses that are more appropriate to jobs with low-consequence outcomes. Deploying this tech alone in life-critical environments is not currently solvable with just bigger models. Apparently, the promise is that I might "soon" model any industrial problem as long as I have the computer-processing power of Sweden, the electrical capacity of Africa, and the entire storage capacity of Google. This is likely to have as much practical application to most people's business problems for the next decade as the physics of string theory.

ERIC DAIMLER  
Chief executive  
Conexus AI  
*San Francisco*

The writing of computer code only accounts for a small portion of the time required to develop software. As Fred Brooks stated in his classic

essay, "No Silver Bullet", written in 1986, "the hard thing about building software is deciding what one wants to say, not saying it."

So, even if programmers have new tools that let them write computer code in plain English, we will still be spending all of our time trying to figure out how to express the thoughts in our head. Perhaps programmers may require the help of editors in the future?

DAN MCNULTY  
*Saint Paul, Minnesota*

AI systems are now so sophisticated that they "possess a grasp of language", you say ("Artificial intelligence's new frontier", June 11th). However, Global Witness has been conducting field tests of Meta's artificial-intelligence systems and found them to perform appallingly, despite the fact that Meta says its computers' ability to understand language is industry-leading.

We made our tests as easy as possible. We picked countries on Facebook which Meta says it has prioritised (Myanmar and Ethiopia), used the most widely spoken languages in those countries (Burmese and Amharic) and tested their ability to detect the most extreme form of hate speech, including calls to genocide, all of which were stated in shockingly clear language. We conducted the tests by submitting these real-life examples of hate speech to the company in the form of adverts, a methodology that allowed us to record whether Facebook approved the ad for publication or not and then delete it before it was actually published. Facebook failed to detect every single hate-speech ad we submitted.

Why is it that one of the world's richest companies, which says that it has trained machine-learning systems to detect hate speech in Burmese and Amharic, can't do the task? Is it that none of their systems is up to this, or is it that they have not invested enough in non-English languages?

ROSIE SHARPE  
Global Witness  
*Copenhagen*

**Conserving buildings**

Regarding efforts to make the building industry greener ("A tall order", June 18th), the use of manufacturing materials accounts for more than 10% of global emissions, much more than aviation. Although "low-carbon" concretes and steels are being sold today, they work either by substituting virgin materials for waste products (none of which exist in volumes even close to what is required to decarbonise the industry), or are based on technical innovations that are still in the lab and not yet proved at scale.

Instead, the building industry must focus on using materials more efficiently, particularly in the richer countries of the world, where we currently use far more material than is necessary to meet our safety codes. This is often done in the name of simplifying designs to minimise labour costs, or enabling extravagant architectural visions. We also demolish buildings that could be kept, reinsulated and extended, an option that would lead to carbon savings in almost every instance.

The Netherlands introduced laws in 2013 that limit carbon emissions per square metre of construction. It is time that countries like America and Britain followed suit.

WILL ARNOLD  
Head of climate action  
Institution of Structural  
Engineers  
*London*

**Inventory flows**

Buttonwood's column on the return of the inventory cycle (June 4th) noted that, in times of frequent supply-chain disruptions, companies respond by increasing inventory levels, and that such stockpiling could lead to higher volatility in corporate earnings. Recent government regulations, such as the EU's Late Payment Directives, that limit the duration of trade credit add another layer of complication. Although such regulations are intended to

alleviate the financial burden on smaller businesses, our research has shown that as trade credit is an indispensable source for companies to finance their inventory, simply limiting payment terms could result in more frequent out-of-stock situations and lower retail revenue.

We must prepare for the challenging environment that companies face in financing a healthy level of inventory. That means more innovative financing mechanisms, such as technology-enabled inventory financing, and supply-chain finance solutions that allow companies in a supply chain to share their working capital more efficiently.

S. ALEX YANG  
Associate professor  
London Business School

**I wish it were not so**

Johnson's column on the history of the subjunctive in British and American English (June 18th) reminded me of a radio-show guest on the BBC whose father, he said, relished British B-movies of the late 1940s and early 1950s. In one such film a bad guy points a gun at a policeman, who says: "I wouldn't do that if I were you." The bad guy responds: "Why are you using the subjunctive, inspector?"

MIKE GORDON  
*Brentwood, Essex*

**Not-so-cheap plonk**

Your article on American supermarkets mentioned Trader Joe's and its \$2 range of wines ("The not-so-super market", June 4th). I regret to inform you that Two Buck Chuck is now \$3.49 a bottle. Oh woe is us. Inflation took away a nice cheap wine. Or should that be whine?

TED FISK  
*Naperville, Illinois*

### DIRECTOR GENERAL – WWF INTERNATIONAL



WWF is an independent conservation organization active in nearly 100 countries, working to sustain the natural world for the benefit of people and nature.

We are part of a growing coalition calling on world leaders to set nature on the path to recovery by 2030. Working with many others – from individuals and communities to business and government – WWF urgently seeks to protect and restore natural habitats, stop the mass extinction of wildlife, and make the way we produce and consume sustainable.

WWF seeks a new Director General to succeed the retiring incumbent. The Director General leads the WWF organization globally and is accountable for ensuring that the WWF Network is aligned on the delivery of global organizational goals to support our mission and achieve tangible conservation impact.

This is a demanding and high-profile role. The ideal candidate:

- Is an inspiring and influential leader with a significant track record of leading complex global organizations;
- Has a deep and broad understanding of conservation, environmental and development issues;
- Possesses strong political acumen and excellent understanding of and experience in environmental and sustainability issues at the international policy level;
- Has the ability to skillfully influence externally through vision, effective communication, political finesse and networking; and
- Demonstrates a genuine commitment to the WWF mission and values.

**Egon Zehnder has been retained as our exclusive partner in this search. Please register your interest at [WWFIInternationalDG2022@EgonZehnder.com](mailto:WWFIInternationalDG2022@EgonZehnder.com). The submission deadline is 31 July 2022.**

[www.panda.org](http://www.panda.org)

### BOARD CHAIRPERSON – WWF INTERNATIONAL



WWF is an independent conservation organization active in nearly 100 countries, working to sustain the natural world for the benefit of people and nature.

We are part of a growing coalition calling on world leaders to set nature on the path to recovery by 2030. Working with many others – from individuals and communities to business and government – WWF urgently seeks to protect and restore natural habitats, stop the mass extinction of wildlife, and make the way we produce and consume sustainable.

WWF now seeks a new Chair of the International board. The (non-executive) board oversees the activities of WWF International and is the custodian of the Panda brand.

The ideal candidate:

- Is a high profile convenor, with an extensive and impactful network;
- Has significant experience of effectively chairing diverse, multi-cultural and complex organizations;
- Has the personality and capabilities to work effectively with the global WWF network; and
- Demonstrates a genuine commitment to the WWF mission and values.

This is a demanding and non-remunerated role; expected time commitment of up to 30%.

**Egon Zehnder has been retained as our exclusive partner in this search. Please register your interest at [WWFIInternationalChair2022@EgonZehnder.com](mailto:WWFIInternationalChair2022@EgonZehnder.com). The submission deadline is 31 August 2022.**

[www.panda.org](http://www.panda.org)

## A New Challenge?



### Unique Access to Confidential Opportunities

InterExec is the global leader in assisting Top Executives to access £200k to £2m+ unadvertised vacancies worldwide.

We act discreetly through our 15,000 strong headhunter network.

[london@interexec.net](mailto:london@interexec.net) [www.interexec.net](http://www.interexec.net) +44 (0)20 7256 5085

**Inter Exec**  
UNIQUE NETWORK • OUTSTANDING TALENT



## On and on

KYIV

### Does a protracted conflict favour Russia or Ukraine?

THE TYPICAL war is short. Since 1815, the median duration of wars between states has been just over three months, calculates Paul Poast of the University of Chicago. In 2003 America toppled the government of Iraq in just 20 days. The conflict that Armenia and Azerbaijan fought over the territory of Nagorno-Karabakh in 2020 was over in 44. Yet Russia's invasion of Ukraine has entered its fifth month, and shows no sign of drawing to a close. "I am afraid that we need to steel ourselves for a long war," wrote Boris Johnson, Britain's prime minister, in mid-June. Jens Stoltenberg, NATO's secretary-general, echoed his warning: "We must prepare for the fact that it could take years."

In the early days of the invasion the West worried that Ukrainian forces would be swiftly overwhelmed by Russia's superior firepower and resistance would collapse. Now the fears are different: that Ukraine has not adjusted its strategy enough to fight a sustained war of attrition; that it

will run out of soldiers and munitions; that months of pummelling will cause its economy to collapse; that the will to fight may ebb as the going gets even tougher. Russia, too, is subject to many of the same pressures, with the conflict chewing up its young men, sapping its economy and accelerating its descent into dictatorship. A protracted conflict will also test the resolve of Ukraine's Western allies, as the price of food and energy soars, inflation riles voters and Ukraine's requests for weapons and cash escalate. A long war, in short, will test both sides in new ways. Whether it favours Russia or Ukraine depends in large part on how the West responds.

Start on the battlefield. Russia's army is making headway, albeit slowly. Ukrainian forces have been ordered to withdraw from the town of Severodonetsk, putting Russia within spitting distance of controlling all of Luhansk province, one of two that together form the Donbas region. Slovyansk, in the north-east of Donetsk, the other

province in Donbas, is also under attack (see map on next page).

Ukraine's forces, outgunned and until recently largely outranged in artillery, have been mauled. The government says they are suffering as many as 200 casualties a day. On June 15th a Ukrainian general said that the army had lost 1,300 armoured vehicles, 400 tanks and 700 artillery systems, far more than previously thought. Many of Ukraine's most experienced and best-trained units have been destroyed, leaving greener reservists to take their place. On June 19th British defence intelligence said there had been desertions among Ukrainian troops.

Yet this does not mean Russia will sweep through Donbas. Its advance has been slow, grinding and costly, enabled only by massive, indiscriminate bombardments. New recruits are getting just a few days of training before being thrown into battle, according to the BBC's Russian service. Morale is low: British intelligence points to "armed stand-offs between officers and their troops". It has taken more than two months to capture Severodonetsk, and Slovyansk and next-door Kramatorsk are better fortified.

Russia still has plenty of munitions and equipment, says Richard Connolly, an expert on the country's economy and defence industry. Russian arms factories are said to ➤

► be working double or triple shifts, he notes. Russia also has large stockpiles of old tanks to draw on. Over time, shortages will bite, but they are more likely to lead to the deployment of outmoded or poorly maintained weapons than to a total drought, Mr Connolly believes.

### Men, not machines

Manpower is a bigger problem. Vladimir Putin, Russia's president, has refused to call up conscripts and reservists *en masse*. Instead of a general mobilisation, says Michael Kofman of CNA, a think-tank, his army is creating new reserve battalions by signing up new recruits. But finding enough of them is difficult: the government has had to offer lavish pay, of almost three times the median wage. The injured and bereaved have been promised generous settlements, too. The Duma, Russia's parliament, recently lifted the maximum age to join the army from 40 to 65. The authorities are trying to lure recently retired soldiers back into service.

In an effort to create battle-ready forces much faster than usual, the newly enlisted are being mashed together with serving officers who have not yet deployed and residual equipment from existing brigades, Mr Kofman notes. But generating new units in this way amounts to "selling off the family silver", says a Western official. The officers and equipment assigned to them would normally be used to train new soldiers or to relieve battle-worn troops. Russia is, in effect, cannibalising its own forces, Mr Kofman says, which will reduce "the overall sustainability of the war effort".

Russia's shortage of well-trained troops is one reason its advance in Donbas has been glacial. Ukraine, despite a smaller population, has a larger supply of eager recruits. Training them remains a bottleneck, but that could be overcome with a little help: on June 17th Mr Johnson proposed a scheme whereby Britain would train as many as 10,000 soldiers every 120 days.

Ukraine is also receiving ever more sophisticated Western weaponry. To begin with, it sought chiefly short-range, portable anti-tank and anti-aircraft missiles to fend off advancing armoured columns and marauding helicopters. More recently, however, America, Britain and others have been supplying modern artillery and rockets, which will be much more useful in any counter-attacks. On June 23rd Ukraine's defence minister said that American HIMARS rocket launchers, with GPS-guided munitions, had begun to arrive.

Indeed, some Ukrainian officials, including Volodymyr Zelensky, the president, argue that if Western help arrives on a sufficient scale, Ukraine may be able to win the war before winter sets in. A military intelligence officer says that Ukraine's best window for a counter-offensive will

come in late October, when its stock of Western arms should be peaking. "We need the enemy to feel the full force of the weaponry," he says. There is talk of pushing Russia back to its positions at the start of the war, and then negotiating a peace deal from a position of strength.

But this optimism glosses over several yawning pitfalls. For one thing, Ukraine's forces have used most of their munitions and, without the domestic manufacturing capacity to replenish them, are now completely reliant on foreign benefactors. The recent fighting has centred on long, heavy artillery barrages that consume vast amounts of ammunition. Russia, which has huge stocks, is thought to be blasting away so indiscriminately that America's entire annual production would be enough to keep its guns firing for only two weeks, observes Alex Vershinin, a retired US Army officer. Even though Ukraine has been trying to ration its consumption, NATO countries may struggle to keep it adequately supplied with shells.

What is more, Ukraine's backers have already handed over a big share of their stocks of certain weapons. The 7,000 Javelin anti-tank missiles America has provided, for instance, are thought to amount to about a third of its total inventory. Western armies do not want to let their own supplies run too low; in fact, many of them are hoping to add to them in light of Russia's aggression (see Europe section).

Although America and Europe, with vastly larger economies than Russia, could eventually gear up to produce whatever Ukraine needs, their output of shells and missiles will not double overnight. America produces only 2,100 Javelins a year. Mr Vershinin notes that the number of American small-arms plants has shrunk from five during the Vietnam war to one today.

Maintaining all the fancy NATO kit is also hard. America and Germany taught Ukrainian soldiers to use their howitzers in a

couple of weeks, but learning how to fix them is another matter. The use of artillery pieces is so intense that many have already broken down and have been sent to Poland for repair. This problem will grow as complex weapons like HIMARS arrive and Ukraine gradually moves from Soviet hardware to weapons provided by NATO.

Perhaps most important is how Ukraine deploys its new arsenal. Many of the weapons that it is getting were designed in the cold war to face down precisely the adversary that Ukraine now faces in Donbas: a Soviet-style army using heavy firepower. The worry in some Western countries is that Ukraine will try to match Russia gun for gun, and so blaze through its ammunition at a prodigious rate. "If you want to use HIMARS as an area weapon," warned Ben Wallace, Britain's defence secretary, on June 29th, "you'll be running out of ammunition in 12 hours."

The aim is to encourage Ukraine to use rocket launchers and other long-range systems in line with their original purpose of fighting a "deep battle": hitting important Russian targets, such as command posts and railway hubs, many kilometres behind the front lines. There is evidence that Ukraine is indeed making a concerted effort to strike deep inside Donbas. Mr Wallace says that five ammunition dumps have recently been blown up, along with a number of Russian headquarters.

This offers a path, if not to outright victory, then at least to a standoff that imposes severe costs on Russia. Western officials doubt that Ukraine will be able to take back all the land it has lost since the invasion began. After all, the war has shown how much easier it is to defend than attack, and Russian forces are well dug in. But if Ukraine can be kept supplied with arms and ammunition and uses its new firepower judiciously, it could recapture pockets of territory, sow chaos in Russia's rear and inflict unsustainable losses in terms of men ►



► and materiel on a Russian army that is stretched thin along a huge front.

It is not just weapons that Ukraine will need to pursue such a strategy, however; the government is also desperately short of money. The war has smashed its economy: the central bank and the IMF reckon that output could shrink by more than a third this year—a blow on a par with the Depression in America in the 1930s. More optimistic analyses hold that it is the occupied regions that are most afflicted, and that activity elsewhere has recovered somewhat after a plunge in March, with the current year-on-year contraction amounting to perhaps 15%.

Either way, Ukraine's public finances have been upended. The government has had to spend lavishly not only on the armed forces, but also to provide humanitarian assistance to the injured, unemployed and displaced—even as it has cut taxes to succour the limping economy. The result is a deficit of about \$5bn a month.

Under the circumstances, investors are naturally reluctant to lend to Ukraine. Tax rises would be counterproductive, given the atrophy of the economy. The government is trying to cut some spending: it recently curbed unemployment benefits, for example. The West has pledged lots of aid, but it is not arriving fast enough to balance the books. So the government has been reduced to printing money. The central bank has been purchasing government bonds since the invasion began, at an ever accelerating pace (see chart). At the same time it is burning through its foreign reserves in an effort to stabilise the hryvnia. Inflation, already 18%, is rising. Should the West allow the government's finances to spiral out of control or the economy to cease to function, the military outlook would inevitably darken, too.

### Bearing up

Russia looks in much better economic shape, by contrast. After a brief wobble brought on by fierce Western sanctions, the rouble has recovered. Fears of a bank run have receded. Although Western firms have pulled out as much of the \$300bn or so they have invested in local outlets and factories as they can, and many educated Russians have fled the country, most forecasters expect a relatively manageable contraction this year, thanks in part to heavy government spending. Mr Putin frequently insists that the sanctions hurt the West more than they do Russia.

In fact, sanctions are taking a toll, largely by depriving the economy of crucial imports. Car production is down by more than 80% from its pre-invasion level—a reflection, in part, of the difficulty that manufacturers have obtaining parts from abroad, but also of declining consumer demand. In May dealers sold just 26 Porsches



in Russia, 95% fewer than the year before. Output of lifts has fallen by half, pointing to a slump in big construction projects.

The shortage of critical components is a worry for Russia's generals, too. "We have reports from Ukrainians that when they find Russian military equipment on the ground, it's filled with semiconductors that they took out of dishwashers and refrigerators", Gina Raimondo, America's commerce secretary, told Congress in May. Although some Russian firms do make computer chips, and are trying to boost output, their wares are more expensive and less sophisticated than imported ones.

But relatively few munitions factories seem to be affected so far, Mr Connolly notes, perhaps because Russian defence firms tend to hoard important parts, a hangover from Soviet central planning. What is more, Western sanctions are not watertight and, thanks to its oil revenues, Russia has plenty of money to spend subverting them. The government has been seeking alternative supply chains for some time. A new paper from RUSI, a think-tank in Britain, points to "myriad companies based around the world, including in the Czech Republic, Serbia, Armenia, Kazakhstan, Turkey, India and China, who will take considerable risks to meet Russian supply requirements". China has signalled willingness to supply spare parts to Russian aircraft firms.

Indeed, Mr Putin appears confident that time and money are on his side. Even if Russia's forces fail to advance rapidly, they have succeeded in blockading Ukraine's ports, contributing to the strangulation of its economy. And although neither the Russian public nor the elite was eager for war, Mr Putin's ruthless security forces and energetic propagandists have kept dissent to a minimum. It helps that most of the army's new recruits—and casualties—appear to come from small towns in poorer provinces, meaning that Russia's big cities have been shielded from the worst effects of the war.

But the lengths to which Mr Putin has

gone to avoid a general mobilisation suggest that he is not confident that Russians are willing to put up with a long and bloody war. By the same token, the economic optimism currently displayed by businessmen and the broader population could also evaporate as the longer-term costs of the war, Western sanctions and emigration start to sink in.

Many in Ukraine fear that Russia may resort to more ruthless tactics if the war drags on too long for Mr Putin's comfort. It could, for instance, target the power grid and heating facilities as winter approaches—a move that would impose an enormous humanitarian cost on the general population. Ukrainians seem to be steeling themselves for such privations, however. Data from Rating, a polling agency, show that well over half of them now believe the war will last at least six months, up from 10% in a sample taken in early March. Nonetheless, fully 93% of respondents say Ukraine will prevail in the end, with varying degrees of confidence. "Ukraine has started to believe in itself," says Alexei Antipovich, Rating's boss.

Ukrainians remain firmly against the idea of negotiations with Russia, with the mood against compromise shifting decisively following the reporting of Russian atrocities in the second half of March. They fear a repeat of the Minsk accords, the French- and German-brokered peace deals that drew new lines in Ukrainian sand but never satiated Russian appetites. Ukraine does not believe the Kremlin will stop at anything other than complete surrender. "We either win or we lose," says Oleh Zhdanov, a former operational officer at Ukraine's General Staff.

Ukraine's allies may not take such a black-and-white view of things. Indeed, Mr Putin may find them easier to dishearten than Ukrainians. By slashing exports of gas through the main pipeline from Russia to Germany, he recently signalled that he is willing to take Europe's economy hostage to advance his war aims (see Finance section). Soaring gas prices and economically crippling shortages over the winter would almost certainly induce some European governments to lean on Ukraine to accept an imperfect truce.

Several European countries, most notably Germany, were painfully slow to start giving Ukraine heavy weapons. Many are still reluctant to describe their goal in sending arms as helping Ukraine to "win" the war. There is certainly no unanimity within NATO about how to define victory. The longer the war goes on, and the higher the cost in terms of punishing energy prices and decelerating economies, the more reluctant Ukraine's allies will become to provide endless weapons and cash. Mr Putin, for one, seems to be counting on the West's resolve to crumble. ■



## Energy security

# Under the deep green sea

ST FERGUS, ABERDEENSHIRE

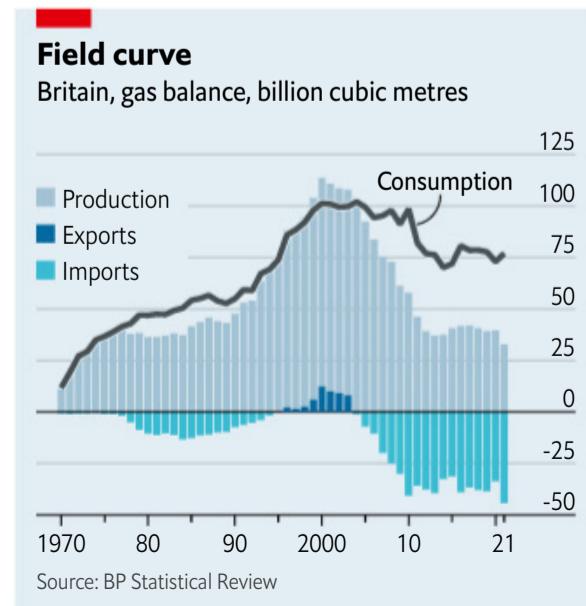
**In the short term the North Sea matters to Britain as a source of energy. Its long-term future is as a high-tech carbon dump**

AS YOU WALK north along Scotstown beach, you might not notice the gas flare, flickering behind 20-foot sand dunes. You will definitely not see the pipelines buried beneath your feet. The energy passing through them every 30 minutes or so is equivalent to that released by the atom bomb dropped on Hiroshima. It flows in the form of natural gas, enough each day to fill 25,000 Olympic swimming pools, through a tangle of piping, tanks and valves that comprises the St Fergus gas terminal. Perched behind the dunes on Scotland's easternmost shore, St Fergus processes some 20% of Britain's gas every year. Its razor-wire fences are patrolled by police from the Ministry of Defence.

St Fergus is part of a vast infrastructure which has been built beside, into and under the North Sea over the past 50 years. Oil and gas drawn up from beneath the sea floor powers cars and heats homes; about 80% of the gas used in Britain comes from these offshore fields (a big chunk of it from the Norwegian part of the sea).

Reconciling the production of fossil fuels with the government's climate-change

commitments has long been a problem: on June 29th the Committee on Climate Change said in its annual report to Parliament that the target of reducing North Sea emissions by 50% by 2030, compared with a 2018 baseline, is too low. The war in Ukraine has made things even thornier, by shoving energy security and rising gas bills up the agenda. The North Sea must now



## → Also in this section

- 20 Robots and asparagus
- 21 Scottish independence
- 21 Child care and growth
- 22 Another blow for the Met
- 22 Vanishing Londoners
- 24 No one wants Boots
- 26 Bagehot: Boris Corbyn

pull off an unlikely hat-trick: achieving decarbonisation, muting the cost-of-living crisis and securing supply.

To see how it might do so, look to the first North Sea project to be given the go-ahead since the invasion of Ukraine. On June 1st the government approved plans by Shell, a giant energy company, to develop the Jackdaw gasfield some 270km (168 miles) off the coast from St Fergus. The gas is due to start flowing by 2025.

Kwasi Kwarteng, the business secretary, celebrated the new project, saying he wanted "to source more of the gas we need from British waters to protect energy security". Britain's demand for gas is declining slowly (see chart) but is projected to remain well above domestic production; extracting more from the North Sea gives the government greater control over supply. (Gas matters more to the government's goals than North Sea oil, which is dirtier and dearer than imports of the black stuff.)

Domestic production also creates jobs in Britain and generates revenue for the Treasury. The go-ahead on Jackdaw came just six days after the government announced an "Energy Profits Levy", better known as a windfall tax, which imposes a 25% surcharge on extraordinary profits being made by the oil-and-gas sector. The £5bn (\$6.1bn, or 0.2% of GDP) in extra receipts that the government expects to generate will help pay for schemes to assist households with sky-high energy bills.

An investment allowance built into the levy means energy companies save 91p in ➤

► tax for every £1 they now invest in the North Sea. This is a nice fillip for Shell's Jackdaw plans, which were already in place, but less helpful for other North Sea energy firms that have either already made investments or have no spending plans to bring forward. Many complain that the windfall tax will create uncertainty and end up stifling investment.

This tension, between funding cost-of-living interventions and encouraging domestic energy supply, is dwarfed by another—the conflict between extracting oil and gas from the North Sea and meeting a legal requirement for Britain to hit net-zero carbon emissions by 2050. The government says it will run all new projects through a "climate checkpoint" to ensure that their emissions are suitably low.

In general a unit of North Sea gas can already be supplied with far lower carbon emissions than a unit shipped in from abroad. But new fields may need to be powered by renewable electricity, rather than dirtier fuels as is the norm today. Natural-gas leaks, which create 25 times as much warming as carbon dioxide over a 100-year period, will be less tolerated.

But the route to a much lower carbon future requires more than such tweaks. Shell's plans for Jackdaw are instructive. Its gas will come ashore at St Fergus. Some of it will be sent to a new gas-fired power station being planned in Peterhead by SSE, a Scottish utility, and Equinor, Norway's state-owned energy company. The plant, which is to be online by 2026, will include a capability to capture the carbon dioxide that is emitted when gas is burned.

This captured CO<sub>2</sub> would be compressed and piped back to St Fergus, to a carbon-capture-and-storage facility Shell is building there. Shell would then send it back out to sea, to a depleted gasfield called Goldeneye, through the old pipeline which was left in place when the field was decommissioned in 2021. After injecting the CO<sub>2</sub> underground Shell would have reduced the emissions associated with Jackdaw's gas to almost zero. Electrifying operations at the extraction wellhead would take it the rest of the way, yielding a gas-to-carbon life cycle which emits little-to-no CO<sub>2</sub>, helps energy security and raises revenue.

The Goldeneye field would not be limited to storing carbon that had been captured nearby. Carbon transport networks would allow Shell to sink CO<sub>2</sub> from all over Britain. Ships could carry in carbon from around the world, if the price was right. In time the plan is for facilities at St Fergus to use renewable energy to break natural gas down into molecules of carbon dioxide and hydrogen, sending the CO<sub>2</sub> straight back to the seabed and piping the hydrogen on to industrial users.

Similar gas-to-carbon loops are under construction or consideration at Teeside

and Humber, around the gas terminal at Bacton in Norwich, and at Liverpool Bay. The North Sea Transition Authority, formerly the Oil and Gas Authority, has issued six licences for storing carbon. The North Sea has some two-thirds of known, available carbon-storage sites in Europe.

It is true that carbon capture and storage has not been proved at such a large scale. Regulation, subsidies or carbon pricing are the only ways to make these new technologies economically viable. Many people will mistrust the very same companies whose emissions are the cause of climate change. But if the fields which have helped to fuel Britain for 50 years can become a store for carbon molecules, the North Sea can remain central to the country's energy needs for decades to come. ■

### Asparagus

## Getting picky

GLOUCESTERSHIRE

### British harvests are in trouble. Robots might help

**A**SPARAGUS IS A very odd vegetable. Part treat, part trifid, in its pomp it can grow up to 2cm (0.8 inches) in an hour. Cut a field one afternoon, return the next morning, and with almost sinister speed it will be back. It is minimalist, too. Whereas other vegetables spend time producing accessories such as foliage, asparagus grows as single spears: an army of Excaliburs emerging from the soil. These things make asparagus strange. They also make it superbly suited to robotic pickers.

In late June a small white object slowly makes its way along a field of asparagus in



Spears of destiny

Gloucestershire. When it passes over a group of spears it pauses, whirrs then clunks: the asparagus has been sliced. This robot—a prototype called Sprout that is being developed by a London startup called Muddy Machines—is unprepossessing. It will not prompt bucolic poets to write odes to it, or painters to capture it resting by a hay wain. It is more fridge on wheels than *Ex Machina* android. However John Chinn, Britain's largest asparagus producer, regards it with enthusiasm. For him, he says, it could be "fantastic".

The world is suffering from a shortage of seasonal workers. Those tides of toilers which for centuries have ebbed and flowed across countries with the seasons, bending and crouching and picking and sorting, were weakened by the pandemic. Last summer Mr Chinn needed 1,300 workers. He got around 800. Trying to find labour is, for a farmer, "the thing that stops you sleeping". The shortage of workers is particularly acute in Britain, where Brexit has been spoiling harvests as well as growth. In Sussex peas rotted in fields; in Cornwall daffodils wilted where they grew.

In Gloucestershire, Mr Chinn started up his tractor. To everything in farming there is a season: a time to plant and, if you are an English farmer post-Brexit, a time to fasten a chain to the back of your vehicle and plough the crop that you have grown for the past year back into the field. The process, appositely enough, is called "harrowing" and it was, says Mr Chinn, "devastating". A time to weep.

Now, it is a time to innovate. Mr Chinn is inadvertently fortunate in his crop. Moravec's paradox states that computers find things simple that humans find hard—and vice versa. Differential calculus? Not a problem. Differentiating between a ripe strawberry and a stone? Really hard.

Harvesting is especially ripe for robotic puzzlement. Leaves confuse them; bumps baffle them; colour stymies them. In 2015 Joe Jones, a roboticist whose inventions include the Roomba, a vacuum cleaner, was considering new areas to explore, and started to make a list of which crops a robot might be able to pick most easily. He considered different variables that "would make it easy for a robot to handle" such as squiddiness, colour and foliage, then scored each crop out of 12. Aubergine was bottom (it's delicate, for one thing, and foliage gets in the way). "And what crop," he wrote on his blog, "came out on top?"

In the fields of Gloucestershire, the answer. Sprout crawls forward; pauses. Another whirr, whoosh, clunk. It is a prototype, but Mr Chinn is optimistic. His dream would be to see a herd of 100 in his fields next year. He needs them. The stress is now so bad that "If we can't find a solution we'll all give up soon." A time to plant. And a time to stop even bothering. ■

## Scottish politics

# The neverendum

## Nicola Sturgeon plans another vote on independence

ON JUNE 29TH Nicola Sturgeon, Scotland's first minister, declared that a new independence referendum would take place on October 19th 2023. Boris Johnson's chances in the next general election have been boosted. The prospects of Scottish independence have not.

In September 2014 Scots voted against independence in a ballot sanctioned by the British government. Since then Ms Sturgeon, who leads the Scottish National Party (SNP), has proposed a series of timetables for a second vote: first autumn 2018, then by May 2021. Both dates passed unmarked. The latest almost certainly will, too.

The obstacle is the Scotland Act, the law that underpins the Scottish Parliament. It stipulates that the union of England and Scotland of 1707 is a matter reserved for the Westminster Parliament alone. That, the British government holds, means that no referendum can take place without Westminster's consent.

Ms Sturgeon is under intense pressure from her party to hold a vote. But she has long insisted that any ballot must be legally sound if it is to avoid being a vanity exercise. So the Scottish government has asked the Supreme Court to rule whether holding a ballot next year would be within the Scottish Parliament's powers.

Constitutional experts say that is a grey area. Ms Sturgeon's proposed referendum would be consultative, rather than "self-executing", and so it would not automatically change the constitution. But the Supreme Court has taken a rather limited view of the Scottish Parliament's remit and emphasised the primacy of Westminster. That would make a ruling in favour of the devolved government a surprise.

Ms Sturgeon anticipates as much. In her speech to the Scottish Parliament this week, she said that a judgment against holding the referendum would prove that the idea of Britain as a "voluntary union of nations is a fiction". Her response would be to make the next general election, due in 2024, a "de facto" referendum on independence. An SNP victory in Scotland would then, she argues, be a mandate to start negotiations on secession with the British government. (What happens if the British government disagrees, she did not say.)

This is not a breakthrough for the nationalist cause but a recognition that the British constitution is stacked against it. It is also a sign of Ms Sturgeon's internal

weakness. The SNP has for years told nationalist voters that its electoral success will force the British government to grant a referendum. Ms Sturgeon's claim that an election would serve as a "de facto" referendum, and itself constitute a mandate for independence, is a concession to hardliners in her party who have claimed that any "ballot-box event" would do the job. That is a mistake for a party that spent years trying to make independence seem less reckless to Scottish voters, says Blair McDougall, a pro-union strategist.

Nor does the gambit place meaningful pressure on Mr Johnson. Independence is not wanted by the Conservative Party's voters, members, MPs or donors. Supporters of an independent Scotland are irrelevant to the Tories' electoral coalition. Mr Johnson can legitimately argue his opposition to a referendum is constitutionally sound; the law grants him the right to decide. He can also argue that since Scots last voted on the question only eight years ago, and polls show few have since changed their mind or want a second referendum soon, saying "no" is democratically defensible. And Mr Johnson is hardly unusual in being a prime minister reluctant to aid the dissolution of his own country.

Indeed, the threat of Scottish independence is an asset. Mr Johnson will not have much to crow about in the next election: inflation is high and public services are straining. But since the ballot in 2014 the Conservative Party has done well on both sides of the border by declaring that only it will defend the union, and that a vote for Labour risks a coalition with the SNP, a second referendum and the end of Britain. That charge is overcooked: Labour says it will not do deals on independence with the SNP. But Ms Sturgeon has given the argument fresh resonance. The prime minister could not ask for a more helpful foe. ■



Second's out

## Child care and growth

# Home economics

## More affordable child care would help some mothers into paid work

### BRITAIN'S GROWTH CRISIS



FROM THE age of five, Alison Mbekeani dreamed of becoming a scientist. Following that dream took her to the University of Liverpool's School of Tropical Medicine, then to Sierra Leone amid the Ebola outbreak in 2014, then to Durham University for her PhD. But becoming a mother to two children put a brake on her career. A couple of spots at nursery cost about as much as she was earning—more once she factored in travel costs. She does not expect to return to the lab until her children are 16.

Dr Mbekeani is not alone. One survey in 2019 found that child-care responsibilities led 29% of mothers with a child under 14 to reduce their working hours, compared with just 5% of fathers. That greatly damages their earnings. A recent report from the Institute for Fiscal Studies (IFS), a think-tank, found that in the ten years following the birth of their first child, mothers' average hourly wage fell from 98% of average male earnings to 83%. In a recent interview with Mumsnet, a parenting website, Boris Johnson said that better access to child care "would have a massive benefit for the economy". Would it?

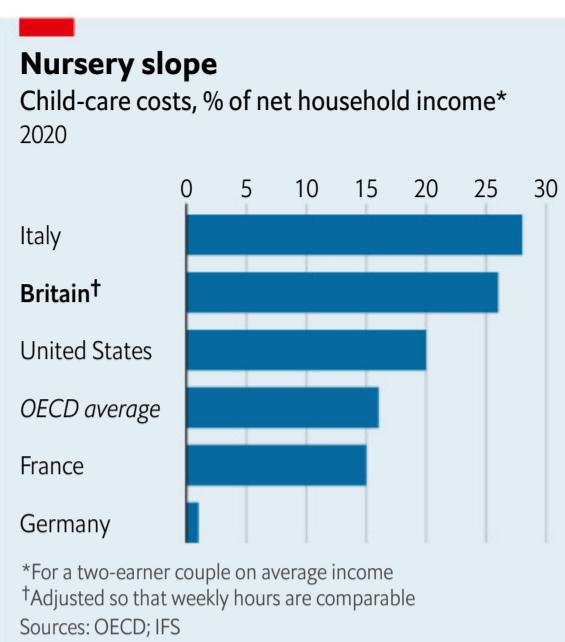
In an ideal world, the government would not have to worry about any of this. Based on their preferences and potential earnings, parents would make a rational judgment over whether to outsource child care or keep it in-house; it might make sense for them to borrow to cover short-term costs, for instance. The question for policymakers is how much parental behaviour does reflect actual preferences and how much it is driven by constraints.

If preferences are pulling women away from work, then government intervention to subsidise child care could just end up helping richer parents who would have paid anyway. Some data point in this direction. Three- and four-year-olds are eligible for 15 hours of state-funded child care, as well as another 15 hours when their parents work full-time. But around half of toddlers do not use their full entitlement. Despite nursery costs that are around 60% higher than in the OECD, a club of mostly rich countries (see chart), employment rates for British mothers with children under 15 are in the middle of the pack. This suggests ►

► that mothers who really want to work are finding a way to do so.

But there is also plenty of evidence that constraints are an issue. Three in five non-working mothers say that they would prefer to work, given the right child care. Families had to fork out an average of £260 (\$320) a week in 2021 for 50 hours of nursery care for a child under two, according to a survey by Coram Family and Childcare, a charity. A tenth of households with a child under five report difficulty meeting such costs. Borrowing to cover child-care bills is a nice idea in theory, but uncertainty over their future earnings puts many people off. As well as price, availability is a problem. Just 68% of local authorities in England report having enough child-care provision to serve parents who work full time.

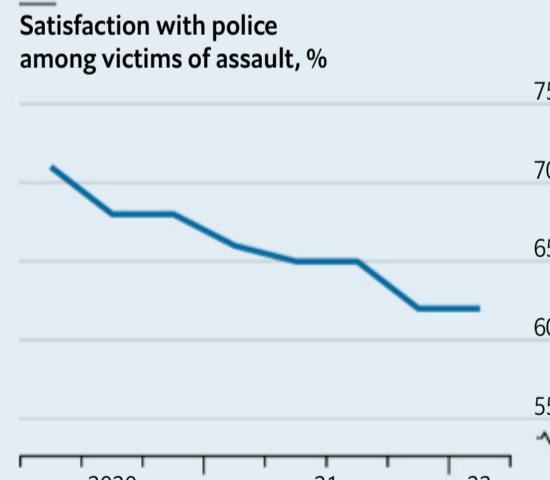
And the benefits that could flow from evening out the gender imbalance in child care could be pretty large. The latest data suggest that the employment rate for mothers with dependent children is around 18 percentage points lower than that for fathers. Compared with other countries, Britain has a relatively high share of mothers in part-time work. One recent study estimated the gains from shuffling men and women according to aptitude, pulling productive women into work and kicking unproductive men out. Astonishingly, it calculated that Britain's average output per worker could be as much as 30% higher.



Cheaper child care could help growth, in other words, but policies would need to be well-designed to target genuinely constrained parents and to stop costs spiralling out of control. Generous German arrangements do not come cheap. Mr Johnson has thus far been focusing on regulatory barriers to becoming a childminder and on child-to-carer ratios. Yet deregulation may have only a marginal effect, and points to another problem. Christine Farquharson of the IFS says that helping mums into work requires child care that is flexible and offers long hours. But giving children the best start in life means shorter, structured days full of interaction. ■

### Policing with less consent

London, attitudes towards the Metropolitan Police



### Another blow for the Metropolitan Police

The reputation of London's Metropolitan Police Service was further damaged this week. The Met has been buffeted by scandal after scandal, most shockingly the murder in 2021 of Sarah Everard by a serving police officer. It has lacked a permanent commissioner since Dame Cressida Dick was forced to step down in April. On June 28th it emerged that Her Majesty's Inspectorate of Constabulary and Fire & Rescue Services, a policing watchdog, had put Britain's largest police force into special measures. That means the Met is now subject to heightened scrutiny and must produce a remedial plan to tackle a litany of failings. Underlying this downward spiral is a steady loss of confidence in the force, among Londoners as a whole and among victims of crime (see charts). Whoever is chosen, the new commissioner has a very big job ahead of them.

### The 2021 census

## Vanishing Londoners

Parts of the capital seem to have emptied out

FOR ALMOST as long as Britain has been conducting population censuses, people have objected to the results. "I do not believe one word of what is said about the increase of the population," argued William Cobbett, a pamphleteer, in 1822, two decades after the first one. In the 1950s women were said to falsify their ages, lingering too long in their 20s. Manchester complained about the undercounting of its population in 2001.

On June 28th the Office for National Statistics (ONS) released the first estimates from the 2021 census of England and Wales. As expected, the population was bigger, reaching 59.6m, and older. But local authorities in London quickly complained that their populations had been undercounted. They launched a campaign on behalf of the "lost Londoners".

The city is used to growing quickly. Between 2001 and 2011 it added more people than any other region of England, both absolutely (gaining 851,000 people) and proportionately. Between 2011 and 2021 London is estimated to have added a more modest 626,000 people. In percentage terms it grew more slowly than East or South-West England. Three inner-London boroughs—Kensington and Chelsea, Westminster and Camden—lost people.

The losses seem far more drastic when set against previous figures. In June 2021 the ONS estimated that Camden had a population of 280,000 in 2020. The census found a mere 210,000 people there. Even boroughs that grew rapidly over the ten-year period, such as Tower Hamlets, are thought to have many fewer people than previous estimates suggested (see map). Other cities such as Manchester and Liverpool also undershot previous estimates, but less dramatically.

The capital stands to lose financially unless the figures are quickly revised upwards. London's authorities estimated in 2021 that £6.5bn (\$7.9bn) in grant funding from central government was tied to population levels, either directly or indirectly. The city also looks much less deserving of infrastructure investment if its population is no longer exploding. By contrast, growing cities such as Leeds and Leicester look needier than before.

The disappearance of so many Londoners seems to have several causes. Possibly previous estimates were wrong. London's number-crunchers said before the census

# KOREA's Great Leap toward a Global Meta Fashion Hub, Full-fledged Launch of Meta Fashion's Production and Release Business



Designer Leesle Hwang

In November, the work called 'Meta Fashion' will be released in Korea, in which you can try on and buy clothes through an avatar in the metaverse.

Meta fashion is a kind of fashion tech which enables people to overcome restrictions such as materials and colors of fabric in reality. By using digital technology, it produces images or videos that are hard to apply in practice.

With the presence of the rapidly growing meta fashion market among fashion tech fields, Korea is launching a meta fashion project in collaboration with famous designers and celebrities planned by the Ministry of Trade, Industry and Energy (MOTIE).

Bo-Min Kim, the first designer in Korea invited to four major fashion weeks at once, will present her meta fashion works under the theme of 'Make the people and the world more beautiful'. Her presentation, featuring model Jaesi, will convey the UN Sustainable Development Goals such as education, equality and health via ten fairy tale characters.

Designer Leesle Hwang, who made 'modern hanbok' (a modern version of traditional Korean clothing) worn by BTS and attracted a lot of attention, has teamed up with actress Sun-hwa Han to create works that reinterpret the clothes of centuries ago in a modern style under the title 'Time Traveler'. Designer Tae-Yong Ko, the winner of the '2021 Korea Designer Fashion Awards, will present his works under the theme of 'Folkpainting Meets Classic' with singer Ravi. In his works, Korean traditional folkpainting characters are expected to bring dynamic emotions to life.

For this pilot project, technical assistance is provided by CLO Virtual Fashion (CLO), a world-class 3D virtual clothing software development firm that showcased Elsa dresses from the movie 'Frozen'. KT, a digital platform company, plans to build a platform for developing and distributing apps that consumers can buy and wear.

With the spread of metaverse, meta fashion is seen as an eco-friendly and extended reality (XR) fashion item. As Korea has strength in digital and K-culture is gaining popularity worldwide, it is expected to become a global brand in meta fashion and enter the era of the 4th industrial revolution as the world's most fashionable country.



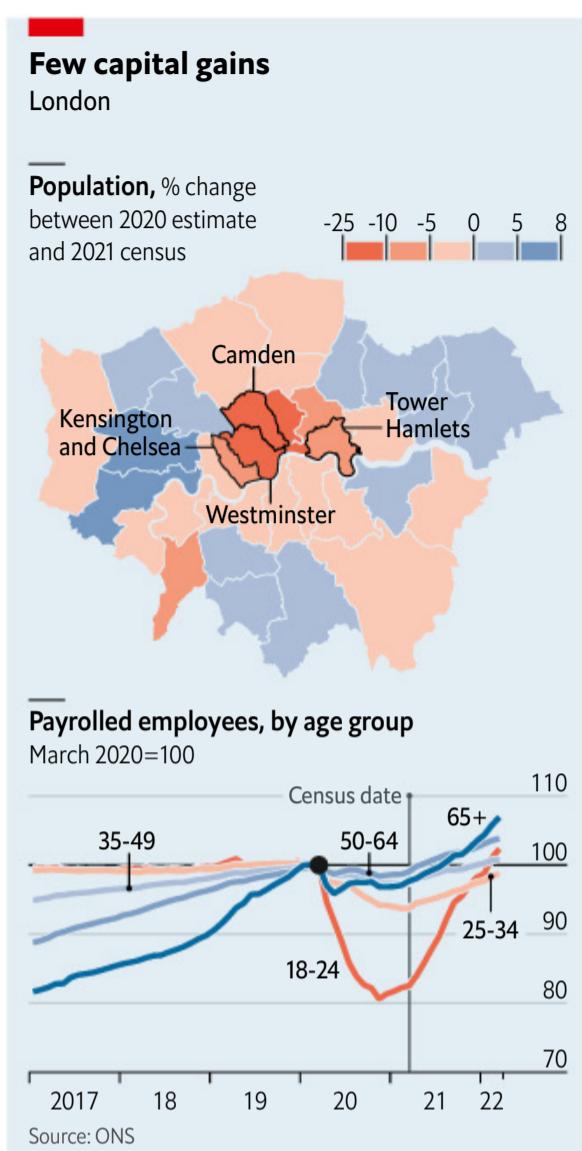
Designer Tae-Yong Ko



Designer Bo-Min Kim



Ministry of Trade,  
Industry and Energy  
Republic of Korea



► that the number of children in some boroughs had been overestimated. The census could have missed people: response rates are usually low in London.

Almost certainly, the count was unfortunately timed. A lockdown was in effect on March 21st last year, when the census was conducted. Many commuters were working from home, starving retail and hospitality firms of custom. As a result, lots of Londoners—but especially young adults—lost their jobs (see chart). Immigrants may have gone home. Others probably returned to their parents' digs: wealthy commuter areas like Wokingham, in Berkshire, seem to have gained population.

That trend has largely reversed. Employment in London has recovered, as have rents, suggesting that young people have returned. But some of the disappeared may not come back. The number of 60- to 64-year-olds tallied by census-takers in Westminster is 19% lower than the 2020 estimate. The pandemic could have accelerated the drift out of London by wealthy people on the cusp of retirement.

Londoners are unlikely to get a sympathetic hearing from the Conservative government, which regards the capital as hostile territory. In May even Westminster Council, long a Tory redoubt, fell to Labour. Residents in the capital may end up looking ruefully at cities in Scotland; the government there sensibly decided to delay the census for a year. ■

## Retailing

# Boots off

### An iconic British brand that no one really wants

BOOTS IS A staple of the British high street. The retailer-cum-pharmacist is ubiquitous and trusted. Its cursive logo is immune to the fads of corporate design. Tracing its origins to a single herbal-remedies shop that opened in Nottingham in 1849, Boots has grown to employ a corps of more than 51,000 workers and reckons that 85% of the British population is within ten minutes' drive of one of its shops. But ubiquity matters less in a world of online shopping, and as events of recent weeks have shown, its allure to potential buyers has dwindled.

Since 2014 the business has been controlled by Walgreens Boots Alliance (WBA), a lumbering parent company whose flagship asset is Walgreens, an American pharmacist. In January WBA began a “strategic review” of the Boots business, which is management-speak for putting up “for sale” signs. Private-equity houses lined up to take a look. An alliance comprising Apollo Global Management, an American private-equity firm, and Reliance Industries, a conglomerate run by Mukesh Ambani, an Indian billionaire, emerged as the front-runner. But in the end the tills never rang. WBA concluded the review on June 28th by letting investors know both how hard it tried to sell the business and how excited it is to own Boots.

Boots is no stranger to masters of the universe. As the global economy edged towards the financial crisis of 2007-09, Alliance Boots, as it was then known, became the first member of the FTSE 100 index of large British firms to be bought by a private-equity firm. Its hard-charging new owner, KKR, completed its exit from the business in 2016, more than tripling investors' money.

Potential buyers today were unconvinced this was a repeatable trick. Rising interest rates and falling company valuations have put pressure on the classic private-equity playbook. The piles of debt used to execute leveraged buy-outs—and to amplify returns—are increasingly difficult to raise. Banks worry about their ability to sell junk debt to the capital markets, where investors now demand a much higher return. Other tricks are off the table, too; the firm's stores are largely leasehold, removing the option of a sale-and-leaseback transaction to raise cash.

Without financial wizardry, growth has to come from old-school retailing—in oth-

er words, from buying and selling things. During the sales process, there were rumours of a grand strategy for international growth, possibly by taking the brand to India under the aegis of Mr Ambani. But management would be better off focusing their attention on the British high street, where the roots of Boots run far deeper.

A high-street proxy for the National Health Service (the chain delivered more than 2m flu vaccinations last winter), the pharmacy is a powerful part of the brand's resilience: people come in with a cold and depart with a sandwich. The Advantage Card, its loyalty scheme, has 14.6m active users and is a window on the soul of the British consumer. Data insights ought to be useful in rationalising the firm's network of stores, closing unprofitable ones and pepping up those that pay their way. E-commerce revenues recently surpassed 15%. No7 Beauty Company, seen as the crown jewel in Boots's own-brand offering, is another source of growth.

The problem is that taking full advantage of these assets requires patience, attention and significant investment. Boots is deprived on all these counts. It is dwarfed by Walgreens. WBA is turning inward and focusing on its core American operations. Conditions for buy-outs are likely to keep deteriorating. Boots may be waiting some time for the right shopkeeper to come along. ■



Lacks chemistry

# Executive Order

# No higher

# power

**Accountability is the law of tomorrow**

The rules of business and society have changed.  
We are witnessing the increasingly muscular exercise of  
executive power. But no one is above the law, not least  
governments and law makers.

Discover what you can do with the  
law of tomorrow, today at [mishcon.com](http://mishcon.com)

# Bagehot | Boz and Jez

*How the Conservatives became Corbynites*



**S**WITCH THE names, change a few dates and squint a little, and the potted biographies of Boris Johnson and Jeremy Corbyn look very similar. After bohemian childhoods in the English countryside and stints at private schools, each makes his home in Islington, cycles a lot and marries thrice (to a much younger spouse on the third occasion). A career in politics is spent on the fringes of their respective parties, communicating with their most loyal fans via columns in the *Daily Telegraph* (for Mr Johnson) and the *Morning Star* (for Mr Corbyn).

Then, abruptly, each finds himself thrust into the leadership by party members frustrated about their wishes being ignored. In the case of Labour's selectocracy, the desire was for unashamed socialism. Their Conservative cousins yearned for a proper Brexit. As leaders, both are written off by commentators and rivals alike before enjoying a surprise triumph in an election. In the 2017 general election Mr Corbyn was expected to be steamrollered by Theresa May, Mr Johnson's predecessor as prime minister; instead the Conservatives lost their majority. Two years later Mr Johnson did pulverise Mr Corbyn, winning the Conservatives' largest majority since the days of Margaret Thatcher.

If Mr Johnson's ascent has been oddly similar to Mr Corbyn's rise, so too may be his demise. James Johnson (no relation), a pollster who worked for Mrs May, argues Mr Johnson is the Conservative Corbyn: an unpopular leader, dragging towards defeat a party that is split between those deluded enough to support him and those too impotent to stop him. The problems that beset Labour during the Corbyn years are now swallowing the Conservatives.

It starts with the manner of their elections to the leadership. Just like Mr Corbyn, Mr Johnson is not a creature of the parliamentary party. Mr Corbyn derived his authority from Labour members. In 2016 he lost a confidence vote among his MPs, yet shamelessly stayed on. Mr Johnson claims his legitimacy from the 14m people who voted Conservative at the election in 2019. The fact that 41% of Conservative MPs opposed him in a confidence vote in June can therefore be dismissed. That creates a surreal situation in which two-thirds of the House of Commons would rather the prime minister was gone. Constitutionally, it is a mess. But Mr Johnson cares little about such disorder.

Delusion has sunk in among Mr Johnson's remaining acolytes. In the wake of two dire by-election defeats on June 23rd, Tory flunkies were reduced to arguing that the Conservatives won more votes across both seats, akin to a relegated football manager pointing out his team's sturdy goal difference. Such derangement has echoes of Labour figures in 2019 who, in the wake of their worst result since 1935, claimed that the party had "won the argument".

The ineptitude of his internal enemies was the main reason Mr Corbyn stayed in power. When a leadership challenge was launched Mr Corbyn's opponents alighted on Owen Smith, then the MP for Pontypridd, as a candidate. His most notable moment in the campaign came when he accidentally implied he had a 29-inch penis. He lost. Mr Johnson is similarly blessed when it comes to his enemies. Conservative plotters lumbered into a poorly timed leadership contest at the start of June, a few weeks before Mr Johnson's electoral popularity was found badly wanting in the by-elections. Organising another crack at him will take time.

In each case, some MPs stay loyal because they have no prospects under another leader. Some of the 2019 intake of Conservative MPs are lucky to be employed, never mind in Parliament. Mr Corbyn introduced the world to Richard Burgon, an MP whose hidden talents remained just that during a brief foray onto the front bench. Nadine Dorries, the culture secretary and Mr Johnson's staunchest ally, may be the most successful novelist in cabinet since Disraeli, but the comparisons end there.

Mr Corbyn and Mr Johnson also share an ability to drive opponents to near insanity. Mr Johnson seems sometimes to be regarded as the first politician ever to tell fibs in office, when he is just the latest to do so. When home secretary, for example, Mrs May launched a salvo at the concept of human rights after someone could not be deported "because—and I am not making this up—he had a pet cat". (Reader, she was making it up.) Likewise, Mr Corbyn threw out a range of often reasonable, if offbeat, policies such as increased provision of free school meals or free broadband, which generated disproportionately angry reactions. Rage at their faults blinded opponents to the qualities of both men; it is impossible to understand an enemy if you cannot appreciate his appeal.

## Jeremy Johnson

Yet the critics are also right to be furious. Mr Corbyn did, eventually, lead his party to electoral destruction. The Labour leader was, notoriously, the dimmest member of the party's left-wing rump, with noxious views on everything from anti-Semitism to Russia. Voters sniffed that out. Likewise, Mr Johnson is manifestly unsuited to the job of prime minister. Brexit, which Mr Johnson did more than any other politician to bring about, has been a slow-moving disaster, throttling the British economy just as its critics warned.

Such vindication, however, is worth little on its own. And as any Labour MP can confirm, changing leader—even an unpopular one—does not solve everything. Under his aegis Mr Corbyn's critics argued the party would be 20 points ahead of the then wobbling Conservatives with any other leader. It is now three years since Mr Corbyn stepped down as leader. Despite the backdrop of an unpopular prime minister, police investigations into Downing Street and rocketing inflation, Labour cannot even sustain a double-digit lead in the polls. Allies of Sir Keir Starmer, Mr Corbyn's successor as party leader, blame "long Corbyn" for this slack performance. At the dispatch box Mr Johnson brings up Mr Corbyn whenever he can. When the time comes, Labour will happily repay the favour. Long Boris may linger, too. ■



NATO meets in Madrid

## Back in business

MADRID

### The Atlantic alliance holds its most important summit in decades

**R**Ecep Tayyip Erdogan, Turkey's president, wore his usual morose expression. It was mirrored by the stony faces of Magdalena Andersson, Sweden's prime minister, and Sauli Niinisto, Finland's president. Only a gentle smile from Jens Stoltenberg, the secretary-general of NATO, hinted at the diplomatic breakthrough that had just occurred. After four hours of intense wrangling in Madrid on the eve of a NATO summit, Mr Erdogan had lifted his veto on Finland's and Sweden's bid to join the alliance in return for assurances about their links to Kurdish militants.

That was just one among several far-reaching decisions taken by leaders at the summit, which was concluding on June 30th as *The Economist* went to press. Russia's invasion of Ukraine has upturned European security. In response, NATO is growing bigger and beefier, adopting what Mr Stoltenberg described as "the biggest overhaul of our collective deterrence and defence since the cold war".

One sign of that was a new "strategic concept", a sort of vision statement for NATO, and the alliance's first such document

in over a decade. It warned, unsurprisingly, that Russia was "the most significant and direct threat" to allies and that the possibility of attack could not be excluded. But it also noted that China was challenging allies' "interests, security and values"—and often doing so in concert with the Kremlin. "Russia and China are developing a strategic partnership and are at the forefront of an authoritarian pushback against the rules-based international order," it warned, using language that European allies could not have agreed on just a few years ago.

The summit's most important outcome, however, is a wholesale reorganisa-

tion of the allies' military posture. After Russia's invasion of Ukraine in 2014 NATO established four battlegroups in the Baltic states and Poland. These were so-called tripwire forces, designed not to halt a Russian invasion but to guarantee that big powers would be forced to respond. The battlegroups were hurriedly reinforced in the weeks before Russia's invasion, and its aftermath. Four new ones have also been established in Bulgaria, Hungary, Romania and Slovakia.

But the whole concept of the tripwire is now being torn up and replaced with the cold-war philosophy of forward defence. Rather than absorbing Russian blows and then striking back, the point is to stop an invasion in its tracks. To that end, Mr Stoltenberg says that the battlegroups will be enhanced "up to" the levels of brigades, much larger formations with around 3,000 troops apiece. The old forces amounted to a "lick and a promise", says Jim Townsend, who oversaw many of those deployments as the Pentagon's top official for Europe at the time. Now, he says, "we're now going to make this really painful [for] the Russians."

There is, however, some sleight of hand involved in this. Ben Wallace, Britain's defence secretary, told reporters in Madrid that his country would "allocate"—rather than physically deploy—a full brigade to Estonia, though he committed to dispatch a brigade headquarters that would allow forces to move east quickly in a crisis.

A similar arrangement is playing out to the south. Gabrielius Landsbergis, Lithuania-

#### → Also in this section

28 The battle for Snake Island

29 The taciturn Olaf Scholz

29 Russia and the Balkans

30 France's radical new MPs

32 Charlemagne: Changing Poland

nia's foreign minister, told *The Economist* on the sidelines of the summit that Germany had agreed to dedicate a brigade to Lithuania. But a German official says that this, too, is only a "part" deployment, with much of the unit remaining on German soil and only exercising in Lithuania. "The most important thing is: are we getting an actual brigade?" asks Mr Landsbergis. "If we don't, then very little changes."

The announcements from Joe Biden, America's president, were meatier, but they also involved some trickery. A permanent brigade promised to Romania is already there on a temporary basis. Parts of v Corps, a high-level formation that can command several divisions, will stay in Poland, but the main headquarters remain in Kentucky. Other American forces are bound for Britain, Germany and Italy, far from the eastern front. All in all, says Justyna Gotkowska of the Centre for Eastern Studies, a think-tank in Poland, "the announcements...fall short of expectations in the Baltic states and Poland."

Even so, the new deployments in the east will have more back-up. The number of NATO's high-readiness forces will grow from 40,000 to over 300,000. A portion of this will be ready within ten days, and the rest within 30. Particular units will be pre-assigned to potential hotspots. Some countries are already committing forces. Mr Wallace says that Britain will probably offer an aircraft-carrier strike group. Germany says it will contribute a division of 15,000 soldiers and 65 planes. The plan, says Mr Stoltenberg, is to have it in place by next year.

Many of the details need to be worked out. Christopher Cavoli, a Russian-speaking American general, is due to take up the post of Supreme Allied Commander Europe (SACEUR), in the coming days. He will write a series of "regional plans"—remark-

ably, the alliance's first proper defence plans for the eastern front since the cold war. These will need to take into account NATO's already extensive frontiers, with a Russian threat from Norway's Finnmark in the north to the Black Sea in the south, as well as the looming accession of Finland, which will more than double the length of the alliance's border with Russia.

In many ways, the decisions made in Madrid amount to a belated admission that the defences built up after 2014 were never up to the task of reassuring eastern allies and deterring Russia. But the idea of getting European leaders to pony up 300,000 ready troops would have been implausible back in 2014, says Mr Townsend, "because people weren't scared enough".

It is Mr Putin's invasion that has transformed the politics of European defence. A new survey, the Munich Security Index, shows that attitudes to Russia have hardened dramatically across the G7 (see chart). "For the politicians and for a lot of people in the West, it was [in 2014] still a bit of a stretch that the Russians were going to do something," says Mr Townsend. They need little convincing now. ■



opening the port, a crucial part of the global food supply-chain.

The assault had been going on for at least ten days. An early-morning attack on June 20th had targeted the island and nearby gas platforms that Russia has reportedly been using as radar and surveillance stations. The explosions were so loud they woke residents of Vylkove, the nearest settlement, 35km away on the mainland. Nikolai Izotov, who lives there, says that "we're used to sleepless nights, but this was something new." In the days since then, Ukraine stepped up attacks, hitting the rock with new, long-range artillery. The Russians responded by targeting Odessa with dozens of long-range missiles.

Snake Island, known in Ukrainian as Zmiinyi, is only 45km from Romania, a member of NATO. Its location overlooking the Danube delta and shipping channels to Odessa and other Black Sea ports makes it a strategic prize. It could also serve as a bridgehead for an amphibious attack on Odessa, some 140km away. Russia had set up a reconnaissance station with a group of marine commandos from the 388th division, says Andrii Ryzhenko, a former Ukrainian navy captain now at the Centre for Defence Strategies, a think-tank in Kyiv.

The shoreline around Vylkove has been long mooted as a potential first stop for any amphibious attack on Odessa. The Ukrainian army this week closed off access to several islands surrounding the town. The islands had been a source of subsistence for some of the increasingly impoverished locals; they would head there to pick apples, figs, grapes and berries. The ban has added to a tense mood in the city. "We see these huge ships and imagine the horrors of a thousand Russian soldiers landing on our shore," says Mr Izotov. He jokes that he is personally worried because he has a cellar full of homemade wine and moonshine. "You know what drunks they are."

Ukraine has launched several daring

## How to lose friends & alienate people

Balance of respondents saying their country should oppose Russia as a military and economic power, percentage points  
G7 countries, circle size=population



## Ukraine

# Nest of vipers

KYIV

## The battle for Snake Island

FOR A ROCK just twice the size of Alcatraz, Snake Island has played a surprisingly big role in the war in Ukraine. The fortress was a target from day one, when Russia's Black Sea flagship, the *Moskva*, arrived at its shores to request the surrender of its tiny guardpost. The garrison's famously impolite refusal became a rallying cry for the country. The sinking of the *Moskva* in April, in turn, saw the rock take on a new defensive significance for Russian vessels in the Black Sea. In the days that followed the sinking Russia fortified the island with new anti-aircraft, missile and radar systems. Ukraine responded when it could, using what it could: fighter jets, Bayraktar drones and anti-ship missiles. But the Russians did not budge.

Ukraine may now have succeeded in a new offensive to wrest back control of the island, with reports from the Ukrainian side as *The Economist* went to press on June 30th that the Russians were in retreat, and a report from Russia that it was withdrawing as a "goodwill gesture" to facilitate the export of grain from Odessa. Not many people will believe that is the real reason, and there are still many obstacles to re-

Olaf Scholz

## The quiet German

BERLIN

Germany's chancellor takes taciturnity to new levels

**T**HE VOICE OF Olaf Scholz, the German chancellor, seldom rises above a murmur. His pinched expression suggests a doctor with bad news, not a politician. When a journalist recently asked if Mr Scholz could add some detail on a burning foreign-policy matter, the reply was a cryptic, "Yes, I could," and that was all. Germans chuckled, but few were surprised when Markus Söder, the minister-president of Bavaria, tweeted an image of the recently concluded G7 meeting in his state that showed just six of the leaders' portraits against an Alpine backdrop. The ever-grey face of Mr Scholz, the host, was somehow forgotten.

The former Hamburg mayor may have been elected last September precisely because his modesty echoes that of his famously taciturn predecessor, Angela Merkel. But Russia's invasion of Ukraine has thrust Mr Scholz into a tougher predicament in his first few months than the former chancellor faced during 16 years. His ultra-low-key style makes him look to some as if he is shying from power, just when Germany needs most to exercise it. "We have a chancellor who refuses leadership," says Stefan Meister of the German Council on Foreign Relations, a think-tank. "He says he will only act in the context of our alliances, but he makes no effort to lead those alliances."

It does not help that members of Mr Scholz's inner circle, let alone his coalition government, have often conveyed contradictory messages. Jens Plötner, the chancellor's top foreign-policy adviser, recently raised eyebrows by questioning the "feverishness" of the debate over

sending arms to Ukraine, when more thought should be given to future relations with Russia. Such slips have often forced Mr Scholz to repeat and restate what look like wobbly policies.

But although polls show the chancellor losing popularity compared with more forthright coalition partners such as Annalena Baerbock, the foreign minister, Germans seem to be forgiving; even some of his critics commended his handling of the G7 talks. "Mr Scholz may not be the greatest storyteller," admitted Joe Kaeser, a former boss of Siemens, in a recent interview. "But the chancellor is matter-of-fact, level-headed and tries to de-escalate, which is a gift these days."



Yes he could

► raids on the island since the sinking of the *Moskva*. The most audacious came in May, when the Ukrainians used a combination of fighter jets and Bayraktar drones to destroy landing ships and a helicopter. There was then a long pause, until June 17th, when reports came of the apparent sinking of a Russian supply ship, the *Vasily Bekh*. Local media said the vessel was hit by two Western anti-ship missiles, and was in the middle of unloading a Tor air-defence system that had not yet been set up to protect against the attack. Unconfirmed reports suggest as many as 33 men were on board.

The battle for Snake Island has been all about logistics: which side is able to get the right equipment to the right place first. Russia was in a stronger position for most of the war. But Ukraine has lately started to

take delivery of some advanced Western artillery systems and long-range rockets. These are mobile, precise and have a long enough range to strike the island from the mainland. They allow Ukraine to attack without risking its remaining fighter jets, and may well have tipped the balance.

Ukraine will be in no rush to put its forces back on the rock; it simply hopes to make it impossible for Russia to make any use of the island. "With their superiority in the air and with the ships of the Black Sea, it is easier for them to kill us on Snake Island than it is for us to kill them," says Mr Ryzhenko, the former Ukrainian captain. But that, he adds, is why forcing Russians off the island will be only the beginning of a long story. "We need to be sinking their ships if we are to stand a chance." ■

Russia and the Balkans

## Changing friends

BELGRADE

The war is forcing pro-Russian Balkan leaders to recalibrate

**S**OUNDING VERY sad, Aleksandar Vucic, Serbia's president, says he has talked to Vladimir Putin but not tried to influence him over the war in Ukraine. "I am a small guy...I have to take care of small issues for my small country." The war has sent shock waves through the Balkans, but for the leaders of the generally pro-Russian Serbs, it has elevated the political art of ducking and weaving to new heights.

Three weeks ago Belgrade was bedecked with German flags in preparation for a visit of Chancellor Olaf Scholz. Then Sergei Lavrov, Russia's foreign minister, announced that he too would be dropping by to visit Russia's only remaining friend in Europe apart from Belarus. Mr Vucic moaned to Western diplomats that he had invited himself. Next, the Lavrov visit was scuppered when three NATO neighbours refused Mr Lavrov permission to fly over their territory. Mr Vucic complained that, unable "to do anything to Russia", they, meaning Western countries, were "taking it out" on Serbia.

Serbian troops are trained by American ones and exercise with both NATO and Russia. Serbia depends on Russian gas, but does far more trade with Germany and China. Resisting Western pressure, Serbia has declined to impose any sanctions on Russia; but in April Western military equipment destined for Ukraine was reported to be crossing its territory. At the United Nations Serbia aligns itself with Western countries in votes condemning Russia. In May, though, Serbia signed a three-year deal with Moscow for cheap gas.

Maxim Samorukov, a Russian analyst now in exile in Belgrade, says Serbia can get away with all this because Russia "does not want to give Serbia a public beating" as it would look bad given the country has "been such great fans of Russia".

For years the Serbian media, which mostly support the government, have been full of unfiltered Russian propaganda. That has not changed since the beginning of the war. According to one poll, 60% of Serbs blame America for the war, and only 26% blame Russia. In Belgrade Putin t-shirts are on sale alongside baseball caps sporting Russia's wartime z logo.

Mr Vucic is in an awkward position. He condemns the Russian invasion and says he supports Ukrainian territorial integrity just as much as he "loves" Serbia's own. Western countries are hypocritical for sup-

porting Ukraine's territorial integrity, he implies, at the same time that most recognise the independence of Kosovo, which Serbia regards as its own. When Mr Putin recognised the two breakaway parts of eastern Ukraine, citing the Kosovo "precedent", much of the Serbian media briefly switched to denouncing a stab in the back.

According to Vuk Vuksanovic, an analyst, Mr Vucic wants to "score domestic mileage" by showing Russophile voters that he is the one nourishing the partnership with Moscow, while at the same time "he is constantly blackmailing the West, saying 'Look, I am the only one who is reasonable, and I'm surrounded by Russian agents, so prop me up!'"

Russia has for years worked on deepening ties with the Orthodox Serbs of the region, many of whom like Russia for historical reasons even if they choose to work, study and holiday in Western countries. Bitterness over NATO's bombing of Serbia in 1999 plays a big role. There is no evidence that Russian policies in the Balkans have changed, but other politicians in the region are also adapting their policies to suit the changing realities.

Last year Milorad Dodik, the leader of the Serbs in Bosnia, began procedures to take back powers that his entity had ceded to the Bosnian state. This provoked the worst crisis in the country since the end of the war in 1995. On June 6th those plans were suspended for six months. "We are being realistic," says Mr Dodik. "We are too small to aggravate any impassioned leaders from the West." Last October he had boasted that if there were any military attempts to thwart his plans, he would expect help from his "friends", widely interpreted as meaning Russia.

In Montenegro, too, the landscape has shifted. In April a new government was formed, now shorn of support from parties widely deemed "pro-Russian". But Slaven

Radunovic, a leader of one of them, denies his party is any such thing, saying that, despite widespread historical sympathies for Russia and its high-spending tourists, many of whom are still coming despite sanctions, this is a slur used by his party's opponents in a bid to secure Western support.

Meanwhile, thousands of Russians have found a haven in Serbia. According to official statistics there are 6,465 Russians there, but there could be a lot more. Russians feel welcome. Mr Samorukov appreciates being able to open a bank account, for example, even if he must also listen to tiresome lectures from taxi drivers "on how Putin is a great leader". ■

## France

# Jacket, tie, nationalism

PARIS

## Fresh faces on the far right and left fill parliament

**B**EFORE MARINE LE PEN led her 89 freshly elected deputies through the gates of the National Assembly, she gave them an order: dress smartly, with jackets and ties for the men. Sure enough, the biggest group of deputies that her populist-nationalist party, the National Rally (RN), has ever taken into the chamber turned up as instructed. As parliament opened on June 28th, members of a movement that once struggled to shake off its thuggish image took their seats in a sober uniform of navy suits or unicolour jackets.

Ms Le Pen's ambition is not merely stylistic. A party once banished to the fringes of political life now finds itself the biggest single opposition party to President Emmanuel Macron. His centrist alliance, Ensemble, lost its majority in last month's general election, and now faces a buoyant, if fragmented, opposition. As part of Ms Le Pen's strategy of "normalisation", she wants to show that her deputies can work efficiently in parliament and form an "elite" ready to take over in 2027. Whereas Jean-Luc Mélenchon's radical-left deputies turned up to parliament clenching their fists and promising to cause trouble, Ms Le Pen said coolly that she does not want "to be in systematic obstruction".

Just weeks ago, many of the newly elected RN deputies hardly dared to imagine that they would be leaving their desks or fields for the opposition benches in Paris. Among them are long-time staffers, former local councillors, and defectors from other right-wing nationalist groups. They also include veterans once close to Jean-Marie Le Pen, Ms Le Pen's father, such as José Gonzalez. At 79 years old, he is the doyen

of the house and so opened parliament this week, a surreal moment of "normalisation" if there ever was one. The RN also has political debutants, including a delivery driver (Joris Bovet) from central France, a retired grocer (Daniel Grenon) from Burgundy and a farmer (Christophe Barthès) from the south-west. "The vines won't wait," Mr Barthès wrote on Twitter beside a photo of his tractor at work on the eve of the opening of parliament.

In 2017 it was Emmanuel Macron who led electoral novices from his centrist party into parliament. He has a fair few this time. But the more noteworthy now sit on the opposition benches. On the left, Mr Mélenchon's new crop includes Rachel Kéké, a former chambermaid who describes herself as "the voice of the voiceless". Another is Mathilde Hignet, a 29-year-old farm worker from Brittany, who beat Mr Macron's candidate by just 328 votes.

As the president scrapes around for a majority to pass his bills, which he looks set to try to do one by one, the new parliament will be a noisy theatre. First-timers in opposition seeking to make a name will be in no mood to give Ensemble an easy time. Once the buzz has worn off, they may also find their new lifestyles taxing. "Let's see over time how many keep turning up to sittings," says one of Mr Macron's deputies.

For all the sense of novelty, parliament has in fact seen less of a clear-out than it did in 2017. Then, 75% of deputies were new; this time the figure is 52%. Their average age remains just under 49 years. There are slightly fewer women, although one, Yaël Braun-Pivet, was elected speaker, the first woman ever to hold the job. And despite the symbolic exceptions, on average 58% of all deputies now come from senior management and professional jobs, a figure that is higher among deputies from both Mr Macron's and Mr Mélenchon's alliances than it is for Ms Le Pen's party. ■

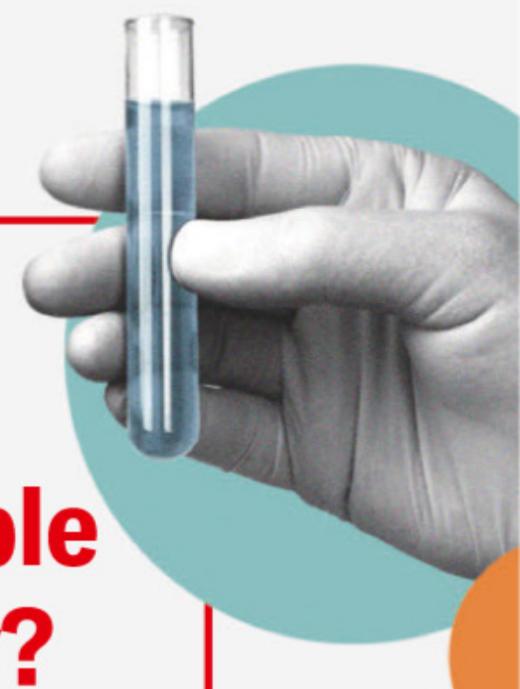


The new normal



Belgrade buddies

# What if growing your own clothes was as simple as printing your own car?



## Building a better future means asking the right questions

By asking “what if?”, you can align imagination with progress. You can unlock new possibilities and pathways to smarter, kinder ways of living, working, making and consuming. You can look beyond the present and anticipate tomorrow’s opportunities.

Hype can obscure the real, long-term potential of new technologies. Only with foresight and inquisitiveness—asking those “what if?” questions—can you plot alternative futures, make the right choices now and accelerate genuine progress.

## The promise of progress

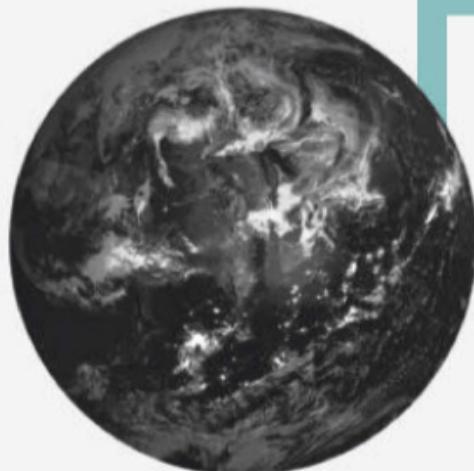
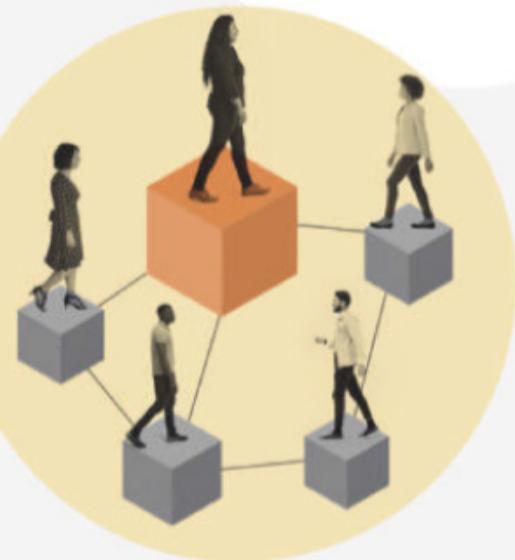
Economist Impact’s *Promise of Progress* programme, sponsored by Franklin Templeton, explores possible futures of four transformative technologies:

synthetic biology, satellite internet, 3D printing and blockchain.

These technologies are already revolutionising communications, product manufacturing and food production and helping billions of people around the world access finance, health care and education.

These four technologies will continue to reframe what is possible for individuals, communities and society. Exactly how is still to be determined.

*Promise of Progress* maps out the possible evolution of each technology to 2040, identifying practical outcomes and benefits. It looks at the factors behind the development of these technologies, their impact to date and how best to direct and nurture future development through investment, policy and regulation.



Scan the QR code to explore the *Promise of Progress* programme, discover where smart decisions could lead and understand the importance of asking “what if?”



Sponsored by



FRANKLIN  
TEMPLETON

# Charlemagne | The Poles' position

*Poland is being given a fresh opportunity to matter in Europe. It has not seized past ones*



**I**N LATE JANUARY, as energy prices soared across Europe, billboards across Poland offered peeved bill-payers a familiar narrative: blame Brussels. Fully 60% of the rise in power prices was the fault of the European Union's green policies, insisted the state-owned utilities behind the campaign. This was, to put it mildly, a gross exaggeration. In any case, the campaign was quietly shelved after Russia invaded Ukraine a few weeks later, sending energy prices higher still. Poland's bigwigs have switched to blaming someone scarier than any eurocrat for the rising cost of living. The new slogan is "Putinflation".

For years Poland has tussled with the EU. The European Commission in Brussels, egged on by some member states, castigates it for flouting the norms of liberal democracy; Poland is in the dock for letting politicians pick and sack judges, for bashing gays and for muzzling the media. It has also attracted brickbats for its restrictive abortion laws—terminations are banned except in cases of rape or a threat to the mother's life. All this criticism has riled the conservative-nationalist government headed by PiS (Law and Justice), which has been in power since 2015. It accuses Brussels of seeking to impose its politically correct views on a population wedded to tradition; PiS grandees have likened the EU to Poland's former Soviet overlords and raised doubts over whether its laws ought to apply to Poland. The commission has in turn throttled some of the subsidies that flow to Poles.

But that was then. As an actual war has convulsed the continent, a metaphorical peace has broken out within the EU. All sides are playing nice. In June the commission announced it would soon unlock €35bn (\$37bn) it had once withheld from Poland, part of a €750bn EU pandemic-recovery fund that other countries have already been spending. The money had been frozen amid concerns that Poland's judiciary has been undermined by PiS, which has bent the courts in its favour (it says a self-serving judicial deep state needed to be brought to heel). Money was meant to flow only once Euro wallahs had been satisfied that much of what has been done to the courts had been reversed. Critics, though, argue that the changes so far put forward by Poland are largely cosmetic.

The fact that the EU has promised to unblock the funds anyway is a reflection of Poland's newfound status. Once the captain of the

EU's awkward squad, the war in Ukraine turned it into a star player. The country has been the hub for shipping arms and aid to Ukraine, and a haven for millions of Ukrainian refugees, many of whom have settled there. Warsaw's warnings that Vladimir Putin's Russia posed an existential threat to Europe were long dismissed as shrill. Now they seem prescient. Poland was beefing up its defences and building facilities to import liquified natural gas even as Germany was scrimping on its military spending and building gas pipelines to Russia, making it vulnerable to Mr Putin's whims.

Improved relations between the EU and Poland help explain the recent mood of unity in Europe. But this is unlikely to last. For one thing, Poland is as distant as ever from the countries that still dominate EU affairs: France and Germany. The "old Europe" duo have concluded the crisis in Ukraine shows that Europe must find ways to ensure its own security. Poland, by contrast, thinks it reinforces the case for NATO (and thus America) as the guarantor of Europe's borders. Both Poland's president, Andrzej Duda, and its prime minister, Mateusz Morawiecki, have suggested that Emmanuel Macron's diplomatic phone calls to Mr Putin are akin to cutting deals with Adolf Hitler. This is an odd way to maintain cordial ties with France's president, or anyone else for that matter.

Brussels may soon tire of Poland, too. The eurocrats' recent conciliatory approach has partly been aimed at isolating Hungary, which for years formed an illiberal axis with Poland. The pair's relationship soured after Viktor Orban, the Hungarian strongman prime minister, proved too close to Russia for Poland's taste. But even when isolated, Mr Orban can cause trouble: after Poland dropped its objections to a global corporate-tax deal the EU would like to sign, Hungary applied its own veto.

The best hope for rapprochement between Europe and Poland is for a change of government in Warsaw, where much of the opposition is solidly pro-EU. Yet the war in Ukraine has bolstered PiS, which has bounced back in the polls ahead of an election due in autumn 2023. Jaroslaw Kaczynski, the party's boss, is in effect running the country and will probably continue to do so. This will limit Poland's influence within the EU. The club's leaders spend a lot of time trying to build a personal rapport with each other, not least at regular summits. They cannot easily do this with Mr Kaczynski, who has no formal role in government and seldom meets foreigners. European leaders must make do with meeting his underlings, who have fancier job titles but less power.

## PiS in our time

Poland has long fallen short of the ambitions others have had for it. Once, the EU's big thinkers hoped that the Franco-German axis would be replaced by a Franco-Germano-Polish triangle, with Poland carrying the interests of the club's eastern fringe. That never really took off, even before PiS. It often preferred local alliances, such as the Visegrad Group that links it with Hungary, Slovakia and the Czech Republic, which Poland could dominate, but which ultimately matters little to Europe's overall direction. More-Europhile governments once gave Poland a greater say in the bloc's affairs, says Paweł Zerka of the European Council on Foreign Relations, a think-tank. But staying on the club's fringes, for example by not joining the euro, ultimately capped its clout.

A wiser government would use its newfound centrality to become a player with EU-wide influence, not just a local giant. Poland has played its cards well in recent weeks. More of the same could give it real heft, given time. But PiS's track record is one of picking fights, not partners. ■



## Reproductive rights

# The fallout from overturning Roe

WASHINGTON, DC

In an even more divided America, the battle over abortion goes on

A LOT CAN change in a day. On the morning of June 24th, women waking up in the conservative states of Kentucky and Arkansas had a formal constitutional right to an abortion—even if the reality of getting one had become increasingly fraught and laborious. A few hours later, a Supreme Court refashioned by Donald Trump's appointees finalised a sweeping opinion that had been leaked in May. It declared that the constitution contained no fundamental right to abortion, that the landmark *Roe v Wade* decision from 1973 had been “egregiously wrong from the start”, and that states could start to regulate abortions as they saw fit.

Some 13 states had “trigger laws” designed to ban abortion soon after this moment came; some went into immediate effect. By nightfall, Kentuckians and Arkansans had no right to an abortion at any stage of pregnancy—with no exceptions

for incest or rape. Anyone who performed one would be charged with a felony.

After the Supreme Court's decision, America will be more dangerously divided. In the most doctrinaire pro-life states, the abortion regime will be more austere than that of Pakistan or Saudi Arabia, which permit the procedure to preserve the health, not just the life, of the mother. Democrat-dominated states have codified *Roe's* right

### → Also in this section

[34 The Supreme Court's term](#)

[35 Gun reform, at last](#)

[36 The lifeguard shortage](#)

[36 Election administration](#)

[37 Another tragedy in Texas](#)

[38 Lexington: A valedictory](#)

to abortion up to the point of fetal viability, a more permissive standard than that of Norway and Sweden, which have gestational limits for terminating pregnancies at 12 and 18 weeks, respectively. In four states and the District of Columbia, late-term abortion is legally permissible even if the mother's health is not at risk. And the war over reproductive rights will heat up rather than cool down.

Mike Pence, the former vice-president who seems to be mulling a presidential run, has called for a nationwide ban. In Missouri, hardline legislators are pitching laws to prevent women from travelling out of state for the procedure. Mississippi has passed a law to restrict access to mifepristone—one of the two drugs needed for medically induced abortions, which are now the most common type. Other creative means to dissuade women from seeking abortions are sure to be devised. The Department of Justice is vowed to fight Republican-led states on these restrictions, auguring yet more legal warring.

This has already proved chaotic. In Louisiana, Texas and Utah, judges temporarily blocked abortion bans that were slated to take effect after *Roe* fell. In Idaho and Mississippi, civil-rights groups have sued to enjoin states from implementing harsh restrictions, arguing that state constitutions ➤

► include a fundamental right to bodily autonomy even if the federal constitution does not. Many large firms with headquarters and employees in Republican states are getting caught in the imbroglio. Banks, tech firms and retailers like Starbucks and Target have announced they would cover the costs for employees to travel out of state to obtain an abortion. Irate lawmakers in Texas have already dispatched letters to companies including Citigroup and Lyft threatening the viability of their business if such policies come into effect.

There is little that President Joe Biden can personally do for distraught Democrats. Mr Trump's three recent lifetime appointments to the Supreme Court are there to stay. And Mr Biden has reiterated his opposition to packing the court with more pliant justices, as some in his party want.

Neither is there any real chance of the Senate overturning the filibuster, the parliamentary procedure that in essence imposes a requirement of a 60-vote supermajority for most legislation to pass. Without it, Congress could pass a law establishing a nationwide floor for the right to an abortion—arguably a superior form of legislating than the present cycle of divining and undivining fundamental rights implied by the constitution. But there simply aren't the votes for it. In the immediate aftermath of the news, Democrats in the House of Representatives gathered on the steps of the Capitol to sing "God Bless America". It was an unwittingly fitting metaphor: an out-of-tune gesture that was short-lived and soon lost forever to the wind.

Whether Democrats can do anything more substantive depends on their stock of political power, which will probably dwindle rather than increase. Americans disapprove of both the president and the economy, which is the usual precursor to severe electoral punishment. Democrats may have some hope in a backlash against the Supreme Court's decision, as the real-world consequences for laws drafted for a counterfactual America without *Roe* actually come into effect. Horror stories of teenagers being made to carry their rapist's baby to term, for example, are inevitable.

Democrats will also emphasise the potential erosion of other current constitutional rights. The concept of "substantive due process" which had undergirded the right to abortion is also the intellectual underpinning for the Supreme Court's findings of rights to privacy, contraception and same-sex intimacy and marriage. Though Justice Samuel Alito, the author of the abortion opinion, took pains to circumscribe his attack on substantive due process, Democrats pointed with foreboding to a concurring opinion of Justice Clarence Thomas that eagerly anticipates attacks on exactly those precedents.

There are reasons to believe, however,



that this counter-mobilisation may have muted electoral effects. Most Americans are moderates on the matter. Those most exercised by the issue of abortion have already sorted into their respective parties. Recent polling by YouGov finds that only 3% of Biden voters support a complete ban on abortion; only 7% of Trump voters believe in unrestricted abortion. There is a chance that the issue boosts turnout among Democrats who might have otherwise been disaffected. That could matter in states where elections are decided by close

margins. In Pennsylvania, for instance, the election of the Republican candidate for governor, Doug Mastriano, would almost certainly result in enactment of a new law severely curtailing access to abortion in the state. Mr Mastriano, an ardent election conspiracist who was protesting at the Capitol on January 6th, certainly has other liabilities. In elections like these, including closely watched contests in Georgia and Wisconsin, Democrats may be able to eke out narrow victories, even if the national environment remains grim.

There is less doubt about what the consequences will be in states that have the most severe restrictions. Some women will revert to abortion in secret, at least safer now with the advent of abortion medicines, which are easily obtained by post. Others will carry unwanted pregnancies to term in states that have the weakest social safety-net programmes for new mothers. Women in states that permit abortion are setting up schemes to help, advertising their homes to women from states that prohibit it. Justice Alito, in his opinion, argued that "*Roe* certainly did not succeed in ending division on the issue of abortion. On the contrary, *Roe* 'inflamed' a national issue that has remained bitterly divisive for the past half-century." Maybe so. But the unmaking of *Roe* seems unlikely to be anything less bitter. ■

## The Supreme Court

# An end-of-term report

NEW YORK

## The scope of change flowing from the court's rulings has been staggering

**B**REATHTAKING CHANGE marked the Supreme Court term that began last October and wrapped up this week. For St Thomas Aquinas, a 13th-century theologian and philosopher, the majority's bold moves would be alarming. Each time the law's foundation is shaken, he wrote, its "binding power...is diminished". Though it is sometimes necessary to rejig the law, Aquinas cautioned, there is good reason to be wary of changing too much, too quickly.

The six-justice conservative majority is failing to heed his admonition. Donald Trump's three appointees (Amy Coney Barrett, Neil Gorsuch and Brett Kavanaugh), along with Samuel Alito, Clarence Thomas and the chief justice, John Roberts, are "conservative" only in the ideological sense: their core project is to refashion, not conserve, America's legal structures.

On June 24th, in *Dobbs v Jackson Women's Health Organisation*, the justices eliminated the constitutional right to abortion.

That decision reversing *Roe v Wade*, from 1973, leaves American women with "fewer rights than their mothers and grandmothers had", as the dissenters (Justices Stephen Breyer, Elena Kagan and Sonia Sotomayor) lamented. In a solo opinion, Justice Thomas called on his colleagues to revisit several additional personal and familial rights—such as the right to contraception and the right of gays and lesbians to engage in intimate sexual conduct and to marry.

The results of the court's other seismic actions over the past nine months include a hole-riddled wall between church and state, a diminished capacity to vindicate several constitutional rights and a radical and expansive new interpretation of gun rights. Another ruling with potentially far-reaching implications is *West Virginia v Environmental Protection Agency* (EPA), a decision arriving on June 30th after *The Economist* was published.

*West Virginia* involved the scope of the ►

► EPA's authority to regulate coal-burning power plants. If the majority decides the case the way it seemed to be leaning at the February hearing, West Virginia and other Republican states will succeed in throttling the agency's power to shift energy production from coal to cleaner sources like solar and wind power. The conservative justices seem likely to interpret the Clean Air Act, the landmark pollution-fighting law enacted in 1963, to allow only narrow regulations at individual plants rather than system-wide rules to reshape the power network and reduce greenhouse gases. This likely outcome reflects the majority's increasing tendency to be sceptical of—and rein in—what it sees as an administrative state that has grown too powerful.

An arrogation of judicial power also characterised Justice Thomas's methodology in his majority opinion in *New York State Rifle & Pistol Association v Bruen*, the landmark Second Amendment case decided on June 23rd. *Bruen* expands the "right to keep and bear arms" by removing authority from states to use discretion when issuing concealed-carry licences. Its immediate impact will be limited to a handful of states that have required a special justification to carry a concealed weapon, but the ramifications are much broader.

Justice Thomas's approach in *Bruen* matches Justice Alito's in *Dobbs*—a selective examination of history to justify what seems to be a preordained outcome. *Bruen* wiped away a consideration every federal court of appeals included in its analysis: how compelling might the justification for a gun regulation be? That's no way to respect the right to bear arms, Justice Thomas decided. The only question a judge may ask is whether an analogue to the rule can be found in the history of American firearms regulation.

More abandonment of decades-old approaches came in religion cases. In requiring the state of Maine to give parents money for religious schools since it was also giving some parents tuition payments for secular private schools, the six-justice majority in effect dispensed with precedents allowing, but not obliging, states to foot the bill for religious studies. And, siding with a public-school football coach who lost his job for praying with students at the 50-yard-line after games, the same majority silently overruled several precedents that had previously retained some semblance of a wall between church and state.

A trio of cases, all decided by the familiar 6-3 margin, found that Americans sometimes have no recourse when their bedrock constitutional rights have been violated. In *Egbert v Boule*, the court told an innkeeper he could not sue a border-patrol officer who had, in violation of the Fourth Amendment, entered his property without a warrant and assaulted him. *Vega v Tekoh* found that defendants may not sue police officers who neglect to read them their *Miranda* warnings in violation of the Fifth Amendment. And *Shinn v Ramirez* concluded that a defendant who had received terrible representation could not vindicate his Sixth Amendment right to counsel because a second lousy lawyer had failed to press that claim at the appropriate time.

When the court resumes its work in October—with Ketanji Brown Jackson replacing Justice Breyer, who retired on June 30th—the docket does not lighten. Affirmative action, voting rights and more environmental cases are in the queue. Kate Shaw, a professor at Cardozo law school, says the court no longer values "incrementalism, compromise or half-measures". She expects it will keep moving "as aggressively and as quickly as possible". ■

## Gun laws

# Win one, lose one

NEW YORK

**One branch of government passes gun reform, another rejects a gun law**

“**T**HREE WERE audible gasps,” said Christian Heyne of Brady, a gun-control group, when Mitch McConnell voted yes on the Senate gun bill on June 23rd. Mr McConnell, the Senate minority leader, has been a consistent opponent of gun reform. He led a filibuster to stop an expansion of federal background checks after 20 children were murdered at a primary school in Sandy Hook, Connecticut, in 2012. He has an A+ rating from the National Rifle Association (NRA), the powerful gun lobby, which once gave him its “Defender of Freedom” award. Yet he joined 14 other Republican senators in voting for the most significant gun reform in three decades.

The Bipartisan Safer Communities Act reassured gun-control advocates while also appealing to those on the right concerned about preserving the constitutional right to bear arms. It passed in the Senate by 65 votes to 33. The House passed it the following day, with 14 Republicans joining the Democrats, and President Joe Biden swiftly signed it into law. Mr Heyne was sitting in the Senate gallery with his sister for the vote, along with other shooting survivors. Their parents were shot, their mother fatally, by a gunman in 2005. “It’s not going to solve gun violence on its own,” he says, but it provides a path for “creating real change around guns”.

The package provides billions of dollars for mental-health services and school safety, as well as grants to help states pass and implement red-flag laws, which take guns away from those deemed a danger to themselves or others. The law enhances background checks for gun buyers under 21. It closes the “boyfriend loophole” to prevent domestic abusers from buying a gun for five years. It also clarifies and expands what a “federally licensed firearms dealer” is, to ensure more buyers get background checks. And it creates new federal offences for interstate gun trafficking and “straw purchases” (buying a gun on behalf of someone prohibited from possessing one).

Lawmakers began to realise that “safety is not just good policy, but it’s good politics,” says John Feinblatt of Everytown for Gun Safety, a gun-reform group. Americans wanted action. They were angry and frightened after recent mass shootings in Uvalde, Texas, and Buffalo, New York. The sense of urgency mattered. Past efforts took months and lost momentum.

The states had become laboratories for ►



## Swimming

# Where have all the lifeguards gone?

THE JERSEY SHORE

A shortage means many pools and beaches may be closed or unmanned

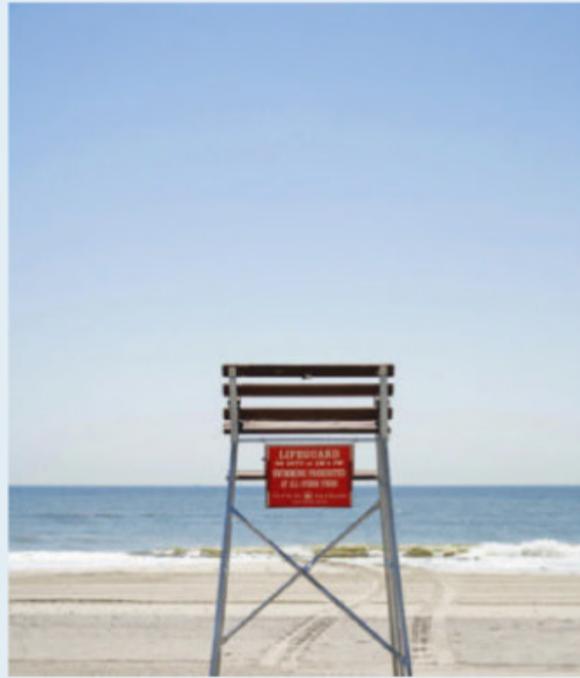
**B**EING A LIFEGUARD is not easy. In Philadelphia a candidate must swim 300 yards (274 metres) without stopping, complete 12 laps in a 25-yard pool and tread water for two minutes without using arms. They must also retrieve a ten-pound (4.5kg) brick from a well 12 feet deep, then return to the surface and, using legs only, swim 20 yards back to the starting point with the brick, holding it out of the water with both hands—all within one minute and 40 seconds.

After that comes a 25-hour training course, including first aid. Ocean life-guarding requires additional hours of training. Wildwood Crest, on the Jersey Shore, requires a ten-day camp.

It may look an easy job, sitting on a chair by the water, but it is highly skilled. This is part of the reason that pools and resorts are struggling to find lifeguards. The main cause is the pandemic. When pools closed, the pool of lifeguards dried up. A poll in May by the National Recreation and Park Association found that only 12% of park and recreation leaders were fully staffed for the summer. The national shortage means many pools are closed or operate for reduced hours. Some beaches may be unmanned.

Austin, Texas, has 462 lifeguards, 62% of the 750 needed to operate its summer pools. It has opened only 15 of its 32 pools. In New Orleans some pools will open for two days a week, instead of the usual five or six. New York City has had to cancel its aquatic programmes, including free swimming lessons. Philadelphia, a city of 1.6m people, has 1m pool visits every summer. It is opening 50 of its 63 pools on a rolling basis.

Philadelphia is using TikTok to recruit lifeguards, as well as looking to pensioners: one, a 70-year-old grandmother, last served as a lifeguard when she was 16. Austin is offering signing bonuses of up to \$750; New Orleans has raised its sum-



When will they ever learn?

mer hourly wage from \$12.57 to \$18.02. Private resorts are struggling, too. George Amitrano, general manager of Catalina, a beach club on Long Island, is worried he will lose lifeguards to the club next door, which is offering \$3 more an hour.

"The candidates are just not out there," says Bud Johnson, chief of patrol in Wildwood Crest. Usually he has his pick. "This year basically anybody that showed up to take the test, we worked with them until we could get them up to standard." Tom Gill of the United States Lifesaving Association is worried about next year. "We've already screwed up the pipeline in the last two years," he says. "And it's not going to get better."

Water programmes may seem like a luxury, but they are a matter of life and death. Pools and beaches keep people cool, teach children to swim and keep them out of trouble in the summer, when violence often increases in cities. Three people, sadly, drowned at Wildwood's beaches in June. No one has perished when a lifeguard has been on duty.

► reform. Forty-eight states and Washington, DC, have collectively passed 466 new gun laws. Often these state laws were passed with bipartisan support without political consequences. "We did not have this infrastructure ten years ago," says Robin Lloyd of Giffords, a gun-control organisation founded after Gabby Giffords, a former congresswoman, was shot in the head in 2011. Mr Feinblatt says the NRA's influence has waned. Everytown is now twice the size of the NRA.

But the morning the Senate bill passed, the Supreme Court struck down a New York state law that requires residents to obtain a licence if they want to carry a handgun outside the home. The decision will affect similar laws in five other states. Mr Heyne thinks the court is out of step with the rest of the country and the other government branches. "The first bipartisan push, real bipartisan push we've seen in Congress in decades," he says. "It is almost one step forward, two steps back." ■

## Election integrity

# Questions of trust

SANTA FE

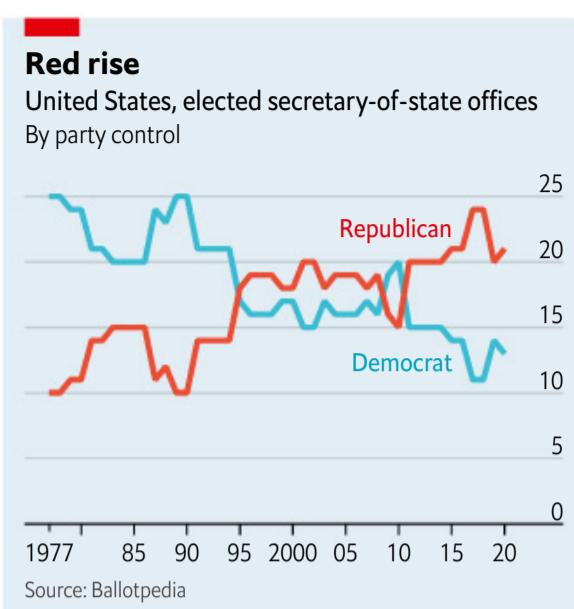
New Mexico offers a warning of election battles to come

**O**TERO COUNTY, in New Mexico, is home to fewer than 70,000 people. Yet the rural municipality found unfortunate fame recently when local officials refused to certify the results of their primary elections, held on June 7th. New Mexico's secretary of state, Maggie Toulouse Oliver, swiftly asked the state Supreme Court to compel the county commissioners to certify the results. They eventually voted 2-1 to do so. Couy Griffin was the lone dissenter. The founder of Cowboys For Trump, Mr Griffin had to dial in to the vote from Washington, DC. On the same day that he voted to disenfranchise his constituents, he was sentenced to two weeks in jail for taking part in the Capitol riot on January 6th last year.

This was not a contentious election. The county clerk insisted there was no evidence of fraud, and no candidate questioned the results. Mr Griffin himself admitted his intransigence was not based on any facts. Echoing a favourite conspiracy theory of Donald Trump, the commissioner said he just had a "gut feeling" that something was amiss with the Dominion voting machines. Ms Toulouse Oliver told *The Economist* that the state's attorney-general was mulling civil and criminal charges against the trio, whose limited role in elections is supposed to be "a rubber stamp" of results already verified by the clerk.

That local officials are turning routine administrative tasks into partisan judgments may portend wider problems. Election administration in America was not free of partisanship before Mr Trump peddled the Big Lie that he beat Joe Biden in 2020. In eras past, political machines "put their thumbs on the scale to help their party", says Kevin Johnson, executive director of the Election Reformers Network (ERN), a non-profit group. In many other countries, non-partisan commissions run elections. America's election administrators belong to political parties and are voted into office (see chart on next page). Republican and Democratic secretaries of state, the top election officials in more than 30 states, routinely raise money for other candidates. They also oversee elections in which they themselves are on the ballot.

Two related developments have transformed election administration from a mostly bureaucratic endeavour into a partisan battleground. The first was the pressure that Mr Trump exerted on election officials to declare his victory in 2020. The



hearings run by the House of Representatives committee investigating the January 6th insurrection demonstrated how Mr Trump and his toadies tried to coerce Brad Raffensperger, Georgia's secretary of state, to "find" enough votes to win. To some, this revealed the importance of electing principled officials to such posts.

To others, however, it revealed the importance of packing those posts with loyalists who might take a different decision should there be a next time. This is the second change. At least 23 Republican candidates for secretary of state in this year's mid-terms have questioned the results of the 2020 election, according to States United Action, a watchdog. The latest test of Republicans' embrace of these candidates was Colorado's primary on June 28th. Tina Peters—a clerk who was recently indicted for breaching her county's election system in an effort to prove that the voting machines were rigged against Mr Trump—lost out to a moderate with no such delusions. That shows voters can push back.

The partisanship of election administrators matters beyond questions of certification. Polling shows that Americans have more confidence that their local elections are run fairly than they do in state or national elections. But that confidence may be eroded if local officials continue to cry fraud. A survey of New Mexican voters in 2020 found that, of several possible fraudulent activities, people were most worried that their secretary of state would make rules that favour his or her own party.

Unfounded accusations of fraud also take a toll on the hundreds of thousands of Americans who work on the polls, many of whom are volunteers. Ruby Freeman, a former election worker in Atlanta, told the January 6th committee that there was nowhere she felt safe after enduring threats and abuse from supporters of Mr Trump. Robyn Holmes, the Otero County clerk who oversaw the vote, said one of her workers wants to quit. "We've never had a commission that doubted anything," she laments. "It's just so strange, you know?" ■

## People-smuggling A tragedy in Texas

### NEW YORK Why more migrants have been dying

IT WAS A gruesome discovery: the bodies of at least 46 people, found abandoned in a lorry in the baking 37°C heat of San Antonio, Texas, on June 27th. Seven more have died since. There was no air conditioning inside; corpses were reportedly dusted in steak seasoning to mask the smell. Over a dozen survivors, suffering from heat exhaustion, were rushed to hospital. The tragedy was one of the deadliest incidents in recent decades related to people-smuggling along America's border with Mexico—among the most lethal land borders in the world.

As illegal crossings at the border have surged, so has the number of deaths. In the past fiscal year, ending on September 30th 2021, border-patrol officers reported 1.7m encounters with migrants at the border, the highest annual total. At least 651 people died while attempting the journey last year, the largest toll since the International Organisation for Migration started keeping track in 2014. Many drown in the Rio Grande; hyperthermia is another big killer.

More people attempting the journey is one reason why deaths have risen. Another is that crossing has become more perilous. Researchers at the University of Arizona have analysed records from the medical examiner's office in Pima County, in southern Arizona, to chart the rising fatality rate among migrants over the past three decades. Between 2000 and 2005, the office logged the remains of 32 migrants on average per 100,000 apprehensions by border patrols (a proxy for unauthorised migration). That rose to 95 per 100,000 in 2006-13, and to 244 in 2014-20.

The rising fatality rate is a perverse con-



Rest in peace

sequence of America's border policies, which have made illegal crossing harder. In 1994 the US Border Patrol launched a strategy known as "prevention through deterrence". Authorities clamped down on popular urban passageways, such as those between San Diego and Tijuana, and El Paso and Ciudad Juárez. To avoid detection, migrants increasingly take longer, more arduous routes. Trips through the Sonoran Desert, for example, take on average 2.4 days on foot, raising the risk of fatal heat exhaustion. "We did believe that geography would be an ally for us," remarked the head of the agency overseeing the border during the 1990s. "It was our sense that the number of people crossing through the Arizona desert would go down to a trickle once people realised what [it's] like."

Policies limiting entry by legal channels have probably encouraged illegal crossings, too. During the pandemic America has been expelling migrants without offering them the chance to apply for asylum, on public-health grounds. The Biden administration has unsuccessfully tried to end the policy, known as Title 42. But 21 Republican states sued to block it, and courts have kept it in place pending litigation. ■

### All too lethal

#### Migrants at United States-Mexico border



#### Deaths, by migration route, '000



## Lexington | The courage of a conservative

*Even without Donald Trump, says our departing columnist, the Republican Party may be unreformable*



AMERICANS LEARNED something shocking from Cassidy Hutchinson's testimony to the January 6th committee this week, but it was not about Donald Trump. The fact that the 45th president is vile and corrupt was clear long before he won the Republican nomination in 2016. What was more remarkable about the 26-year-old former White House aide's account of events before and during the Capitol Hill riot was that someone so embedded in Trumpworld had the moral compass to provide it.

Matter-of-factly, Ms Hutchinson described overhearing Mr Trump being informed that the MAGA crowd had guns and in response suggesting it be allowed to keep them. That was before he instructed its members to go to the Capitol and "fight like hell". She told the committee that she heard Mr Trump had to be restrained by his security detail after he tried to lead the mob there. No one with her proximity to the president had broken ranks so devastatingly. Even though, as she made clear, senior Trump courtiers had known perfectly well what Mr Trump was up to. She recalled Mark Meadows, the chief of staff, warning that "things might get real, real bad on January 6th." She described Pat Cipollone, the White House counsel, advising against Mr Trump's plan to march to the Capitol because "we're going to get charged with every crime imaginable if we make that movement." So far both men have refused to testify to the committee.

Neither will Mike Pence, whom Mr Trump slammed on Twitter even as the MAGA mob were baying for him to be hanged. Mr Trump thought he perhaps deserved to be, Ms Hutchinson told the committee, on which just two of the 210 Republican House members are serving. Few of the party's leaders have to this day denounced Mr Trump. And some of them, including Mitch McConnell and Bill Barr, say they will still vote for him if he is the Republican candidate in 2024. Most Republican voters want him to be.

This embrace of the unconscionable by millions of otherwise reasonable Americans is by far the biggest novelty of the Trump era. By comparison, the paranoia and bigotry of the Capitol Hill rioters was old hat. Around a quarter of Americans have always expressed such sentiments. They represent the "paranoid style" in American politics described by the sociologist Richard Hofstadter, in a famous essay on the populist eruptions inspired by Barry

Goldwater, George Wallace and through American history. The current eruption, Mr Trump's MAGA base, represents around half the Republican coalition. Yet the real puzzle is why the other half, including amiable conservatives up and down the country, have gone along with it. They are why Mr Trump succeeded where Goldwater failed, why he remains such a threat; and no political question has exercised your columnist more.

Economic privation was an early explanation—which never squared with the gleaming trucks parked outside Mr Trump's rallies. Disinformation and racism were more convincing suggestions, but insufficient. Many Republicans knew all along what Mr Trump was; many are not racist. The main reason for Republicans' capitulation to Mr Trump is simpler. They hate their political opponents, who are his main enemy, which made him their friend. Political scientists have a term for such hyper-partisanship, "affective polarisation", and it is far more pronounced on the right than on the left. Swathes of white America are resentful and fearful of diversity, rampant liberalism and other big ways in which America is changing, which they blame on the left. This cultural outlook has become the main difference between the two parties. Whereas Democrats are positive about America's multiracial future, most Republicans say the country is "in danger of losing its culture and identity". Mr Trump agreed, swore to fight back and they loved him for it.

Not all societies undergoing disruptive change succumb to demagogues. And America has unusual defensive strengths, including the vigour of its economy, institutions and civil society. Provided Mr Trump can be stopped, which seems likelier than not, it is in theory easy to think that the right will return to sanity. Yet the reality looks darker, partly because of the structural advantages that are sparing Republicans the electoral reckoning their dalliance with Mr Trump merits. Republicans are getting more power than the Democrats through the electoral college and Senate with fewer votes. And they were successfully compounding that undemocratic edge through all manner of ways to defy the majority, from judicial activism to gerrymandering, even before Mr Trump took it a stage further by trying to steal an election.

Thus the Supreme Court's ruling that the half century of abortion rights women had enjoyed, with popular support, was inconsistent with a conservative understanding of American "history and tradition". Four of the five judges who made that decision were confirmed to the bench by a Republican Senate majority that represented a minority of voters. You might think such distortions would ease the right's anxieties. Instead, they are raising its incentive to press cultural issues, and the left's outraged response, including incendiary but toothless calls for system change. And so the cycle of outrage, reaction and counter-reaction continues.

### Culture vultures

Among scholars of democracy it has become a truism to predict that America's will get worse before it gets better. It is hard to disagree. Even without Mr Trump, culture warring will dominate conservatism until Republicans can no longer win power by it. That is why Governor Ron DeSantis of Florida, Mr Trump's closest rival, is spending so much time banning critical race theory and references to single-sex marriage in schools. Yet it is important, in what looks bound to be a protracted battle, to at least celebrate tactical successes—like Ms Hutchinson's brave performance on the Hill this week. America needs an awful lot more conservative heroes like her. Lexington fervently hopes they exist. ■

**Crime**

## 100,000 missing Mexicans

PUEBLA AND SALTILLO

### Many victims of the drug war lie in unmarked graves in the desert

NADIA ROSALES's bedroom is that of a typical 17-year-old. Above her bed in a modest house in Puebla, a city 120km (75 miles) south-east of Mexico's capital, hangs a poster of The Beatles and a Minnie Mouse balloon. Several Barbies, some make-up and a teddy bear litter a dressing table. But Nadia has not slept there since she went missing on the way to school in 2017. Her mother Vicky has searched for her ever since, on street corners and among corpses in the state mortuary. "We have not moved or changed phone numbers in case she returns," she says.

At the other end of the country, in Saltillo, forensic specialists in the hushed labs of Mexico's first human-identification centre work to identify bodies. In one lab, a skeleton dug up from a mass grave is laid out for analysis. In another, a forensic anthropologist delves into brown paper bags containing fragments. After examination,

the scientists try to extract DNA from the remains to see if they can find a match for someone who has been reported missing.

Empty bedrooms and nameless bodies bear witness to a national disgrace. In May Mexico's register of missing people, which dates back to 1964, passed 100,000. That cumulative total excludes those who have gone missing but subsequently been found; and the true number is undoubtedly far higher (see chart 1 on next page).

Most of these missing people are probably dead. Between 2006 and 2016 over 2,000 clandestine graves were found in Mexico. The country's forensic services hold 52,000 unidentified bodies, which

may or may not belong to the people on the "missing" register.

For a democracy during peacetime, these are staggering numbers. The official roll of the disappeared in Mexico is five times as long as the one Sri Lanka recorded during a quarter-century of civil war. It is 80 times the number of Chileans who disappeared during Augusto Pinochet's dictatorship. It shows how violent Mexico has become in the past 15 years, and how drug gangs have carved out territories where they can kill with impunity.

Until the 1990s relatively few Mexicans disappeared. Those who did were often victims of the government itself, which was fighting an ugly campaign against left-wing student and guerrilla groups. The number shot up from 2006. Some 80% of disappearances have occurred since that year, when the government of Felipe Calderón launched a "war on drugs". During Mr Calderón's term, from 2006 to 2012, an average of eight people each day went missing. Today, under President Andrés Manuel López Obrador, who took office in 2018, the daily toll of disappearances is 25.

Some of this increase may be because of better counting, or people being more willing to report their relatives as missing. But experts think it mostly represents an increase in gang violence. The reported num- ►

---

→ Also in this section

---

41 Extreme weather in Brazil

— Bello is away

►ber of murders, relative to the population, has trebled since Mr Calderón's war on drugs began. He sought to decapitate gangs by capturing or killing their leaders. This tactic backfired. Headless gangs split. New factions fought for control of smuggling routes. Crisis Group, a think-tank, reckons the number of criminal groups in Mexico more than doubled between 2010 and 2020, from 76 to 205.

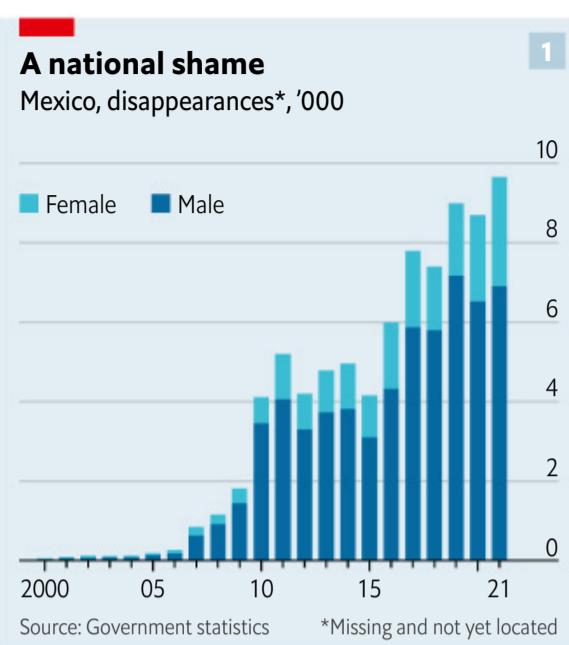
### Searching for resolution

Some murder their rivals ostentatiously, hanging corpses from bridges as a warning. Others prefer to make the bodies vanish by burning them, dissolving them in acid or burying them in the desert. The aim is to forestall investigations before they have begun. (Cynics reckon the police also prefer it when there is no body to be found, as it makes the homicide figures look lower than they really are.)

Most of the missing are young men, many of them gang members. Besides murdering rivals, the gangs eliminate witnesses. Some of the young men who disappear are not dead; they have been abducted and forced to join a gang. And some victims are killed by mistake. María Luisa Núñez, whose son went missing in Puebla with two friends when travelling by car, thinks they were taken because rival gangs had a rule that after 9pm no more than two men could travel together in their area.

A rising proportion of cases involve women and children. Female victims tend to be even younger than males: typically in their teens rather than their 20s (see chart 2 on next page). Many are thought to have been kidnapped and forced to do sex work—a lucrative sideline for some gangs. Some have been raped and murdered.

The scandal is not just that so many people disappear, says Karla Quintana,



who heads the National Search Commission, a government agency that was set up in 2017. Two other scandals follow. The process of searching for bodies is slow and ineffective. And the families of the disappeared seldom find justice. A UN committee reckons there is "almost absolute impunity" for disappearances. It estimates only 2-6% of cases it sees lead to prosecution. Disappearances are "not a national priority", says Héctor de Mauleón, a journalist. "It has been normalised."

Mr López Obrador's strategy of dealing with gangs, known as "hugs not bullets", appears to have made things worse. The president thinks poverty causes crime, so it can be fought with welfare. Alas, welfare programmes are less lucrative than drug-smuggling. Mr López Obrador has pledged to stop the armed forces from fighting gangsters. They are still stationed in many areas where gangs run riot, but have been told not to confront them. Experts believe the president's lack of a coherent security strategy has increased the sense of impunity not just for gangs but for other criminals, too. "We have never had such a huge problem with organised crime and such a weak state," says Francisco Rivas of the National Citizen Observatory, an NGO.

Officials sometimes collaborate with gangs, or are on their payroll. Mystery still shrouds a notorious incident in 2014, when 43 male trainee teachers went missing in Iguala, in the south-west. A government investigation concluded that local police pulled the teachers from a bus and handed them over to a drug gang, which murdered them. The motive is unclear. The teachers had commandeered a bus, as they did each year to travel to Mexico City to mark the anniversary of a historical massacre. One theory is that they inadvertently took a bus that contained a shipment of drugs, which the gang and their police accomplices thought they were trying to steal. A report by external experts this year found evidence that the military helped cover up the crime, too.

### Violence begets violence

Until recently the authorities did not even acknowledge that Mexico had a problem with disappearances. Some police would refuse to take reports of missing people, saying they had probably just run away, or would insist that families wait 36 hours. That changed under Mr Calderón and then under Mr López Obrador's predecessor, Enrique Peña Nieto, after the case of the Iguala teachers provoked outrage. In 2012 and 2017 laws were passed to grapple with the problem. Police were required to accept reports of missing people immediately. The government set up a network of search commissions and a national register of the disappeared, which collated all the local registers going back to 1964.

Mr López Obrador has made a few attempts to improve matters. In May his government updated the law of 2017 to set up a national human-identification centre, like the one in Saltillo. It also plans to set up a DNA database to try to help match missing people with their relatives; currently only some states have local ones. He has given more money to the network of 32 search commissions. But this year the president increased its budget by just 0.3% in real terms, bringing it to \$37m. That is unlikely to be enough, given that this year the money is meant to include setting up the national human-identification centre too. Setting up just the one centre in Saltillo cost \$9m, not including staff salaries.

The president blows hot and cold on the issue. On taking power he established a commission to look into the case of the Iguala teachers. Yet he initially dismissed the recent report that implicated the military before admitting that some officers were under investigation.

And in many places, the authorities re-



Speaking up for the voiceless

► main indifferent or in denial. In Jalisco, the state with the most missing people on the register, the attorney-general for missing people is Blanca Trujillo. Asked about disappearances, she first talks of people who leave home because of family problems, before acknowledging the role of organised crime.

### Too little, too late

Friction between different agencies, including the attorneys-general and the search commissions, also slows down investigations. Basic failings abound. Luz Araceli Díaz, whose daughter disappeared in Guadalajara in 2020 aged 23, says the authorities lost the file for three months. Ms Rosales says she asked the authorities to trace Nadia's mobile phone and claims they did not.

Some officials, no doubt, are untroubled by disappearances because those who vanish are typically poor and often criminals. Many voters share their views. Victims are dismissed as being on "*malos pasos*" (the wrong path). Missing women are often assumed to be with a boyfriend.

Sometimes, however, investigations are slow because investigators do not have skills or resources on anything like the scale needed to grapple with such a colossal tragedy. By some estimates, it would take the forensic services 35 years to deal with the backlog of unidentified bodies, if all capacity were directed at identifying the dead as opposed to dealing with new murders and other crimes. Slow investigations lead to a loss of evidence; witnesses die, get cold feet or move away. In 2020 Ms Núñez found her son, who went missing in 2017, in a grave with six other bodies. It took until February this year for the authorities to identify him formally and hand him back.

Where the government fails, the mothers of the missing step in. Groups known as "*colectivos*", consisting largely of female relatives of victims, have long operated as support networks, or dug in fields to look for hidden graves. They hold workshops,

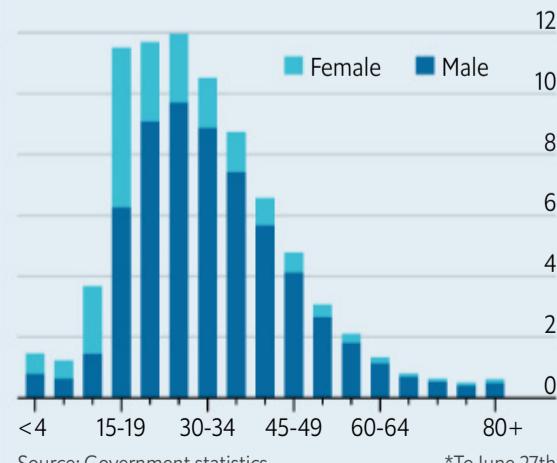
investigate their own cases and badger the authorities. They have helped draft laws on searching for missing people, too. "The mothers are doing what the authorities should be doing," says Rosalía Castro Toss, who heads a *colectivo* in Veracruz and is looking for her son.

The response of the state governments may be slowly improving thanks to these groups. The government of Coahuila set up the human-identification centre in Saltillo in 2020. It has handed 16 bodies back to families. Protocols to look for missing people which involve their families are being drawn up. And officials at the National Search Commission are trying to get authorities to co-operate more.

But for now the *colectivos* continue to lead the way. Ms Núñez is still campaigning for her son's killers to be found and prosecuted. On a recent Friday she and fellow mothers visited the forensic service in Puebla, where every week they go to look through bodies. After leaving, they took down a banner from the trees outside. It showed the faces of some of the missing locals. It would be difficult to make a poster big enough to feature all of them, said Ms Núñez. They folded it up, and discussed a recent case of a missing boy, whose parents shun the limelight. It takes courage to speak up. The simple truth, says Vicky Rosales at her home, is that "if we don't search for Nadia, no one will." ■

### No country for young people

Mexico, missing persons by age group, '000  
2000-22\*



## Disaster preparedness

### Rain strain

SÃO PAULO

#### More Brazilians are dying in floods and downpours

BETWEEN LATE May and the start of June 130 people died as a result of heavy rains in the state of Pernambuco in north-eastern Brazil. In February and March at least 240 people perished in Petrópolis near Rio de Janeiro following severe flooding in the city's hinterland. In just the first five months of 2022, more people died in rain-related disasters than in the whole of 2021.

The trigger is heavier rainfall, caused by some unusual weather patterns. This year the flow of moist air which normally arrives in the south-east instead moved to the north-east, says Moacyr Araújo, who co-ordinates the Brazilian Network of Climate Change Research, an academic group. Separately, the ocean currents that transport warmer water from Africa to South America were more intense than usual, releasing more moisture into the air. In Recife, the capital of Pernambuco, these two effects combined to drop 551mm (22 inches) of rain in five days, nearly a quarter of the annual average.

As the planet warms, such extremes of weather are becoming more frequent. But "you need more than rainfall to create a disaster," says José Marengo of Cemaden, the federal agency responsible for disaster alerts. Badly sited or poorly built housing is part of the problem.

Recife is low-lying and densely populated. The city's poorest live on riverbanks and alongside canals. In Petrópolis these residents cannot afford expensive housing, nor the 2.5% land tax still paid to the descendants of the last Brazilian emperor, who was ousted in 1889. So they build homes on steep hills, which get swept away in mudslides. Some of this year's victims lived in houses con-

demned by civil-defence workers 11 years ago after a similar disaster.

Cemaden is cash-strapped, too. It gets one seventh of the cash it received a decade ago, before Brazil fell into a recession in 2014. With no money to install them, weather-monitoring systems sit unused in boxes. Bureaucratic delays do not help. Mr Marengo says it is frustrating when he works "like hell" to issue alerts only to see officials sit on them until just before disaster hits (it is the civil-defence agency that passes on the warnings). Officials in Recife waited two days after receiving Cemaden's alert before setting in motion a detailed contingency plan for heavy rains. Society calls such tragedies natural disasters, but they often look man-made.



Rescuing a friend

ECONOMIST  
EDUCATION

# Crypto is crashing. Do opportunities remain?

**Timely analysis and real-world case studies**

Gain special access to expert knowledge from *The Economist's* journalists and influential contributors:



**Matthieu Favas**

Finance correspondent at *The Economist*



**Anne Boden**

CEO of Starling Bank



**Rachana Shanbhogue**

Finance editor at *The Economist*



**Eswar Prasad**

Professor at Cornell University and author  
of "The Future of Money"



Book now at  
[economist.com/fintech](https://economist.com/fintech)

Join our next course, starting on **August 3rd 2022**



Congo's unstable east

## Echoes of war

NAIROBI

The return of regional rivalry endangers eastern Congo

THE BLOOD-SOAKED east of Congo can seem depressingly complex. More than 120 armed groups—a few with political aims, most mineral-hungry bandits with AK-47s—make life miserable for millions in a vast region stretching from South Sudan to Tanzania (see map on next page). Congo's neighbours, especially Rwanda and Uganda, have a history of fighting on its soil and looting the minerals beneath it. During the second Congo war (1998–2003), anywhere from 800,000 to 5m people died, mostly of war-related hunger or disease.

To simplify things, consider that it is almost 1,600km from Kinshasa, the capital of Congo, to Goma, the main city in the east. Nine other African capitals are closer. Maps show roads linking Congo's east and west, but on the ground they are often not there. The government in Kinshasa struggles to find out what is happening in the east, let alone govern it.

Such geographical constraints did not stop Félix Tshisekedi from pledging to pac-

ify the region when he became Congo's president in 2019, after a rigged election. Yet today the army is in danger of being overrun in the east by just one rebel outfit, known as M23. Though no one expects a third great war, few predict peace, either.

M23's attacks in recent weeks have displaced tens of thousands of people, and led to fears that the group intends to capture Goma, a city of about 2m. The rebels began their offensive in November, emerging from hideouts in a volcanic mountain range tucked into a corner of Congo that borders both Rwanda and Uganda. Since May they have attacked army bases and

captured more territory. On June 13th they seized Bunagana, a town on Congo's border with Uganda where they have been "taxing" cross-border trade.

M23 is led by ethnic Tutsis, Rwanda's minority group and the main victims of the genocide in 1994, which was perpetrated by Rwanda's then Hutu-controlled government. The militia emerged in 2012 with the backing of Rwanda and soon captured Goma. That prompted the formation of a UN intervention force, which attacked its bases in Congo, and international pressure on Rwanda to cut its supply lines.

After Congolese and UN troops defeated M23 in 2013, the group splintered and fled into Rwanda and Uganda. Both of Congo's neighbours refused to extradite the group's commanders, enabling them to escape justice for war crimes. In 2017 its members slipped back into Congo.

M23's latest offensive has been confined to a small patch of North Kivu province, where thousands of UN troops are stationed. Things could get worse. The UN says M23 has sophisticated firepower and the ability to target aircraft, adding weight to accusations it downed a UN helicopter in March, killing eight peacekeepers. Congo's army has had to redeploy troops who had been fighting jihadists affiliated to Islamic State and calling themselves the Allied Democratic Forces (ADF). This group was responsible for bomb attacks in Congo ➤

### → Also in this section

- 44 Africa's mobile-money agents
- 45 Israel's new defence alliance
- 45 Yemen's time bomb
- 46 Moustaches and the man

► and Uganda's capital, Kampala. "Tshisekedi looks like he may lose control over large parts of the east," says a fretful diplomat.

More importantly, though, the resurgence of M23 signals renewed meddling in eastern Congo by its neighbours as well as fresh sparring between them to control its mineral wealth. Congo's government accuses Rwanda of once again backing M23 (which Rwanda strongly denies). Rwanda's president, Paul Kagame, retorts that Congo's army is enlisting the support of a Rwandan rebel group originally formed by Hutus accused of involvement in the genocide. As tensions between Congo and Rwanda ratchet up, so too does ethnic hatred. Angry mobs in Kinshasa and in the east are looking to lynch people they think might be Tutsi.

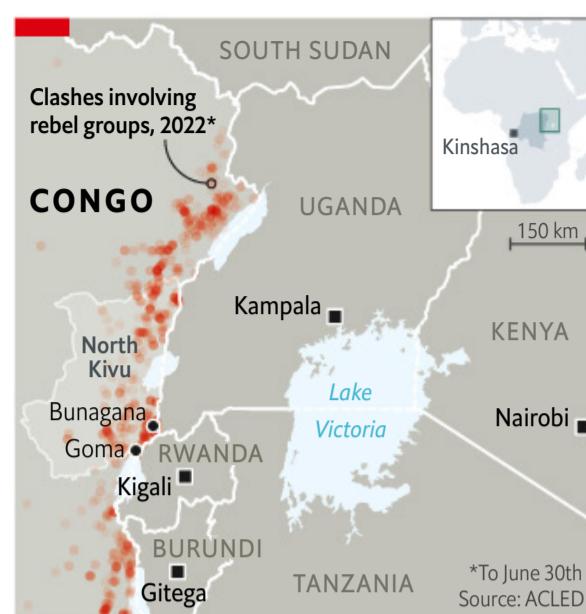
Some argue that Congo's president is to blame because he invited foreign meddling. "He subcontracted the security of his country," says Martin Fayulu, the candidate who actually won the election that Mr Tshisekedi stole in December 2018. In 2019 Mr Tshisekedi allowed Rwandan forces to target Hutu rebels in Congo. That upset Uganda, perhaps because it worried Rwanda might muscle in on networks smuggling coltan and Congolese gold, which is a big export-earner for Uganda.

After the ADF bombings in Kampala, Mr Tshisekedi allowed Uganda to send troops across the border to attack that group. But Rwanda's hackles were raised when the Ugandan army protected road-building projects in Congo that will probably draw Congolese trade (and perhaps smuggling) towards Uganda and away from Rwanda. M23 re-emerged soon after this. Now that the group is back in business, Congolese officials suspect it is also getting support from Uganda, which hopes to weaken Rwanda's influence over it.

In other words, after Mr Tshisekedi asked Rwanda and Uganda to suppress some rebels on his behalf, they spurred the rise of another, deadlier group. So Mr Tshisekedi is once again trying to subcontract his problems. At a summit in Kenya on June 20th he authorised the deployment within Congo of a Kenyan-led force with troops from members of the East African Community, the regional bloc (though on the condition that Rwanda is not part of it).

"The regional force has its limitations," says Jason Stearns, the author of "The War that Doesn't Say Its Name". He adds that it may not add many troops to the thousands already stationed there by the UN and others. "But once you deploy troops you also get political involvement and interest." That, he argues, could lead to others in the region, including Kenya, pressing Rwanda and Uganda to isolate M23.

Western countries, which have long backed Mr Kagame as a force for stability in the region after he ended Rwanda's geno-



cide, are losing patience with him now that he is spreading chaos instead. "This is a real moment of truth for Kagame," says a Western diplomat.

It is also one for Mr Tshisekedi, who is still hoping that outsiders will take responsibility for pacifying eastern Congo. It might be better for Congo if he cleaned up the Congolese army. Its troops are notoriously brutal and corrupt, often selling their guns to the armed groups they are supposed to be fighting. Without a competent army, Congo will remain at the mercy of its predatory neighbours. ■

#### Cashless economies

## Digital stevedores

KAMPALA

### Africa's mobile-money agents face an uncertain future

**A** DECADE AGO Jackline Muheirwe was the only mobile-money agent in her patch of Kampala, the Ugandan capital. These days there are ten others within a minute's walk, taking in and giving out cash from shopfronts or colourful kiosks. "You can't make money out of it now," she sighs. Business is down, despite her prime spot outside a courthouse. Since 2018 a tax on withdrawals has made things worse. She is lucky to earn 500,000 shillings (\$133) a month in commission, less than half of what she once made.

Mobile money is a system that allows people without bank accounts to transfer money using their phones. Agents are its stevedores, loading and unloading cash. There are now 3m of them in Africa, roughly as many as the number of ATMs in the world. Mobile operators pay them a commission on transactions, rather than employ them directly, placing agents in a contradiction: the more that money goes digital, the more uncertain their future. ■

Agents are more than mere cash handlers. They must carefully manage the balance between the electronic float on their account and the physical cash they hold. In the countryside that might entail three trips a week of 20 kilometres to the nearest bank, according to a survey in four countries by the Boston Consulting Group in 2018. The same study estimated that agents spend more than \$1,000 to set up their business, a sum which takes an average of ten months to recoup. In effect, agents shoulder the financial risks of building a mobile-money network. Their local relationships also cement trust in the system.

Their rewards are dwindling. Although the volume of transactions is increasing, the number of agents is rising faster. The average monthly amount of money cashed in and out by agents in sub-Saharan Africa fell from \$11,700 in December 2016 to \$9,900 five years later, according to the GSMA, which represents mobile operators. In Ivory Coast the number of mobile-money accounts serviced by each agent shrank by two-thirds over the same period.

Covid-19 slowed these trends in some places and accelerated them in others. In the first year of the pandemic the number of agents on M-PESA, Kenya's dominant service, grew by 75,000 (43%), perhaps because other work dried up. The average commission they earned fell 17% to just 2,182 Kenyan shillings (\$19) a week. "I don't mind having 20 agents in a street," says Sitoyo Lopokoiyit, the chief executive of M-Pesa. He argues that agents still gain because many of them own small shops and mobile money is a product that "pulls traffic into the store".

A longer-term threat to agents comes from digital payments. In some countries mobile money can pay for everything from electricity bills to a takeaway meal. If it keeps circulating within the system, never being turned back into cash, then the role of agents diminishes. In 2012, for every dollar that was cashed into mobile-money systems worldwide, 88 cents were cashed out. By 2021, that figure had dropped to 67 cents. The value of mobile-money payments to shops or online retailers has doubled in the past year alone.

Agents will still be needed to take in cash, and they also have time to diversify, notes Edward Obiko of MicroSave Consulting, perhaps by exploiting new opportunities to distribute welfare payments or sell financial products such as insurance. But the main winners from change are consumers and the mobile operators themselves, who earn higher margins on digital transactions than on "cash-in, cash-out" services. Agents, who have little bargaining power because they are scattered and largely unorganised, made the mobile-money revolution possible. Its success may be their undoing. ■

## An Arab NATO

# One shield to guard them all?

JERUSALEM

### Israel has joined an unexpected alliance with former foes

**W**HEN AMERICA and its Arab allies talked breathlessly in 2017 of forming a defence alliance that Donald Trump dubbed an Arab NATO, which would have stretched from Egypt to Oman, the idea seemed doomed from the start. Some of the countries in it, such as Saudi Arabia and Qatar, were not on speaking terms. Few Arab leaders felt they could rely on America, after successive American presidents said they wanted to “pivot” forces away from the region. After a few meetings, enthusiasm for the proposed Middle East Strategic Alliance vanished as quickly as conscripts handed a weekend pass.

Now an even bigger alliance, including Israel and stretching from Morocco all the way to the United Arab Emirates (UAE), seems to be in the making. If so, it would be a remarkable realignment for countries such as the UAE and Morocco, which until the signing of the Abraham Accords in 2020 had refused to have diplomatic relations with “the Zionist entity”.

On June 20th Israel's defence minister, Benny Gantz, gave the first official confirmation of this alliance when he told members of the Knesset, Israel's parliament, that he had been working with America on a programme for strengthening defence co-operation between Israel and Arab countries. This included building a Middle East Air Defence (MEAD) system “against Iranian attempts to target countries in the region using rockets, cruise missiles and UAVs [unmanned aerial vehicles]”. More startling still, he added, “This programme is already operating, and has already led to thwarting Iranian attempts.”

Israel and its new chums have released few details of MEAD publicly, though Israeli politicians privately say it will consist of a region-wide network of radar systems alongside batteries of missile interceptors. In future, they claim, the network might even extend to outer space, using surveillance satellites and lasers modelled on the “Star Wars” missile-defence system proposed by America during the 1980s.

There are plenty of reasons for all parties to form an alliance. Israel, which sees Iran's nuclear programme as an existential threat, would benefit from greater intelligence-sharing and early warning of Iranian attacks from allies positioned across the Gulf from Iran. American forces based in Qatar already use intelligence and tracking data gathered by allies to intercept air-

borne threats. On February 14th American jets shot down two Iranian drones in Iraqi airspace as they were heading towards Israel. Israel may even want covert access to airbases near Iran, should it decide to bomb Iranian nuclear facilities.

Arab members of the alliance, meanwhile, are keen to obtain Israeli missile-defence systems like its Iron Dome (pictured) to protect themselves from attacks by Iran and its proxies, such as the rockets fired at the UAE this year by its adversaries in Yemen's civil war. Israel has signed a deal to sell a \$500m missile-defence system to Morocco, which has testy relations with neighbouring Algeria. A series of airlifts between Israeli bases and the UAE suggest that military hardware could have been shipped there as well.

Some Israeli experts caution against lofty expectations. “We shouldn't be using the term alliance,” says Tamir Hayman, a former commander of military intelligence and now the head of Tel Aviv University's Institute for National Security Studies. “An alliance is the highest level of security relations between countries that also necessitates taking offensive action. What we have is the potential for defensive co-operation against a joint threat.”

Moreover, some of the purported members of MEAD, such as Saudi Arabia, do not have open relations with Israel. And even friendly Arab leaders cannot ignore the feelings of their citizens, many of whom are critical of Israel's treatment of Palestinians. For instance, after King Abdullah of Jordan said in a television interview that he supported the formation of a Middle Eastern NATO, his foreign minister insisted just a few days later that there was no talk of Israel being involved. If the new MEAD alliance is indeed to flourish, it may have to remain secret for a while longer. ■



The desirable dome

## The war in Yemen

# Safer at last

DUBAI

### The UN needs more money to defuse a bomb and avert a famine in Yemen

**T**HE SAILORS on board the *Safer* will be happy to be out of a job. Anchored since 1988 near Hodeida, on Yemen's Red Sea coast, the tanker was used as a floating oil-storage and export terminal. But since 2015 war has made it impossible to maintain the almost half-century-old ship.

A skeleton crew of seven has laboured to keep the thing afloat, and to keep its cargo, 1.1m barrels of oil, from causing an environmental disaster. Rough seas and salt have rusted its single-walled hull. Machines that pump inert gas into storage tanks to prevent a fire stopped working years ago. Officials say it is miraculous that the tanker has survived this long.

The UN hopes to remove this floating time-bomb by year's end. It has reached a deal with the Houthis, a Shia rebel group that controls much of Yemen, and the internationally recognised government, which has been fighting alongside a Saudi-led coalition. Officials say the Houthis, who refused for years to allow maintenance workers to board the ship, have at last recognised the danger it poses.

An oil spill four times bigger than the one in Alaska caused by the *Exxon Valdez* in 1989 would cost an estimated \$20bn to clean up. It would also put fishermen out of work for a generation.

Compared with that, the \$144m price tag to make the *Safer* safe seems a steal. In the first stage workers will offload the oil and ready the ship for salvage. The UN hopes to start work before the start of rough winter weather and plans to get it done by SMIT, a Dutch firm that last year helped dislodge the *Ever Given*, a cargo ship that ran aground and blocked the Suez canal for a week. The weather “is not a problem for the salvage company. It's just a question of whether the vessel will make it through one more season,” says David Gressly, a UN humanitarian official.

But before work can start, the UN needs more money. It has received pledges for \$60m of the \$80m required for the first stage. Earlier this month the UN took the unusual step of announcing a crowdfunding campaign to raise another \$5m. “Everyone's looking for somebody else to do it,” says Mr Gressly.

This is a recurring problem in Yemen. The warring parties agreed in April to a two-month truce, which was later extended until August 2nd. There have been no coalition air strikes since March. More ci- ►



Civilians have been killed this spring by mines and other unexploded ordnance than by fighting—a grim statistic, but a sign that the ceasefire is holding.

As per the truce agreement, the Saudis have allowed 18 oil tankers to offload cargo at Hodeida. That has helped ease a severe fuel crisis in Houthi-controlled areas. There are fewer petrol queues, which were common a few months ago. Businesses, like a cement factory in Sana'a that employs around 5,000 people, can fuel their generators and resume work.

Yemenis are grateful for the respite. Yet in many ways life is still getting worse. Hunger and poverty, already dire, are growing: fully 17m Yemenis do not get enough to eat. The UN expects that number to climb to 19m by year's end.

Donors are giving less, and aid agencies are stretched thin by other demands, from the war in Ukraine to a looming global food crisis. The UN says it will need around \$4bn for humanitarian work in Yemen next year. It expects to get half that sum. Hard choices will follow. The World Food Programme (WFP) cut rations in January for 8m Yemenis. On June 26th the agency announced further cuts. It said 5m people would receive only about half of their daily needs, and the other 8m just a quarter.

Yemen's currency, the rial, which before the war traded at 250 per dollar, now goes for almost 1,100 in areas controlled by the Saudi-backed government. (It trades at a more favourable rate in Houthi-controlled areas.) That is painful for a country that imports 90% of its food. The cost of a basket of staples has increased by 120% over the past year. It will continue to rise—as assuming firms can even find enough grain to import. Most of Yemen's wheat was previously bought from Russia and Ukraine. With those markets cut off by war, importers are scrambling to find new suppliers. “The country is secured until August,” says one businessman. “But it may be catastrophic after that.” ■

## To shave—or not to shave

# The great moustache comeback

BAGHDAD

## Facial fur is again a matter of style, not safety

A MOUSTACHE CAN be many things: a source of pride; a prickly annoyance; a trap for crumbs. In Iraq it could be the difference between life and death.

During the despotic rule of Saddam Hussein, his thick black moustache was widely emulated by members of his inner circle. Even today men with moustaches are often assumed to work for the army or intelligence service. In the violent period after Saddam was toppled, that made it dangerous to sport one, so many Iraqis reluctantly shaved. Nowadays Iraq is relatively peaceful, and the moustache is making a comeback.

The way Iraqi men cut their facial hair still tends to indicate their religiosity or sect. Salafists, harking back to the early days of Islam, sport bushy beards with no moustache, emulating the prophet. Shia Muslims go for a mix of smart and scruffy: a neat line running from ear to mouth, clean-shaven above it and prickly below. Moustaches that are bushy and droopy are a trademark of the Kakais and Yazidis, minority sects that follow syncretic religions. Alas, this distinctive facial feature made them an easy target for genocide by Islamic State.

When the jihadists ruled a chunk of Iraq (2014-17), they forced Muslim men to grow beards. Some were tortured and killed for refusing to. “Islamic State made us hate beards,” says Rafat, a mechanic in Mosul, once the heart of the self-proclaimed “caliphate”. He shaved his beard the day he fled from the city. Now, he is

proudly moustachioed again.

For many Iraqis moustaches are a mark of machismo and authority. Men often swear by their moustache. Saying “when I shave off my moustache” is the equivalent of saying “when pigs fly”. Threatening to shave off another man’s moustache is an insult. Prisoners are clean-shaven to humiliate them.

A bristling army officer reckons that 80% of his peers have similar moustaches. His jealous wife wants him to shave his off, because it signals he has a big job, which makes him alluring to other women. “I’d rather be slaughtered than shave it off,” he jokes. “The security situation is stable in Iraq now. But if officers start getting targeted, I would shave it.”

Members of the mainly Shia militias known as Hashd al-Shaabi (Popular Mobilisation Forces), which played a big part in vanquishing Islamic State, were integrated into the regular army, which does not allow soldiers to have beards. But most still wear them as a mark of sectarian loyalty. “I know I’m at a Hashd checkpoint when the guy has a beard,” says a wary Iraqi.

A growing number of younger men, however, seem less keen to emulate the facial style of their fathers and grandfathers—or to show allegiance to a particular sect. Outlandish, stiffly gelled hairdos are becoming popular. Ditching the moustache for reasons of style rather than security is a small sign that Iraq is becoming a shade more normal.



Hot fuzz



## Politics in Singapore

# Open and shut

SINGAPORE

**Resentment of rich foreigners and worries about inequality complicate the city-state's role as a financial hub**

SINGAPORE'S FINANCE industry is booming. Over the past year it grew by 7.2%—four times faster than the overall economy. The city-state has become Asia's leading foreign-exchange market, and its fund managers and family offices cater to a dizzyingly high number of ludicrously rich people. The “ultra-high-net-worth individuals” based in Singapore will grow by some two-thirds between 2020 and 2026, predicts Knight Frank, an estate agent. All this means more foreign finance workers, too.

The boom is likely to accelerate. A growing number of foreigners and locals based in Hong Kong and Shanghai, two cities subject to onerous covid-19 restrictions, have been moving to Singapore since it reopened its borders. In the race between these three Asian financial centres for pre-eminence, Singapore is in pole position (see Finance & economics section).

Yet the political foundations on which the industry was built are shifting. In April

the ruling People's Action Party (PAP) announced that Lawrence Wong would succeed the current prime minister as head of the party at some point in the future (he took over as deputy prime minister on June 13th). Because the PAP has been in government since 1959, Mr Wong is all but guaranteed to become the country's fourth prime minister. He has made a point of promising change. In a speech on June 28th, he acknowledged that many Singaporeans feel “anxiety” about being forced to compete with foreigners for jobs, and vowed to put Singaporeans “at the centre of everything

### → Also in this section

48 Economic turmoil in Laos

49 India locks up activists

49 An Afghan valley resists the Taliban

50 Banyan: The Philippines' new era

we do”. Placating nativists at home while ensuring the country remains open to foreign talent will be one of Mr Wong's greatest challenges in the years ahead.

Having been governed by the same political party for six decades, Singapore is a byword for stability. Its courts have a reputation for commercial impartiality. Opposition parties exist—yet the most influential one is not even certain it wants to be in government. Assured of its impregnable position, the ruling party by and large concentrates on governing rather than mud-slinging. It has a well-deserved reputation for competent, evidence-based policymaking. Singapore is a sure thing in an increasingly turbulent world, which makes it an attractive place to do business.

That is by design. The government has deliberately shaped its politics to be attractive to the finance industry. This ensured it had an option to fall back on as regional competitors undercut Singapore's manufacturing base. Finance, which along with insurance contributed 14.6% of GDP in 2021, is a “pillar of the economy”, says Emmanuel Daniel, the founder of The Asian Banker, a consulting firm.

The decision to ensure that it became one has had a profound effect on the social make-up of the city, because it meant throwing open the doors to foreigners. The proportion of overseas workers on tempor-

▶ary visas has risen dramatically over the past half-century, from 3.2% in 1970 to 33% in 2020. Though most of them are low-paid manual or domestic workers, locals direct their ire mostly at highly paid professionals, whom they perceive as hogging the plum jobs. "We can't get jobs or we have lousy jobs: all the good-paying jobs go to expats," says Gilbert Goh, who has organised two anti-immigrant rallies, a rarity in the tightly controlled city-state. Many Singaporeans agree with him. More than half of those surveyed in 2021 by the Institute for Policy Studies, a local think-tank, believe that foreigners take jobs away from Singaporeans.

Such fears have little basis in reality. The skills of foreign workers, whether professionals or low-wage manual labourers, have historically complemented those of Singapore's native workforce. It was precisely the city-state's openness to foreigners that convinced firms from all over the world to invest and open offices there, turning it from a poor backwater into the rich global metropolis it is today.

Yet many locals envy the highly paid, highly skilled foreigners who help make their country so dynamic. With a Gini score in 2019 of 0.4 after taxes and transfers, Singapore is about as unequal as America or China, and more so than Europe. Nearly four in five Singaporeans think that the economy is rigged in favour of the rich and powerful, according to a survey conducted by Ipsos, a pollster, in 2020. In 2018 a Singaporean sociologist published a book called "This Is What Inequality Looks Like", which sold tens of thousands of copies.

The government says it wants to alleviate these concerns. Though the PAP handily won the most recent election, in 2020, it got the lowest number of parliamentary seats ever. Since then, it has continued to tighten the immigration regime, raising minimum salaries required to qualify for a visa and introducing a new points-based visa system. These changes will not, in fact, change much. They have been deliberately designed to ensure that companies can easily comply, according to Irvin Seah, senior economist at the Development Bank of Singapore (its controlling shareholder is one of Singapore's two sovereign wealth funds).

Yet Mr Wong may prove more interventionist. On June 28th he said that he wanted to shape a society and economy that would "benefit many, and not just a few", and vowed to introduce a more progressive tax system. He plans to raise taxes on the richest. The idea of wealth taxes, "taboo" until a few years ago, is now being discussed by government, says Donald Low, a Singaporean academic at the Hong Kong University of Science and Technology who used to work alongside Mr Wong in the civ-

il service. Mr Low reckons that he could be "a transformational prime minister", who makes Singapore a fairer, more inclusive place. Whether he will have the opportunity to do so depends on how well the economy weathers the coming recession. It also depends on how much scope he is afforded by the current prime minister, who is likely to remain influential even after he officially steps down.

Mr Wong has repeatedly said that Singapore needs foreign workers to keep the economy humming. Yet changes on the scale he has in mind may make Singapore less attractive to well-paid workers in financial services. Even if that is the case, Mr Wong may wager that they will stay in Singapore anyway. Where else would they go? Hong Kong and Shanghai are governed by officials who have, over the course of the pandemic, revealed a capricious streak. As Mr Low puts it, "You don't have to be perfect, just better than your rivals." ■

### Sovereign debt in Laos

## On the edge

SINGAPORE

**The country's finances are in trouble, but it may yet turn the corner**

EVERY DAY, a queue snakes out of the Ministry of Foreign Affairs in Vientiane, Laos's capital. It is formed of Laotians hoping to apply for passports so that they can travel to neighbouring Thailand to work. But even those who obtain papers may not be able to make the trip. The Lao kip has lost 36% of its value against the dollar over the past year (see chart). Petrol is hard to find and increasingly unaffordable. Over the past six weeks Laotians have had to queue for hours to fill their tanks.

The images call to mind Sri Lanka, which defaulted on its debt in May and whose residents are suffering from short-



ages of fuel, food and medicine. This week the government there said that, until at least July 10th, it would supply fuel only to vehicles delivering essential services.

The situation in Laos does not look as catastrophic. But many of the same conditions that plunged Sri Lanka into turmoil are present. The economy was already suffering from the absence of tourists, who stayed away during the pandemic. Soaring oil prices caused by Russia's invasion of Ukraine and exacerbated by the decline in the kip make it harder to afford fuel, all of which is imported. The price of petrol increased by more than 80% in the year to May; imported foods such as cooking oil and instant noodles were 19% more expensive in April than the year before.

Another parallel with Sri Lanka is bad policy. To finance grand infrastructure projects the government, run by the Lao People's Revolutionary Party since 1975, has over the past decade amassed debts totaling \$14.5bn or 88% of GDP, nearly half of which is owed to China. It is hard to see how it will make annual payments of \$1.3bn that will come due over the next three years: it collects just twice that in revenue each year and had foreign-currency reserves worth around the same amount in December, enough for a mere two months of imports. In June Moody's, a credit-rating agency, downgraded Laos, warning that it was likely to default.

Public rage (mostly aired online) seems to have spurred the party to act. In June it reshuffled the cabinet, replacing two deputy prime ministers and the commerce minister, as well as the central-bank governor. A new team imposed capital controls, banning money changers from serving organisations and capping transactions with individuals at around \$1,000.

The measures seem to have had some effect. The kip has stabilised in recent days, probably owing to the capital controls, reckons Heron Lim of Moody's Analytics. Queues at petrol stations have disappeared, says an observer in Vientiane.

Laotians have other reasons to take heart. Unlike Sri Lanka, the country has not lost access to international capital markets, issuing a tranche of bonds to the Thai market in April. In May the borders reopened, which should revive the moribund tourism industry and will allow Laotians to resume work abroad, boosting remittances. A new railway line to China has spurred trade, despite the pandemic.

All that will encourage creditors. The government is cagey about talks, but analysts think it has a good chance of renegotiating its debt, particularly with China. "I don't think China will let Laos default," says Nishizawa Toshiro of the University of Tokyo, who advised the government between 2018 and 2020. Unlike Sri Lanka, Laos may yet pull back from the brink. ■

## Civil society in India

# Feeling the chill

**The government celebrates democracy abroad and locks up critics at home**

BEFORE HOBNOBBING with other world leaders at the G7 summit in southern Germany on June 26th Narendra Modi, India's prime minister, stopped in Munich to address members of the Indian diaspora. He reminded them that the Emergency, a 21-month-long dictatorship imposed on India by Indira Gandhi on June 25th 1975, remained a "black spot" on India's "vibrant democracy". But efforts to crush that democracy, he went on to imply, were a thing of the past: "Today, we can proudly say that India is the mother of democracy."

As Mr Modi was giving his speech Teesta Setalvad, an Indian human-rights activist, appeared before a court in Ahmedabad in the western state of Gujarat. She was charged with, among other things, fabricating evidence and committing criminal conspiracy against Mr Modi. A squad of Gujarat's anti-terror police had arrested her at her home in Mumbai, India's commercial capital, the day before.

Ms Setalvad's arrest is yet another sign of the shrinking space for dissent and the erosion of the separation of powers in India's "vibrant democracy". It followed a decision by the Supreme Court on June 24th to uphold a ruling that cleared Mr Modi of complicity in deadly sectarian riots in Gujarat in 2002, when he was the chief minister of the state.

More than 1,000 people, most of them Muslim, were killed in the riots. Many observers have accused Mr Modi of failing to respond adequately to the violence, arguing that he could have done more to rein in the killers, protect the victims and investigate who was responsible for their deaths. Ms Setalvad went further. Working with the families of those killed in the riots, she has spent two decades trying to prove that senior officials in the state government, and above all Mr Modi, stoked or even planned the violence. In turn, authorities in Gujarat have pursued her with trumped-up charges and investigations. They have raided her offices and frozen her bank accounts. In 2016 the central government cancelled the licence that allowed her organisation to receive foreign funding.

Activists and journalists who criticise India's government are growing accustomed to being hounded by it. Just two days after Ms Setalvad's arrest in Gujarat, police in Delhi locked up Mohammed Zubair, the co-founder of a respected fact-checking service, following a complaint



**Sign of the times**

that a tweet he had posted in 2018 had hurt religious feelings. His associates believe that the aim was to punish Mr Zubair for publicising Islamophobic comments by two prominent officials in the ruling Bharatiya Janata Party, the fallout from which ruptured India's relations with the Muslim world in early June.

Until recently, activists could look to the courts to curb the worst excesses of the executive, at least on occasion: so far, none of the charges levelled against Ms Setalvad has stuck. Yet this time the Supreme Court itself appeared to suggest that she deserved to be prosecuted for her attempts to challenge the government.

The court could have limited itself to finding, as it did, that there was insufficient evidence to support the claim of a criminal conspiracy by the government. Instead the verdict goes further, encouraging the authorities to prosecute those who had sought to implicate the state. It mentions Ms Setalvad by name and accuses her of ulterior motives for pursuing the case. "All those involved in such abuse of process...need to be in the dock and proceeded with in accordance with law," it concludes. The day after the verdict Amit Shah, the home minister, gave an interview in which he accused Ms Setalvad of feeding false information about the riots to the authorities and noted that the court had mentioned her by name. Hours later the police came knocking at her door.

The Supreme Court used to have a reputation for holding the government to account. But in recent years it has refused to say boo to Mr Modi and his lieutenants. For dissidents and critics, the message is clear. If you bring a sensitive case against the government, you may be persecuted for bringing it. This sounds like a formula for official impunity. ■

## Resisting the Taliban

# Indomitable valley

BAZARAK

**North-east Afghanistan resumes its fight against an old enemy**

ALONG THE walls of a building used by the government in Bazarak in Afghanistan's Panjshir valley, battered pick-ups are stacked on top of each other, awaiting repairs. The beige Ford trucks were once driven by the Afghan army. Now they belong to the Taliban fighters who took power last year. Some look as if they have merely had a prang on a mountain road. Others are full of bullet holes and mangled by explosions.

Panjshir valley, a 90-minute drive north of Kabul, the capital, has a history of military resistance. A famed guerrilla leader, Ahmad Shah Massoud, used the mountains to defy Soviet invaders in the 1980s. In the 1990s he held the Taliban's first coming at bay. Mr Massoud was assassinated by al-Qaeda two days before the 9/11 attacks in 2001. But his deputies fought in the Northern Alliance that defeated the Taliban later that year, with American help. Afterwards Panjshiris were rewarded with plum jobs in the new government.

Last summer, although fighters in Panjshir vowed to stage a last stand against the Taliban, the valley was swiftly captured. Yet recent weeks have seen a surge in reports of attacks by an anti-Taliban outfit that calls itself the National Resistance Front (NRF), led by Massoud's son, who is also called Ahmad.

Fighting flared in early May in some of the valley's most remote districts. The official Taliban line is that six of their own fighters and 13 from the NRF died in attacks on convoys and checkpoints. Privately officials admit that the toll on the Taliban was in the low dozens. Since then, fresh attacks have occurred on a near-daily basis, even though the Taliban sent thousands more fighters into the valley to regain control. Officials put the number of reinforcements as high as 10,000. The fighting happens deep in the mountains, and Afghan journalists say the Taliban have prevented them from reporting freely in the valley.

The Taliban say they retain a firm grip on the area. They play down reports of fighting and claim the NRF amounts to little more than a bunch of social-media blowhards based abroad. Yet the bullet-riddled pick-ups lined up against the wall in Bazarak and the trickle of casualties from remote districts suggest otherwise.

Both Amnesty and Human Rights Watch, two watchdogs, have accused the Taliban of abusing local civilians as they try to root out the NRF. Villagers have faced ►

► collective punishment and arbitrary detention. There are reports of extrajudicial killings. In the early days of the Taliban's takeover last year, many residents fled the valley for the relative safety of Kabul. The exodus has resumed in recent weeks.

In an interview with *The Economist* in May Qudratullah Panjshiri, the Taliban-appointed governor, denied that there had been abuses. He downplayed the intensity of the fighting, arguing that the Taliban's decision to have locals like him run the province was reducing bloodshed: "People from Panjshir do not want to fight against

each other." In June he was removed from his post and replaced by a commander from the Taliban's southern heartland.

The NRF may struggle to spark wider resistance. Mr Massoud lacks the foreign backing and international supply-lines that made his father so formidable. Afghans are weary of war; Afghanistan's neighbours are also reluctant to see it descend into civil strife once more. American intelligence officers predict that Taliban forces will maintain control for now.

Yet since taking power the Taliban have had to contend first with terrorist attacks

carried out by the local branch of Islamic State and now with the insurgency of the NRF. Towards the end of June there was fighting in the northern province of Sar-i-Pul when the Taliban moved to crush a dissident commander from the Hazara ethnic minority. All this belies the group's claim to have banished war and brought harmony. It is a reminder that their emirate is not inclusive, but controlled by a narrow faction in both regional and ideological terms. Unless others are invited to share power, unrest may not remain confined to remote valleys. ■

## Banyan Memory loss

*Ferdinand "Bongbong" Marcos, a kleptocrat's son, takes over the Philippines*

THE FIRST REPUBLIC of the Philippines, established after the Americans booted out the Spanish, lasted just over two years. The second, under Japanese rule during the second world war, did not even make it that long. The third was created at the country's independence from the United States in 1946 and survived until 1973, by when Ferdinand Marcos, the president, had declared martial law. A fourth one came into being when martial law was lifted in 1981 and collapsed with the peaceful revolution that forced Marcos and his family to flee in 1986. Thus began the Fifth Republic. At noon local time on June 30th, Ferdinand "Bongbong" Marcos junior became its seventh president.

For a noisy minority of Filipinos, the simple fact of another Ferdinand Marcos in the presidential palace is horrifying. His father, after all, was a murderous dictator who stole billions from the state and remained unrepentant to the end. His mother, Imelda, spent extravagantly and is best known for a collection of designer shoes so monumental that she could have worn a different pair every day for more than eight years. For Bongbong's detractors, his election can only result in a return to kleptocracy. Those who forget the past are doomed to repeat it, they intone gravely.

Forgetting, however, is precisely what Filipinos have done. Bongbong won the presidency with 59% of the vote. His closest rival, Leni Robredo, mustered only 28%. One explanation for Bongbong's triumph is that most voters are too young to remember the first Marcos era, with its mass arrests of dissidents and its inventive torture techniques, from rubbing hot peppers into victims' genitals to half-drowning them in buckets of excrement. Another is that Philip-

pine school curriculums devote little time to the dictatorship. A third is that Bongbong's flacks mounted a successful social-media campaign to paint his father's rule as a time of prosperity and stability.

But forgetting is not all new, nor all social-media magic. Filipinos were forgetting as early as 1995, barely a decade after Marcos senior was deposed. In May 1986, three months after the revolution, 41% of those surveyed by Social Weather Stations, a respected pollster, thought he had been "true to the duties of a patriotic president". By October 1995 the number was 57%. In 1986, 44% agreed that he was a "severe, brutal or oppressive president", and the same proportion disagreed. A decade later just 38% agreed while 60% disagreed. "Not many of us would care to hold a grudge against someone long dead, not even someone like Ferdinand Marcos," reckoned the pollsters.

If the forgetting has come to pass, might the repetition of history, too? Bongbong is, in many ways, a fairly standard figure. Like two of his three immediate predecessors, he is the offspring of a for-

mer president. Like every president of the Fifth Republic bar one, he represents a political dynasty. His cabinet appointments, like those of Rodrigo Duterte, the outgoing president, are heavy on technocrats. The economic team is headed by Benjamin Diokno, plucked from running the central bank. His defence chief is a former army general. His pick for transport used to be the boss of the national airline. The business crowd is delighted with the shape of the cabinet so far.

Yet space for criticism is already being constricted. On June 23rd the telecoms regulator curbed broadcasters' habit of airing outside programming for a fee, a practice often exploited by those with a political point to make. A few days earlier Solita "Winnie" Monsod, a prominent columnist who is no fan of Bongbong (and who, as it turns out, privately tutored the new president in economics while he was at Oxford), was fired by her newspaper for sitting on the board of Rappler, a campaigning news website whose co-founder won the Nobel Peace prize in 2021. On June 29th Rappler itself was ordered by the country's Securities and Exchange Commission to shut down for violating foreign-ownership rules.

The Fifth Republic was founded to be the antithesis of Marcos's rule. A new constitution was framed to keep another Marcos-like figure out of power. Some in Manila's political circles argue that the rise of Bongbong marks the end of that era and the rise of a sixth republic.

Others, such as Manuel Quezon III, a columnist (and grandson of a former president), say the values of the Fifth Republic were lost much earlier, with the election of Mr Duterte, who openly urged the murder of criminal suspects. Either way, the era defined by the idealistic revolution of 1986 has come to an end.





### The path to communism

## Three steps to heaven

**China still claims to be moving towards communism. Some want it to pick up the pace**

**I**N A POOR, communist country, the phrase sounded like a truism. But in the early 1980s China's admission that it was still only in the "initial stage of socialism" was an ideological bombshell. The use of those words meant the country had become "totally freed from the restrictions of orthodox socialist principles", recalled Zhao Ziyang, who took over as Communist Party chief later that decade and championed the term. It allowed China to introduce capitalism (a stage Marx viewed as essential) and repudiate Maoist madness. Many Chinese were delighted by the weakening of ideology's grip on decision-making. China's dramatic economic growth owes much to the licence it gave.

In today's China, Zhao's description of this liberating effect would sound like heresy (Zhao died in 2005 while under house arrest for being too soft on pro-democracy protesters in 1989). The current party leader, Xi Jinping, talks with great enthusiasm about orthodox principles. Far from scaling back the party's involvement in economic affairs, as Zhao tried to do, Mr Xi has

ramped it up. In businesses, party committees are flexing their muscles again. Over the past couple of years bosses of big private enterprises have been quaking as Mr Xi uses government regulators to bash their companies. Talk of the need for "common prosperity" has raised fears among the rich that the party has them in its sights.

Among Chinese academics, including the staff of party schools where officials are trained, there are some who favour a debate about when the initial stage should end and what should follow it. Their articles about these questions appear in official publications, which suggests the party sees no harm in exploring the topic. In January 2021 Mr Xi himself mentioned the

goal of "forging ahead to a higher level" of socialism (meaning, apparently, another stage of it short of a communist utopia). He often urges party members to have faith in the "lofty ideal" of communism—though what a truly communist China will look like he does not spell out.

When the party adopted the initial-stage idea, its leaders clearly hoped to clear the ideological air. Before Mao's death in 1976 it had been filled with feverish talk of communism's swift arrival. China's cold war with the Soviet Union had fuelled competition to attain this nirvana. At the party's 13th congress in 1987 Zhao (with the backing of Deng Xiaoping, the country's paramount leader) said that "basic completion of socialist modernisation" would take at least 100 years, beginning from the mid-1950s when the newly victorious party nationalised most industry and forced farmers to pool their land into "co-operatives". During this time, he said, China would remain in the initial stage. Communism was kicked into the long grass.

But much has changed. China's development was quicker than Deng envisaged. By the time he died in 1997 China had already fulfilled the economic targets he had set for the end of that century. In 1980 China's economy was half the size of Britain's (at market exchange rates); now it is the world's second largest. That year most farmers were extremely poor. In 2020 China declared that extreme poverty had been eliminated. At the party's 19th congress in ►

### → Also in this section

52 Uneducated workers

53 VPNs and the great firewall

53 Shanghai's speakeasy economy

— Chaguan is away

► 2017, Mr Xi announced that socialist modernisation would be “basically complete” by 2035, 15 years earlier than planned.

So ideological questions that Deng preferred to avoid are bubbling up again. In an article this year Hu Angang, a staunchly pro-party scholar at Tsinghua University in Beijing, wrote that China could progress to an “intermediate stage” of socialism in 2035. China, he said, had already “basically completed the main tasks” of the initial phase. In January last year the *Economic Daily*, a newspaper in Beijing, trumpeted Mr Xi’s reference to a new stage. It also pointed to 2035, suggesting the party’s achievements by then would provide a “realistic basis” for an upgrade (though it did not make clear whether that should be the year to launch it).

Those impatient for a new label have met pushback, though. In 2018 *Study Times*, a newspaper published by the Central Party School, criticised “some people” who, it said, had begun to argue that the initial-stage description was no longer fitting. Apparently referring to the violence and chaos caused by Maoist utopianism, it said a “big historical price” had been paid for deviating from the initial stage. In an interview published by an academic journal in 2020, Liu Jianjun, a Marxism expert at Renmin University in Beijing, suggested the country could remain in the initial period until the end of the 21st century.

Mr Xi, for his part, declared the start of “a new stage of development” in 2020. But he says this will last 30 years and form part of the initial stage of socialism—implying that China will not move to the next level at least until 2050. His officials keep trying to reassure private businessfolk that the party values their contributions to the economy (for good reason: their firms provide more than 80% of urban jobs today, compared with less than 4% when Zhao was purged). In November the party’s Central Committee said China’s 97m Communists must “soberly recognise” that the country will remain in the initial stage of socialism “for a long time”. This implied that capitalism would still be given room to flourish and that the party was in no hurry to move to the next stage of fulfilling Marx’s vision of a world with no private property.

Despite Mr Xi’s reassurances, debate is likely to grow about what the next stage should be. No mainstream scholars openly suggest that it should be full-blown communism. They often propose an intermediate stage focusing on common prosperity—code for reducing the gap between rich and poor. This has always been a goal of the initial stage. Officially, common prosperity should be “basically” in place by 2050. But only recently has Mr Xi begun to stress this task. His eagerness has caused jitters among the wealthy, who fear it could mean more taxes.

They should be relieved, however, that Mr Xi shows little appetite for more radical interpretations of socialism’s next stage. Last year he denounced “welfarism”, saying that in some countries it had “raised a group of ‘sluggards’ and people who get paid for doing nothing”, draining government finances. He has not endorsed a claim in 2011 by the since-deceased party chief of Huaxi village in the eastern province of Jiangsu that its residents have already entered the intermediate phase. They live in villas and drive cars provided by the village’s business conglomerate. Last year reports circulated in local media that Huaxi was in economic trouble. ■

## Work and education

# LOW school

HONG KONG

## China is improving its human capital. Gradually

**I**N THEIR BOOK “Invisible China”, published in 2020, Scott Rozelle and Natalie Hell of Stanford University tell the dispiriting tale of Wang Tao, who grew up on the edge of Zhengzhou, the capital of Henan province. Every year he took weeks off school to help his parents harvest rapeseed and watermelon from their small plot of land. He was a class monitor in middle school and studied diligently for entry into high school (which typically begins at age 15 or 16). But his grades fell a little short and his parents could not afford the extra entrance fee the school demanded. Instead he enrolled in a new vocational high school. But the teachers were wooden or mumbly and the students absent or sleepy. The maths teacher would sometimes stop by their dorms to sell cigarettes. Mr Wang dropped out in his first year.

China’s education fever is widely re-

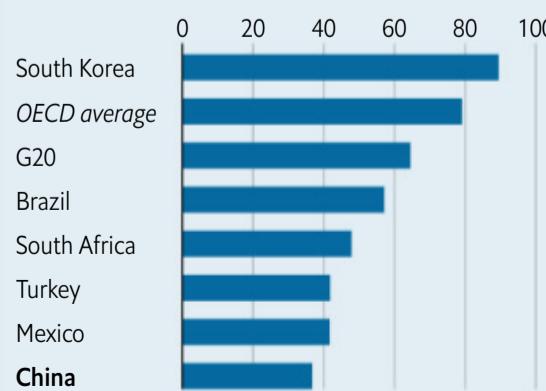
ported; its educational failings less so. The book summed up China’s shortcomings with a striking statistic. Only 30% of its working-age population (aged 25-64) has a high-school education (academic or vocational) or better. Instead many Chinese workers dropped out after the compulsory nine years of schooling. Many older workers did not get even that far.

That 30% figure is daunting but also dated. It was based on China’s “mini-census” in 2015. How much progress has the country made in the intervening years? An answer can be found in the detailed results of China’s full 2020 census, which were recently published. (The headline results were published last year.) The census shows that the percentage of 25- to 64-year-olds with a high-school education increased to 36.6% in 2020. That is still far below the G20 average (see chart). And it remains below the comparable figure for other emerging economies such as Brazil, Mexico, Turkey and South Africa. Indeed, the proportion of people aged 25 or above who went to high school is about 20 percentage points lower than you would expect given China’s GDP per person, according to calculations by *The Economist*, based on data from the World Bank and UNESCO.

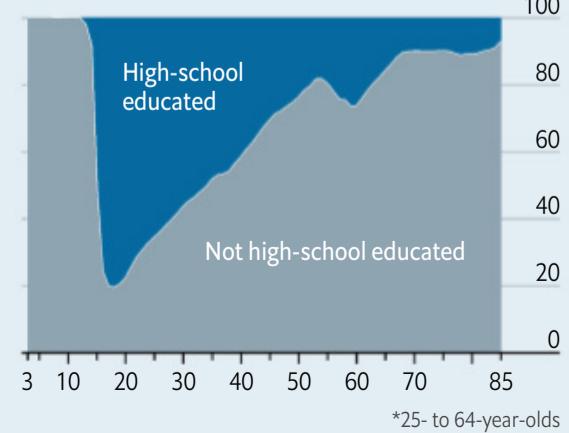
Unfortunately, lifting this percentage is not just about educating the young well—building schools, training teachers and motivating them to impart knowledge, not cigarettes. It is also about waiting for poorly educated older cohorts to retire. Today’s labour force includes people who were of high-school age in the first half of the 1970s, when Mao Zedong was still alive. Even if President Xi Jinping could wave a magic wand and get all pupils to complete high school from now on, it would take decades for these youngsters to shift the balance. According to our calculations, it would take until 2032 for the high-school educated to exceed 50% of the working-age population and until 2039 to surpass the G20 average of 64.4%. That is if we have got our high-school arithmetic right. ■

## Lagging and learning

Share of working-age population\* with high-school education, 2020 or latest available, %



China, education by age  
2020, % of total



## Virtual private networks

# Holes in the great firewall

BEIJING

**As censorship in China increases, VPNs are becoming more important**

L JIAQI, a popular Chinese influencer, had a talent for selling cosmetics. But his last performance was an unintentional advertisement for virtual private networks (VPNs), which help Chinese netizens get around online censorship. On June 3rd Mr Li live-streamed himself with an ice-cream cake that looked like a tank. This seemed to anger the authorities, who may have viewed it as a reference to the Tiananmen Square massacre, when soldiers and tanks fired on protesters in Beijing, killing hundreds, if not thousands, in 1989. Its anniversary was a day later, something Mr Li may not have known since the government blocks online discussion of the bloodshed. Nevertheless, his show was cut off.

VPNs are becoming increasingly important in China, which has grown more inward-looking since the start of the covid-19 pandemic. The country's digital barricade against content it deems undesirable, called the "great firewall", has been reinforced under President Xi Jinping. He has deployed an army of censors and the latest technology to combat foreign influence. A new draft rule would see all comments on Chinese social media screened before they are posted. But VPN software helps internet users in China get around all this by making it look as though their computer or mobile phone is located in a different country. They are thus able to view websites that are blacklisted by the government, such as Wikipedia, Facebook and Twitter.

The question for the government is how much of this so-called "wall climbing" to allow. Technically it is illegal to use a VPN in China without the government's permission. In recent years the state has made it harder to find one, closing down a lot of local suppliers. Apple removed many VPN products from its Chinese app store in 2017, citing domestic regulations. Obtaining a VPN today often involves being introduced to a seller on WeChat, a messaging app, by an existing customer.

Still, the government could clamp down harder if it wanted to. Those caught using VPNs tend to receive a slap on the wrist. The state seems able to throttle the networks. During important political events, users say VPNs often slow down.

China, though, must also stay connected to the world. Without VPNs international firms could not operate in China. Foreigners would be less likely to come for work or study. Local firms would struggle,

## Pandemic life

# Speakeasies v snitches

SHANGHAI  
Getting around covid controls in China's biggest city

FOR TWO glorious weeks at the beginning of June the residents of central Shanghai could sit in a café, sip a latte and forget about the chaos of April and May. The city's harsh and shambolic lockdown, aimed at stemming an outbreak of covid-19, was finally over. People were able to move about again. The coffee had never tasted so good.

Then, in mid-June, Shanghai's covid controls were suddenly tightened. Sitting inside a café was *verboten*, so baristas put stools outside. Then this was banned, too. Latte-sippers could stand outside, but not sit, said the authorities.

It all feels a bit haphazard. The top official in Shanghai declared victory over covid on June 25th, and some rules have

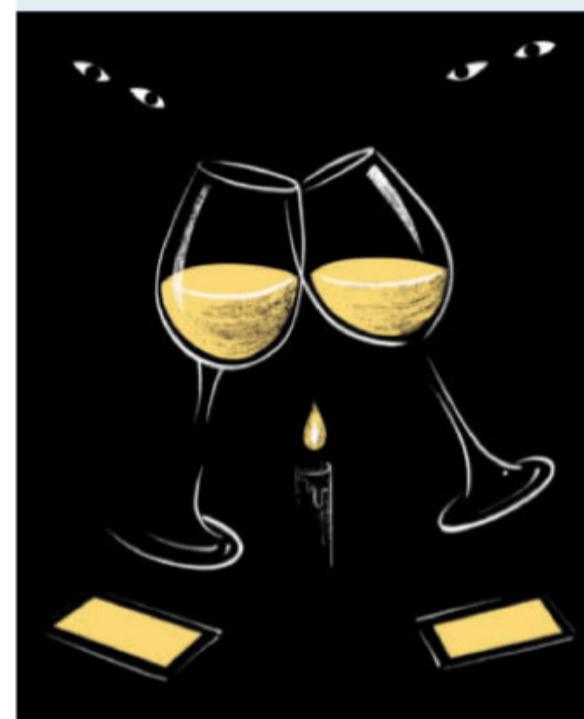
been loosened again. In the meantime, though, a bizarre, speakeasy economy has sprung up, in which restaurants, cafés, bars and gyms have learned to hide their operations from the state.

Some restaurants have asked diners to eat in the dark or by the light of their mobile phones to evade detection by the police. A joke making the rounds online suggests that restaurants should hire diners temporarily so that they can legally come inside. Some gyms have hung "closed" signs on their doors, but quietly welcome clients looking for a quick jog on the treadmill.

The situation has also given rise to a network of snitches who patrol the streets looking for rule-breakers to report. Restaurant- and bar-owners have been on the alert for people snapping photos of crowds outside their establishments. Local officials are thought to offer rewards for such information.

But the rules are so strict that, in some cases, the authorities merely pretend to enforce them. They will, for example, arrive at a bar where people are congregating, ask them to step away, then snap a photo of the empty space to show their superiors. Once the picture is taken, customers reassemble.

Residents hope that the atmosphere will improve now that victory has been declared. Indoor dining resumed in some low-risk areas on June 29th. But people also fear a new outbreak and a return to life where dinner and cocktails must be consumed at home—or, at best, in dark restaurants.



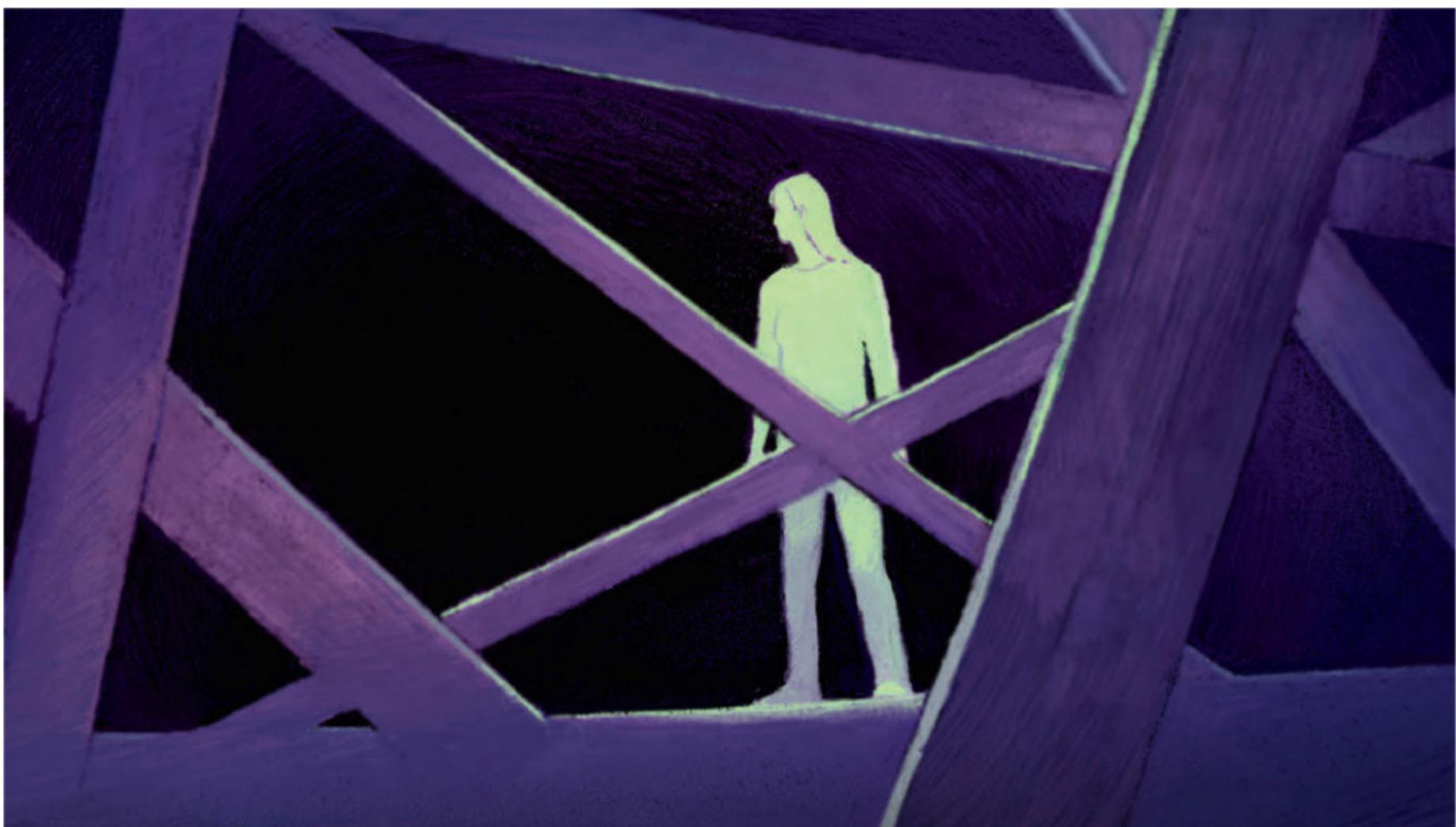
too. Chinese scientists need VPNs to do research. "Essentially the Chinese government wants to have their cake and eat it too when it comes to internet access—they want to control it, but also to exploit the range of economic possibilities that digital freedom offers," says a spokesperson for ExpressVPN, a big provider of the software.

Others see a more sinister motive. "Perhaps the authorities do not completely crack down on the use of VPNs because it helps them to identify those who are 'picking quarrels,'" says a co-founder of GreatFire, a Chinese censorship watchdog. Picking quarrels is an ill-defined crime, often used to punish dissidents. Some have been arrested after criticising the state on Twitter. Officials, for their part, use authorised VPNs to pick online quarrels with America.

What if the government were to loosen

up a little? In a study published in 2018 researchers at Stanford and Peking Universities gave hundreds of students at two universities in Beijing temporary access to the uncensored internet. Almost none of them browsed foreign news websites (unless given incentives to do so). Most looked at pornography, which is often blocked by the great firewall. "Censorship in China is effective not only because the regime makes it difficult to access sensitive information," said the authors. "It fosters an environment in which citizens do not demand such information in the first place."

That seems to have been the case with Mr Li, who has not appeared online since the cake incident. Confused by his disappearance, many of Mr Li's fans reportedly sought out information on the Tiananmen Square massacre, using VPNs. ■



## Abortion

# Severe complications

DUBLIN

### Bans don't make abortion much rarer. But they can make pregnancy care worse

Laura Buckingham could have died three times. Ms Buckingham, 37, has one son. She has also had 11 planned pregnancies that have gone wrong. In one case a miscarriage led to an infection, requiring emergency treatment. In another she had an ectopic pregnancy, lodged outside her uterus, which can cause internal bleeding. She also had a molar pregnancy in which two sperm fertilised one egg, which can sometimes lead to cancer. On each occasion prompt medical attention in Britain, where she lives, has kept her healthy. Without it, she says, "I might not be here."

On June 24th America's Supreme Court restored to the 50 states the power to pass their own abortion laws, which it had taken away in 1973. Within a week seven states had banned abortion (with some exemptions, such as when a woman's life is in danger). These changes buck a global trend towards more permissiveness. Since the early 1990s more than 50 countries have loosened laws on abortion. Only 5% of women of reproductive age live in countries where abortion is completely banned. Some 36% live in places with no restric-

tions, at least during the first trimester.

Global evidence suggests that banning abortion tends not to reduce by much the number of abortions that occur. However, by slowing or hindering treatment in obstetric emergencies, such as those suffered by Ms Buckingham, abortion bans can make every pregnancy less safe.

Even as legal abortions have become easier to obtain, the global rate of abortion has barely changed since the 1990s, according to estimates published in 2020 in the *Lancet*, a medical journal. More use of contraceptives has cut the number of unwanted pregnancies. However, a higher share of these pregnancies now end in abortion. Reasons for this include a growing preference for smaller families and a trend towards starting them later in life.

At least a quarter of women in America, Canada, Britain and Australia will probably have an abortion at some point. Increasingly, that is happening when women are older—in their late twenties or thirties—and when they have already had children. Teenage pregnancies are falling steadily. That is because of better sex education and

because teenagers are having less sex, and are starting later.

Abortion rates tend to be highest wherever use of contraceptives is low. That is especially true where people forgo the most effective methods of contraception, such as intrauterine devices (IUDs) and hormonal drugs (see chart 1 on next page). In a few rich places myths about the supposed dangers of contraceptives keep usage lower even than in bits of Africa, where they can be hard to get. In Greece only half of married women use modern contraceptives. Withdrawal and condoms are popular methods. But these fail about a fifth of couples who use them for a year. A Greek woman in her 40s says that every woman she knows has had an abortion.

Abortions are also quite common even in countries such as Britain, where contraceptives are available free and widely used. Each year nearly 2% of British women aged 15-44 undergo an abortion. One reason is that even the best contraceptives do not always work. Tubal ligation (a form of sterilisation) fails in one out of 200 women. Among women using contraceptive pills, 9% get pregnant in any given year. The failure rate of IUDs is 1-2%. "Those are the people we see in the abortion clinic," says Jonathan Lord from MSI Reproductive Choices, a non-profit that provides family-planning services. A study in America found that most women seeking second-trimester abortions had only just found out that they were pregnant (the failure of contraceptives was a common reason for it). Ir-►

► regular periods, which are common, can easily mask a pregnancy.

Few women choose to have abortions after the first trimester. Those are primarily for medical reasons or because “something calamitous” has happened, says Dr Lord. Some women have been bullied into staying pregnant by abusive partners and take time to find the courage to go to a clinic. “The later the gestation the more desperate the situation is and the more heart-rending the stories are,” he says.

Only 1% of abortions in England in 2021 were after 20 weeks of gestation. In 41% of those there were serious abnormalities with the fetus. “I call it our no-choice choice,” says Rose Losardo, a 31-year-old British woman, about the termination of her pregnancy. A scan in the first trimester showed that the baby’s head had not formed properly and amniotic fluid was eating away at its brain. The prognosis was that she would miscarry or that the baby would die within an hour of being born. “It was so painful being pregnant, knowing what was going to happen to the baby. I wanted it over as quickly as possible.”

Countries that retain tight restrictions on abortion have become more likely to make exceptions for such cases. That is part of a broader trend towards more liberal rules. Lately Argentina, Thailand, Mexico, South Korea and New Zealand have all either legalised abortion or eased restrictions on it. Most recently, Colombia made abortion legal on demand until the 24th week of pregnancy.

#### Ways and means

Abortion rates are somewhat similar in countries with and without bans (see chart 2). These days abortion pills, which work in more than 95% of cases when taken during the first ten weeks of pregnancy, can be ordered online. In Brazil they are sold by illicit drug dealers. Officials in poor countries often turn a blind eye to private clinics that provide abortions in spite of the law. And many desperate women resort to backstreet ones. The World Health Organisation estimates that 23,000 women die from unsafe abortions each year.

Women who live in strict jurisdictions can often escape them, as Kentucky and Alabama will soon discover. Since 2018, when a referendum in Ireland legalised abortions, doctors there have performed around 6,600 each year. But this may not be much different from the number of Irish women who were obtaining abortions before the reform. In the final year during which abortion was illegal nearly 3,000 women who got an abortion in England gave an Irish address. To that must be added an unknown number of Irish women who gave the addresses of relatives or friends in Britain, or who went elsewhere. In the years leading up to the repeal, many



Irish women also obtained abortion pills over the internet, or through activist groups, without having to travel. Organisations such as Women on Web, a group based in Canada, post the pills to women around the world.

Poland only allows abortions in cases of rape, incest or to save the woman’s life. In 2020 only 23 abortions were permitted because of these circumstances. FEDERA, a Polish campaign group, reckons there could be 150,000 illegal abortions a year. Many are done using pills. Women also go to clinics in neighbouring countries. In 2021, when Poland tightened its rules by banning abortions even in cases of severe fetal abnormalities, a clinic for late-term abortions in the Netherlands treated about 400 Polish women. That was five times the number it had seen in previous years. In America mobile abortion clinics are setting up near the borders of states with bans. Activists are helping women in those states get hold of abortion pills.

All this suggests that new rules in America will not prevent most women who want an abortion from getting one (though the task will become more onerous and expensive). But global experience also suggests the bans could lead to worse care for women suffering serious complications of pregnancy, such as those that cause miscarriage. Three problems in particular can cause danger in the second trimester of pregnancy: a rupture of the amniotic sac (when a woman’s waters break prematurely, which can lead to infection); a problem with the placenta (which leads to bleeding); and pre-eclampsia (when blood pressure rises to dangerous levels).

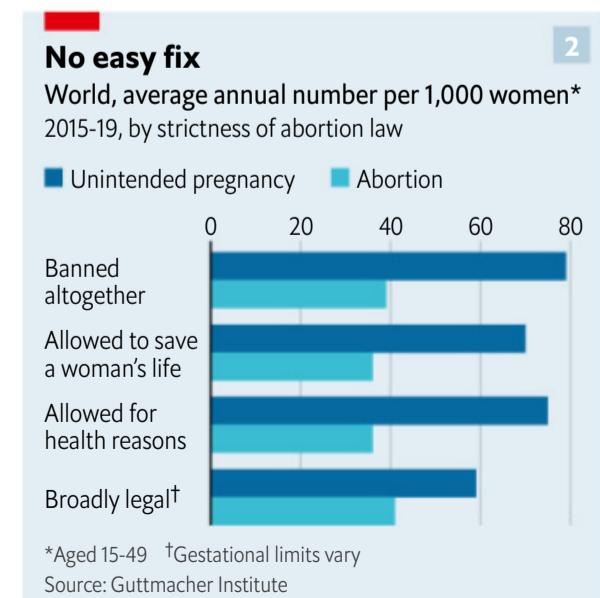
All these can require what doctors call “evacuation of the uterus” to save the mother’s life. The same procedure is used in abortions. Trainees often hone their skills in abortion clinics, which have lots of patients and pre-scheduled appoint-

ments. When there are no abortions, the volume of procedures they can do when they are training drops dramatically. One academic in Texas has resorted to using a small watermelon as a stand-in for a uterus to teach residents how to manage the loss of a pregnancy.

Almost all abortion bans, including the new ones in America, make an exception when the procedure will save the mother’s life. But applying these rules can be messy. Doctors in America worry about being accused of breaking the new abortion laws if they are deemed to have acted too early. Carrie Cwiak of the Emory University School of Medicine in Atlanta says that most of the women who visit her hospital while undergoing a miscarriage get there before their life is at risk. Removing fetal tissue in a timely manner stops them getting deathly ill. But every case is different and some women get sick much faster than others. “Doctors are going to be in this limbo of trying to predict how sick they have to allow their patients to become in order to comply with the law,” says Cassing Hammond from the Northwestern University Feinberg School of Medicine in Chicago.

Poland’s recent tightening of abortion rules has had a “chilling effect” on doctors, says Kamila Ferenc from FEDERA. At least three women have recently died of pregnancy complications because doctors waited too long. Ms Ferenc says some doctors have stopped treating ectopic pregnancies. These account for 1-2% of all pregnancies and are typically removed because there is a risk that they cause ruptures, internal bleeding and infection. Even when an infection that results from such complications is treated successfully, the damage that it creates can cause infertility.

As rules tighten, American women experiencing common complications of pregnancy may suffer harm from delayed or inexpert care. Some will probably die as a result. As in Poland, doctors providing life-saving treatments for pregnant women may find that doing their jobs becomes even more of a stretch. ■

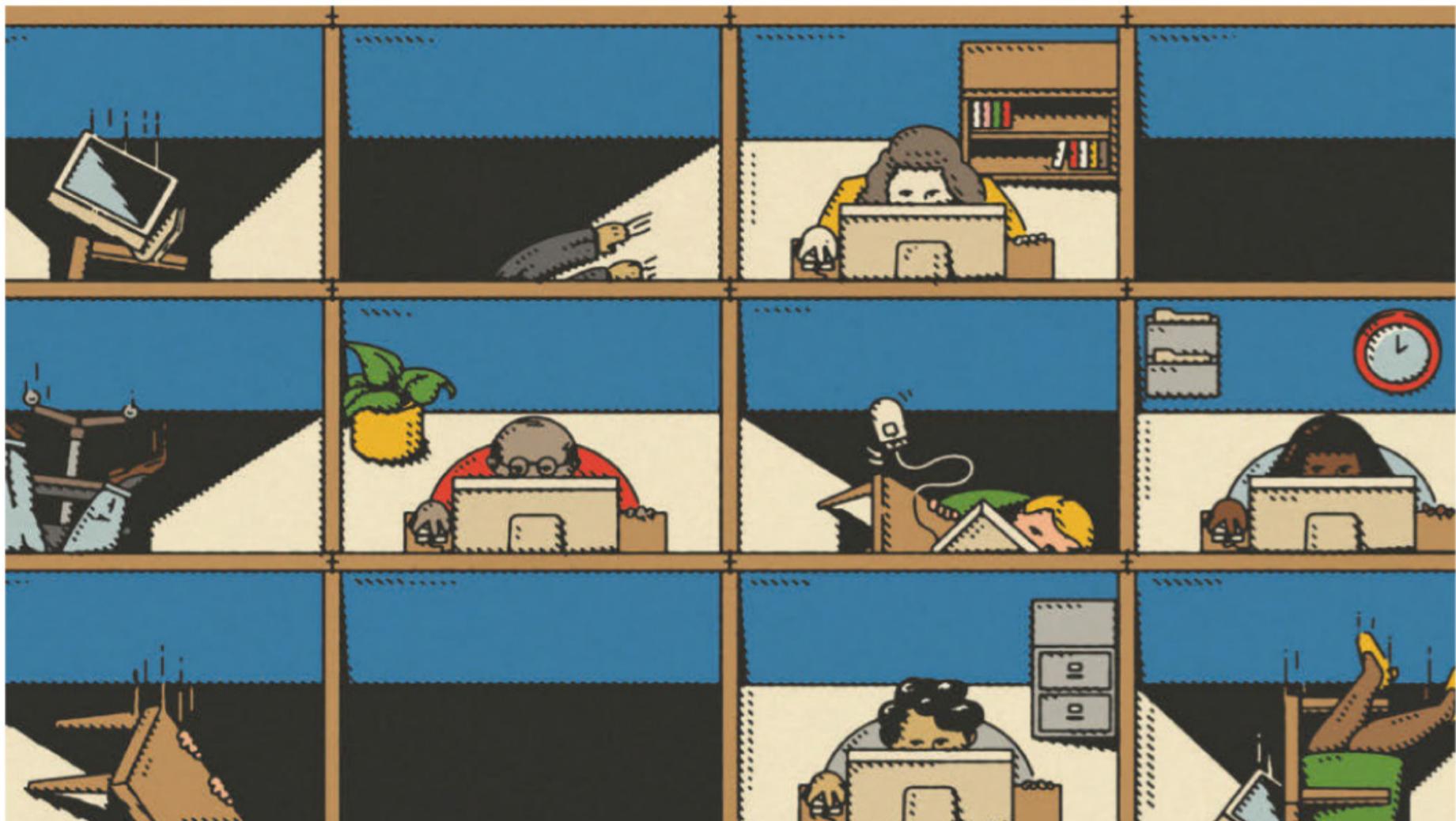




**Calling for less talk,  
more bold climate action**



[www.infosys.com/sustainability](http://www.infosys.com/sustainability)



## Venture capitalism (1)

# The great Silicon Valley shake-out

SAN FRANCISCO

**We identify which tech darlings are safe, which are uneasy and which are doomed**

ON A BUSY street in downtown San Francisco sit the former headquarters of Fast, a maker of check-out software for online merchants. The offices look quiet; a for-let sign hangs above one of the windows. That is a departure from its management's flashy habits. Last year at an event announcing Tampa as its East Coast hub, the firm splurged on backflipping jet-ski riders and pickup trucks straight from the NASCAR race track. Fast had set investors' pulses racing, too. It raised \$125m between 2019 and 2021, including from some of Silicon Valley's most astute venture capitalists at firms like Kleiner Perkins and Index Ventures. Then, in April, having burned through its cash and being starved of fresh capital, Fast went bust.

Fast's demise is a sign of that the years-long startup boom is going through a sharp correction. Soaring inflation, supply-chain chaos and the war in Ukraine are causing a wave of uncertainty to wash over the global economy. It is buffeting young tech firms particularly hard as the present value of their profits, most of which lie far in the future, are being eroded by rising in-

terest rates. "It's like a stun grenade has hit the market," says one Silicon Valley veteran. And the shock is rippling through the venture-capital (vc) industry, which tries to identify and nurture the next Google.

The startup slump is only just beginning to run its course. Investors are warning their portfolio companies to keep enough money in the bank to last until 2025. Many firms will fail to do this and go the way of Fast. Others will hang on. Some may even prosper, as founders learn to go easy on the fripperies and to double down on their core business. When the dust settles, the global startup scene will look different, and possibly healthier.

### → Also in this section

**59 China's VC-industrial complex**

**61 Alternative-medicine assets**

**61 Japanese energy's Russia problem**

**62 Bartleby: Summer read-nots**

**63 Schumpeter: Mars unwrapped**

The looming lean period comes after several fat years in vc-dom. Non-traditional investors piled into speculative startups: venture arms of large companies from Salesforce to ExxonMobil, New York hedge funds such as Coatue and Tiger Global, Wall Street buy-out barons and other "tourists", as they are derisively known in vc's Silicon Valley heartland. New tech hubs mushroomed around the world, from Beijing to Bangalore.

No year was fatter than 2021. According to CB Insights, a research firm, global tech startups raised \$621bn in 2021. That is twice as much as the year before and ten times more than in 2012. Then the music stopped. First to feel it were publicly traded firms. The tech-heavy NASDAQ Composite index has fallen by 30% from its peak last November. PitchBook, a data provider, reckons that more than 140 vc-backed firms that went public in America since 2020 have market capitalisations lower than the total amount of venture funding they raised over their lifetimes. Faraday Future, an American maker of electric cars that had raised more than \$3bn, is now worth just \$710m. Grab, a Singapore-based super-app, raised \$14bn before its going public at a valuation of \$40bn. Today its market value is \$10bn.

The techno beatlessness is now spreading to the private markets. Fundraising has slowed sharply compared with the second half of 2021 (see chart 1 on next page). Between March and May the number of funding rounds was down by 7% in America, ↗

compared with the same period last year, according to PitchBook. In Asia it declined by 11% and in Europe by 19%. Things are almost certainly worse than those numbers suggest. A delay in reporting means they lag behind the reality on the ground by a few months. VC investors say that hardly any deals are being inked these days. Fewer startups are also "exiting", VC lingo for being listed or sold on to other investors.

Investors' reticence is having an effect on valuations in private markets. Such drops usually only come to light during private funding rounds or public listings, when a firm raises capital in exchange for equity, or when a company changes hands. Less fundraising and fewer exits makes this harder to assess.

ApeVue, a data provider, offers a hint of what is happening by tracking share prices in the secondary markets, where shares of private firms can be bought and sold. An equally weighted index of the 50 most-traded startups has declined by 17% since its peak in January. Using ApeVue's data, *The Economist* estimates that a basket of 12 big startups worth \$1tn at the start of this year is now worth about \$750bn. That list includes Stripe, a fintech star, which has seen its secondary-market share price collapse by 45% since January, and ByteDance, TikTok's Chinese parent company, the shares of which trade at a quarter below their value six months ago.

Secondary-market valuations of private firms have not yet dropped as far as public ones. ApeVue's index is down by about ten percentage points less than the NASDAQ composite so far this year. Comparing private firms with listed rivals reveals the same pattern. The share price of Impossible Foods, a private purveyor of meatless meat, has fallen by 17% since January, while that of Beyond Meat, a listed competitor, has slid by 61%.

This could mean that startup valuations are more robust than market capitalisations of listed firms. Alternatively, they could have further to fall. The ultimate test

will be the number of "down rounds", where firms raise new capital at a lower valuation than before. Founders dislike these more than secondary-market dips. Down rounds are a more definitive indication of falling value. They also hurt the morale of employees, who are often compensated for their grinding hours with stock options. And they irk VC firms forced to mark down the value of their investments, which is not something that their limited partners want to hear.

Only a few down rounds have been publicly reported. Last month, for example, the *Wall Street Journal* reported that Klarna, a Swedish fintech firm, was seeking fresh funds at a valuation two-thirds lower than its previous round a year ago. In March Instacart, a grocery-delivery firm, took the even more unusual step of valuing itself down from \$39bn in March last year to \$24bn, without raising fresh capital.

### When the rain stops

Most investors do not expect a spate of down rounds in the near term. That is partly because last year's flood of capital has left lots of firms with healthy bank balances. Consider the 70-odd biggest startups selling business software. According to Brex, a provider of corporate-banking services to startups, mature firms in this sector are burning through cash at the average rate of \$500,000 or so per month. At that pace, all but three of the 70 raised enough money in their last financing round to cover them into 2025. Even at a burn rate of \$4m a month, more than half would have enough to tide them over for three years, before factoring in cash remaining from previous financing rounds and any profits they may have made.

To avoid having to raise capital in a rush at a depressed valuation, founders are busy trimming the fat. "Last year one dollar of growth was all the same, whether it cost 90 cents or \$1.5 to acquire it," says Hilary Gosher of Insight Partners, a VC firm. Nowadays the watchwords are capital-efficient

growth. The average cash-burn rate has fallen in the past year for all types of startup, from the youngest to the more mature, according to Brex's data.

One way startups are containing costs is by cutting staff. According to Layoffs.fyi, a website, around 800 startups have reduced their payrolls since mid-March. Getir, a Turkish delivery app, has sacked over 4,000 people (or 14% of its workforce). Better.com, an online mortgage lender, has laid off 3,000 (33%). Another common strategy is to spend less on marketing. SensorTower, a firm of analysts, tallies how much firms spend on digital marketing. The median of the world's 50 biggest startups has reduced such expenditures in America by 43% since January. Some categories, such as instant-delivery firms, including Getir and GoPuff, an American rival, have made even more swinging cuts.

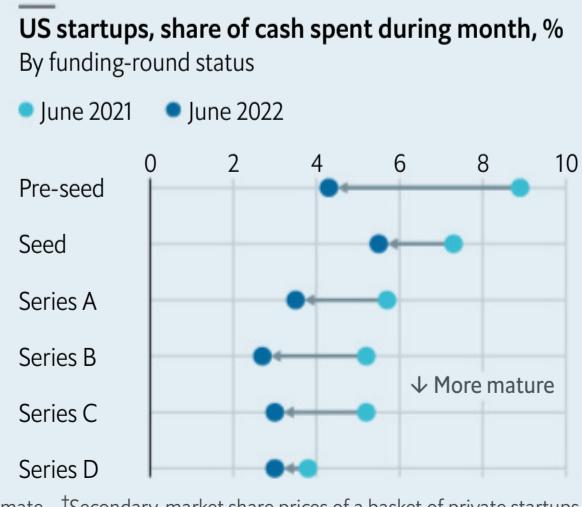
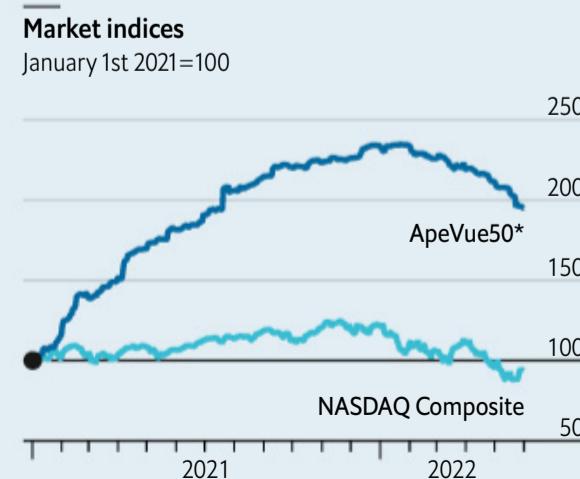
For some firms the cuts will not go far enough. Those most exposed to a Fast-like fate are early-stage companies. On average, their burn rate implies they have capital for about 20 months, less than the 30 months that most venture capitalists are warning founders to prepare for.

Among mature firms, three groups stand out as higher risk. One are companies in competitive businesses, such as cybersecurity, instant delivery and fintech, which suffer from an "oversupply of venture capital", says Asheem Chandna of Greylock Partners, one more VC firm. "Any time something starts working, VCs will go and fund ten of these," he adds. The winners could do well. Middling firms may struggle to survive.

The second higher-risk group are unlucky companies that did not raise money in 2021, when investors were generous and valuations sky-high. Around 60 of the world's 500 biggest startups are in this camp. Most are smaller firms, such as Yuanfudao, a Chinese education-technology provider, and OrCam, an Israeli maker of devices for the visually impaired.

The third category are firms most sensi-

### The postdiluvian landscape





tive to consumer demand. Besides delivery apps this includes entertainment startups such as Epic Games, a video-game developer, and ByteDance. An index of these tracked by ApeVue has underperformed the average highly traded startup. Crypto companies, which benefited from Americans betting their pandemic stimulus cheques on bitcoin and its more exotic cousins, are also in trouble as the crypto-sphere implodes. The price of shares in Blockchain.com, a big crypto platform, on the secondary markets is down by 56% since March. Many Indian and Latin American startups also tend to be more consumer-focused. Mr Chandna detects greater “anxiety” among international tech firms and investors than in America about the coming economic downturn.

The money has not dried up altogether. In Europe the average deal size actually edged up a bit (see chart 2). Well-capitalised companies smell opportunities. As the red-hot market for tech talent cools off, they will find it easier and cheaper to hire. And smaller rivals may be cheaper to buy. In the past few months the vc arms of established tech firms such as IBM, Intel and Salesforce have bought startups. So have industrial giants including Shell and Schneider Electric.

On June 27th Bloomberg reported that FTX, a deep-pocketed crypto exchange, was in talks to buy Robinhood, a day-trading app. One investor recalls a recent deal he concluded at about a third of the price discussed with a founder late last year. “The world has changed,” he notes. For many startups the change will be wrenching, maybe even fatal. For the startup scene as a whole, it will be salutary. ■

## Venture capitalism (2)

# The VC-industrial complex

SHANGHAI

### The Chinese state is reshaping one of the world's biggest startup scenes

A HIGH-TECH development zone in the city of Wuhan has been abuzz since March, when the local government announced the creation of a 10bn-yuan (\$1.5bn) investment vehicle. The Optics Valley Hi-Tech Venture Capital Guidance Fund aims to combine the animal spirits of private capital with the industrial objectives of the state. Its general manager, Li Yang, told state media in late May that more than 80 private investors had submitted formal proposals. Ten of these are already in the process of being approved.

State cash is pulsing through China's private-capital markets. Between 2015 and 2021 around 2,000 so-called “government guidance funds” collectively raised almost \$1trn. Although the pace of fundraising has slowed since its peak in 2016, not least to allow the vehicles to deploy their copious dry powder, the government's role has been entrenched. Last year the state (including local governments) accounted for one-third of all capital raised in Chinese limited partnerships, making it by far the country's biggest source of venture capital (vc) and private equity (see chart 1 on next page).

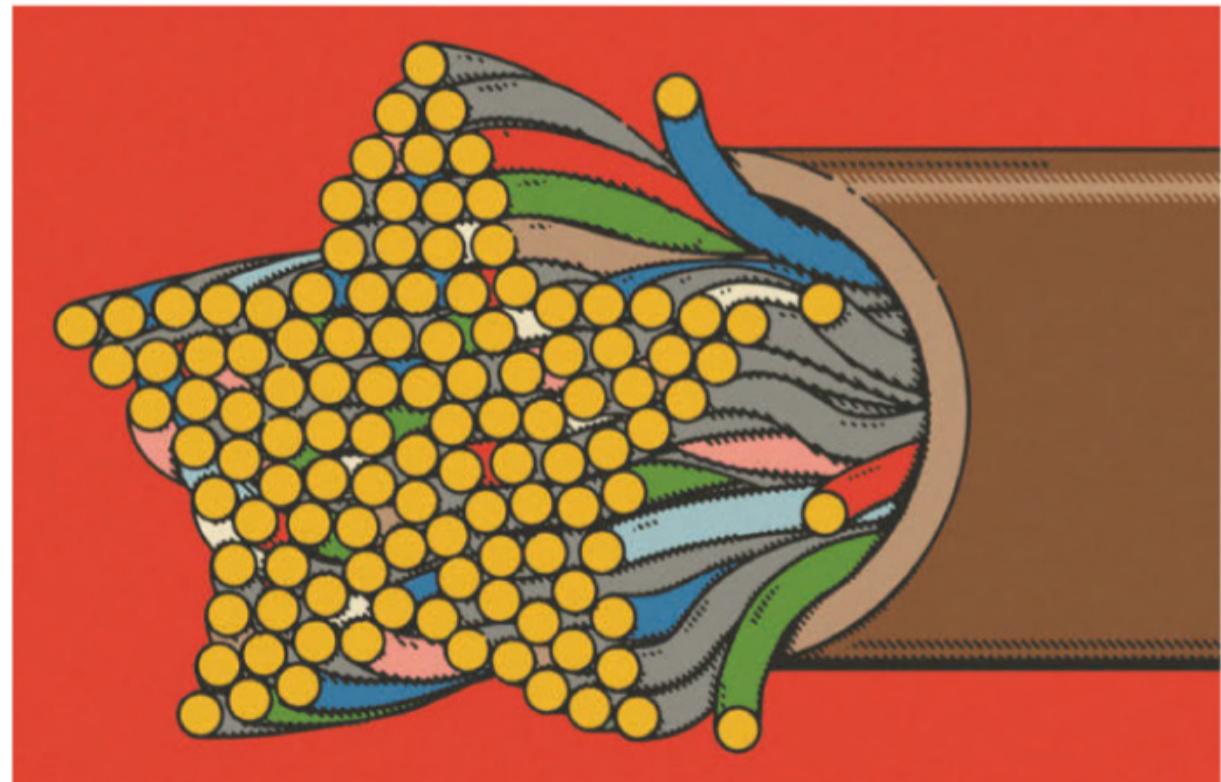
According to Bain, a consultancy, most big Chinese funds that completed fundraising rounds in 2021 were government-led. The Enterprises Reform Fund raised nearly \$11bn; the National Green Development Fund brought in \$14bn. Provinces set up 20 such vehicles last year, marshalling

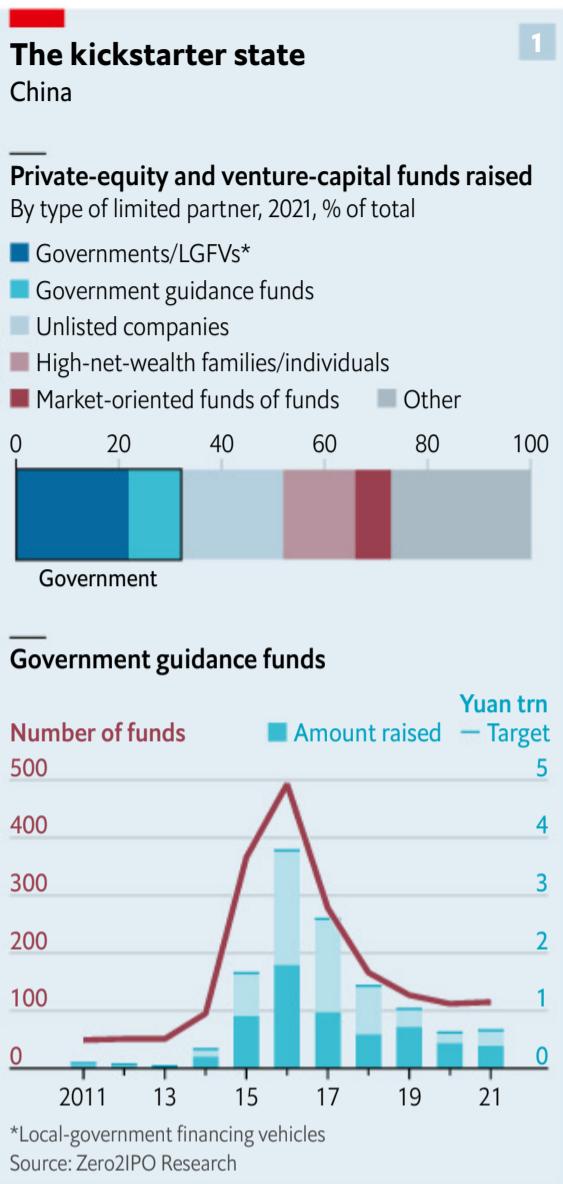
about 136bn yuan all told, four and a half times as much as they raised in 2020, according to Zero2IPO, a research firm. Cities and other local governments chipped in more (see chart 2).

Guidance funds have a dual aim. They are meant to counter the “disorderly expansion of capital” (Communist Party speak for China's consumer-internet industry getting too big for its boots). And they are designed to fulfil President Xi Jinping's desire for home-grown innovation in strategic areas such as artificial intelligence (AI), biotechnology and advanced manufacturing, notably of chips.

On paper, combining patient capital from the state with the animal spirits and market savvy of private investors allows the guidance funds to avoid the pitfalls of conventional industrial policy. By the government's own reckoning, failure to mobilise private capital would make the funds into just another state subsidy. In practice, the role of the private sector is fuzzy and constricted. As a result, many of the vehicles resemble old-school hand-outs, complete with oodles of waste and cronyism. And they bring fresh problems.

Guidance funds are strange beasts. In a conventional vc or buy-out fund its originator acts as the general partner tasked with deploying the capital. A guidance fund, by contrast, often creates sub-funds in which it is a limited partner, and invites professional asset managers to be the gen-►





of 50 of these sub-funds reveals that about half are dominated by state capital with little private-sector co-investment. Instead, many of the remaining limited partners are other guidance funds, state-run firms or various government-linked entities. The individuals charged with managing these sub-funds also appear to have much less market experience than their counterparts in Shanghai.

The Shandong example suggests that at least in some cases state cash is crowding out private capital rather than co-opting it. One reason is the sheer number of government investors seeking to deploy capital. By 2019 there were more than 1,300 city and district guidance funds. One city in central China has at least ten of them, according to the Centre for Security and Emerging Technology, an American think-tank. With all the government money sloshing around, private investors have fewer places to park their capital.

The structure of the sub-funds, meanwhile, reduces their appeal to private investors. Many lock up money for up to ten years, in line with Mr Xi's exhortation to think long-term, but twice too long for the typical private limited partner. State guidelines for recognising investment losses are often stricter than venture capitalists or private-equity managers would like, and less patient towards struggling firms that could be helped through a rough patch. Most frustratingly, one lawyer notes, if a guidance fund with a small stake in a sub-fund decides to pull out, its preferential terms will cause the dissolution of the entire vehicle, leaving both the portfolio firms and private investors out to dry.

The flood of state cash is leading to other distortions, too. One is the inflating of company valuations. An analysis by *The Economist* of company ownership records shows that of the 56 unicorns based in six central and eastern provinces, 32 have received state funding. Some of them belong to the herd of consumer-internet darlings whose prospects—and therefore worth—have been dented by Mr Xi's heavy hand. The local officials in charge of these investments have little incentive to recognise those losses, regardless of what their funds' guidelines say.

### Guiding principles

Frothy valuations are also a problem for the sort of startup Mr Xi approves of. Buyout financiers report that hot industries such as chipmaking and AI have absorbed record levels of guidance capital in the past two years. The resulting bubbliness in the market has made it even tougher to pick out the real innovators from a sea of wannabes, notes Scott Kennedy of the Centre for Strategic and International Studies, a think-tank in Washington.

This problem is exacerbated by another,



perhaps even more consequential distortion. Venture capital typically plugs young enterprises into a network of talent and potential business partners. Guidance funds instead give them direct links to state-owned companies and other government bodies that can fast-track applications and help with regulatory problems. Both startups and private co-investors are therefore highly motivated to connect with government funds, says Catherine Chen of Zhong Lun, a law firm in Beijing.

As Mr Xi's state capitalism becomes more statist and less capitalist, such connections can make or break fledgling businesses. This in turn gives startups and their private backers a powerful incentive to curry favour with the government first and commercialise actual breakthroughs a distant second.

This appears to be happening. Having for years tailored their business to qualify for local subsidies, cheap credit and land, young Chinese companies are now doing the same to attract guidance funds. They and their private backers often enlist former government officials to help them navigate the new vc bureaucracy. One prominent venture capitalist admits that his vc firm now bets not so much on the next big thing as on the next sector in line for handouts. This makes perfect investment sense in today's China. It is not exactly a recipe for technological progress. ■

general partner calling the shots. To limit the fund's sway over the general partner's investment decisions—and thus government meddling in where the money goes—many funds have rules dictating the maximum size of their investments. The Optics Valley fund's stake in any one of its sub-funds must not exceed 25%, for example, and it can funnel no more than 100m yuan to any one of these sub-funds.

In some cases these rules appear to work well enough. Shanghai Angel Guide Venture Capital, a 10bn-yuan vehicle originally launched in 2014, has created more than 65 sub-funds that invest small amounts in minority stakes at early-stage companies in partnership with non-state investors. A review by *The Economist* of a sample of 20 of these sub-funds shows that their general partners and most of their remaining limited partners are indeed private-sector funds. Judging by publicly available profiles, individual executives in charge of the sub-funds on behalf of the general partners have professional experience in investment.

Beyond China's largest cities, though, the situation is likely to look less like Shanghai and more like Shandong. In 2018 the eastern province set up the New Growth Drivers Fund. Since then the vehicle has launched more than 270 sub-funds and its cash has found its way into at least 1,000 provincial companies. Our analysis

## Traditional medicine

# A concoction a day

**Whether or not they work, herbal remedies are a healthy business**

**A**N ECONOMIC DOWNTURN is a bad time to get sick, especially in poor countries. As conventional medicines become scarce and pricey, desperate patients turn to cheaper herbal remedies to treat even serious illnesses like diabetes, cancer and, these days, covid-19. Many doctors, of the scrub-wearing variety, doubt those treatments' effectiveness. But the business of peddling them is in rude health.

In 2021 sales of Yiling Pharmaceutical, a big maker of traditional Chinese medicines including *lianhuā qīngwén*, used against covid, among various other ailments, exceeded 10bn yuan (\$1.6bn), nearly double the figure in pre-pandemic 2019. Amid recent Chinese covid outbreaks in March and April Yiling's market capitalisation surpassed \$11bn. It has since come down but remains three times what it was before the pandemic. Beijing Tongrentang, another large manufacturer, has doubled in value since the start of 2020, also to \$11bn. Both companies have outperformed Pfizer and AstraZeneca, two Western producers of indisputably effective covid-19 vaccines (see chart).

They have a powerful champion in President Xi Jinping. His government has praised traditional Chinese medicine's "positive impact on the progress of human civilisation". Between 2012 and 2019 alternative treatments' share of medicine sales in China increased from 31% to 40%. The



figure is probably higher today, given their widespread use against covid. As Hong Kong grappled with outbreaks this year, 1m packets of *lianhuā qīngwén* were sent to the territory from the mainland.

Since 2020 China has also promoted the supposed benefits of *lianhuā qīngwén* in places struggling to procure covid jabs and treatments. Nearly 30 countries have approved the formulation for import, and some, including Kuwait and Laos, to treat covid. Belarus has signed an agreement with China to build a factory to churn out traditional Chinese medicine in Minsk.

Regulators in America and Singapore have warned against using *lianhuā qīngwén* to treat covid. That has not put off investors. As earnings go, makers of traditional medicines have a big advantage: their reliance on ancient wisdom saves them billions in research-and-development costs. Pfizer and AstraZeneca funnel a fifth of their revenues, give or take, into R&D, according to Bloomberg. For Yiling and Beijing Tongrentang the figures are, respectively, 7.8% and 1.2%. ■



What's this good for again?

## Fossil fuels and war

# The Sakhalin exception

SINGAPORE

**Japanese energy firms cling on to Russian assets**

**T**HE ISLAND of Sakhalin, pinned between Japan and Russia just north of Hokkaido and to the west of the Kamchatka Peninsula, has historically been the site of conflict between the two north Asian neighbours. Today, as the home of two massive fossil-fuel projects, it symbolises an uneasy Russo-Japanese peace—and, ever since Russia invaded Ukraine in February, a sore point in relations between Japan and its Western allies.

The two projects, Sakhalin-I and Sakhalin-II, lured energy firms from America, Britain and India, as well as Japan and Russia. Shortly after Vladimir Putin's tanks rolled into Ukraine, however, ExxonMobil, an American giant, pledged to divest its 30% stake in Sakhalin-I and Shell, a British rival, said it would offload its 27.5% stake in Sakhalin-II.

Not the Japanese. Sakhalin Oil and Gas Development Company, a public-private partnership, will hold on to 30% of the oil-producing Sakhalin-I; two big trading houses, Mitsui and Mitsubishi, will keep their 12.5% and 10%, respectively, of Sakhalin-II, which pumps out liquefied natural gas (LNG). The government in Tokyo has no problem with that. In May the economy minister, Hagiuda Koichi, declared that the Japanese shareholders wouldn't leave even if asked to by the Russian government.

Japan's approach seems out of character. In other instances the country's position with respect to Russia has mirrored those of America and Europe. In June the Japan Bank for International Co-operation, a state-owned lender, extended its freeze, introduced in March, on project financing of Russian natural-gas projects in the Arctic. Private-sector financial firms have cut links with their Russian counterparties. Exports to Russia of high-performance machine tools, quantum computers, 3D printers and other items have been blocked by Japanese sanctions.

Why, then, stay in Sakhalin? For one thing, this avoids the pickle that the projects' Western partners now find themselves in. Selling their stakes is easier said than done. ExxonMobil took a \$3.4bn write-down related to the project in the first quarter and Shell took a \$1.6bn charge. The war limits the number of potential buyers, mostly to state-run firms from countries which are neutral or friendly towards Russia, such as Sinopec, China's state energy giant, or ONGC Videsh, the in-►

International arm of India's Oil and Natural Gas Corporation (which already owns 20% of Sakhalin-I). As forced sellers, Exxon-Mobil and Shell have a weak negotiating hand, which the Chinese and the Indians would be only too happy to exploit.

Japan's government dislikes the prospect of disposing of the Japanese assets in such a fire sale. It is particularly loth to hand one of the world's largest and most advanced gas projects over to a Chinese competitor for a song. And unlike Exxon-Mobil's and Shell's investments, which followed a purely commercial logic that

Western sanctions and the reputational risk of remaining in Russia have severely undercut, it worries about energy security.

Archipelagic Japan has no pipelines or electricity grids linking it to other countries. It is the world's second-biggest importer of LNG. Around 9% of its supply comes from Russia, and the bulk of that is produced in Sakhalin. This year between 50% and 69% of Sakhalin-II's monthly gas output has headed for Japan, according to Kpler, a data firm. "When the cold light of day sets in you have to think about what impact you are having on Russia versus

what impact you are having on yourself," sums up Yuriy Humber of Japan NRG, an energy-research firm in Tokyo.

Similar considerations are being aired in Germany, which gets more than half its gas from Russia. But the German government does want to reduce its reliance on Russian oil and gas, the sale of which is bankrolling the campaign against Ukraine. Japan's prime minister, Kishida Fumio, has talked faintly about joining a Western embargo on Russian oil and has been silent on Russian gas. To Western ears, that silence sounds increasingly deafening. ■

## Bartleby Beach reads for business folk

*What you should read when you are not working*

SUMMER IS IN the air. People in the northern hemisphere are starting to discuss holiday plans and making some bold wardrobe choices. Recommendations for beach reads are coming out left, right and centre. The oddest of such lists are those aimed at the relaxed executive.

Each summer JPMorgan Chase's wealth managers release a reading list. Their recommendations for 2022 include a book by a bunch of McKinsey consultants on CEO excellence and a comprehensive guide to non-fungible tokens. You can almost smell the sun-tan lotion. This year's reading list is also available to explore in the metaverse, because nothing says the azure waters of the Mediterranean like choosing an avatar.

In its pick of summer business books, the *Financial Times* has chosen titles that range from hybrid work to the pitfalls of strategy. HR Exchange Network, a news site, encourages its readers to lounge on the beach with a copy of the "Essential HR Handbook"—and appears not to be joking. It is only a matter of time before *The Economist* does something similar.

People should read whatever they want. The books on the list may well be useful: no mosquito would survive contact with the "Essential HR Handbook". But anything that contains the words "blockchain" or "McKinsey" is missing the point. Plenty of people spend the majority of their waking hours either working or thinking about work. The idea of a summer read is that it should provide an escape from the office, not yet another way to think about it.

In an ideal world people would pack several P.G. Wodehouses and switch off entirely. But publishers could also do their bit and release titles that really are meant to be beach reads on business. These books would be aimed at the off-

duty person behind the Zoom screen. They would contain precisely no tips on productivity gains and extol inactivity over frenzy. Instead of showing you "how you too can model yourself on the very best", as the book on successful chief executives allegedly will, summer titles should give you permission to fall asleep in a pool of your own dribble. Here, then, are a few suggestions to get the industry thinking.

In 2005 two INSEAD professors, W. Chan Kim and Renée Mauborgne, wrote a book called "Blue Ocean Strategy", which divided marketplaces into uncontested areas (the "blue ocean") and those infested by predatory competitors (the "red ocean"). But what if you don't really fancy getting in the water at all? "Yellow Sand Strategy" makes the case that sometimes the best thing to do is remain entirely inactive and hope that nothing bad happens. ("Yellow Ocean Strategy" is a different book entirely, for executives who do things so incompetently that no one gives them any extra work.)

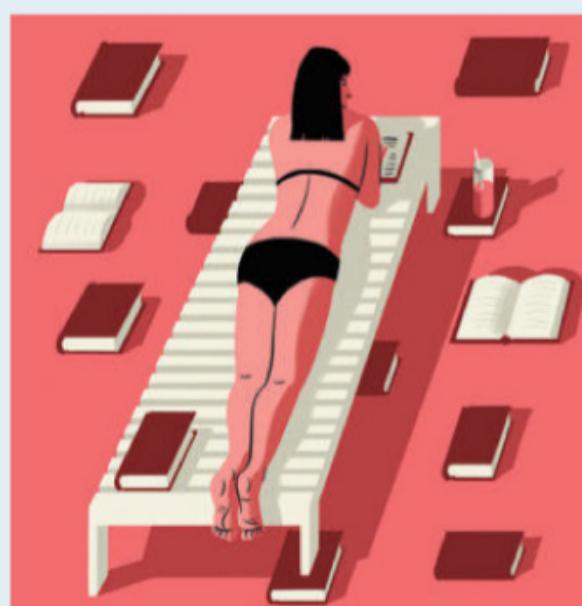
The United States Marine Corps has a practice of having senior officers serve up

meals to junior members of the unit as a way of cementing bonds. That habit lay behind the title of a management best-seller published by Simon Sinek called "Leaders Eat Last". On holiday, though, you don't have to build morale or worry about your team. Read "Leaders Eat Three Club Sandwiches In a Row and Need to Have a Short Lie-Down", and feel better about yourself.

In "The Innovator's Dilemma" Clayton Christensen describes how leaders of established firms often fail to take advantage of new technologies and risk letting scrappy startups turn into formidable rivals as a result. But the summer break is no time to be thinking about disruption of any kind. Instead, turn your mind to more prosaic problems. "The Procrastinator's Dilemma" looks at the difficult choice people face between letting work pile up until it really has to be done or letting work pile up until it really, really has to be done.

The closer you look, the more you realise that underachievers and rank amateurs are badly served by business publishers. There is a market for laziness: the success of "The 4-Hour Work Week", by Tim Ferriss, was no accident. With just a few tweaks here and there, many entries in the back catalogue of business bestsellers become ripe for the beach. From "Seven Habits of Highly Ineffective People" to "Start with Why Should I" and "What Colour is Your Sun Lounger?", the possibilities are endless.

These are not the sort of titles anyone wants to be seen reading at work or posting about on LinkedIn. There are no bragging rights associated with them. But the beach is a place to unwind. If ever there is a time for reading lists to indulge the unmotivated and celebrate indolence, the summer is it.



# Schumpeter | Mars unwrapped

*Forget wishy-washy stakeholderism. Mars Inc gets the balance right*



THE SPIRITUAL home of Mars Inc is Slough, an unprepossessing town somewhere under the flight path to London's Heathrow Airport. It is not a place that sweet dreams are made of. It serves as the British backdrop for Ricky Gervais's "The Office". It is also the place where Forrest Mars, in the Depression of the 1930s, came up with two business ideas and a management philosophy that are still quietly shaping the world today.

The creation story of the Mars Bar is well known. In 1920s Chicago, Forrest Sr, as he is now remembered, met his estranged father, a struggling chocolatier, over a malted milk, and came up with the brainwave of pouring malted milk chocolate as filling into a candy bar. Thus was the Milky Way born. But Forrest Sr, as irascible as he was enterprising, fell out with his father, left America and ended up in Slough. There, he rechristened the Milky Way as the Mars Bar. At a time when people needed calories at low cost, it took off. With brands like M&Ms, Mars, based since 1974 in McLean, Virginia, is now the world's biggest confectioner.

Less familiar is the origin of the dark horse of the Mars empire, pet food. In Slough, Forrest Sr noticed the Brits' obsession with dogs. He did not like the way they ate scraps off the table. So in 1935 he bought a company that made Chappie, a tinned dog food. Today Mars reckons it caters to half the world's pets. Royal Canin, maker of a fancy dog chow, is its biggest brand. It is one of the largest providers of veterinary care. On June 22nd the company announced that Poul Weihrauch, head of pet care, would take over from Grant Reid, its retiring CEO. Mr Weihrauch's elevation partly reflects the growing importance of the pet business, which now generates 58% of sales, overtaking snacks (38%). Food accounts for the rest.

The family-owned company, though fiercely private about its finances, also updated its sales figures. They showed that since Mr Reid took office in 2014, revenues have increased by more than 50%, to \$45bn. That makes them bigger than Coca-Cola's. The firm gives credit for its success to the austere business practices Forrest Sr honed in Slough, now known internally as the Five Principles: quality, responsibility, mutuality, efficiency and freedom. They may sound like managerial guff. But they strike the right balance between making money and doing good. Many more showy corporations aim for that under the trendy slogan of "stakeholder

capitalism". Few carry it off as convincingly as Mars.

To understand why, first consider the relationship between the company and its only shareholders, the family—a dynasty worth about \$96bn, according to *Forbes* magazine. The fourth generation, known as G4, runs the board. Like shareholders everywhere, they have varying priorities, ranging from sustainability to the welfare of "associates" (Martian for employees). Yet their mandate for steering the firm puts top-tier financial performance and long-term growth on a par with positive social impact and trust.

The shareholders reap less than a tenth of profits as dividends. That frees Mars to plough the rest back into its business, letting it keep a strong balance-sheet and a staunchly independent streak. They lead low-key lives. That fits with Mars's egalitarian ethos and preference for privacy. They also retain some of Forrest Sr's eccentricities. A former board member recalls factory visits with family members where everyone tried mouthfuls of canned dog food in order to check its quality. "It's like pâté. You get used to it," he says. The practice continues—though "we don't come into work every day and chomp away," a current executive insists.

Next there is the firm itself. It has been professionally run since 2001. People who know Mars say the clan does not meddle much, provided managers do not threaten to blow up the firm's—and hence the family's—reputation. Delegation of responsibility runs deep. Mars has a relatively flat management structure, in which bosses have no cushy perks such as personal parking spaces. Associates are given responsibility, even at a young age, to make big decisions. If they take a calculated business risk that goes wrong, so be it. If they behave unethically there is zero tolerance.

In business, the firm is competitive but not cut-throat, rivals say. It used to be notable mostly for a strong factory culture, operational efficiencies and returns measured in relation to its physical assets. But this is changing as the veterinary-services business has grown. Now it plays up the more intangible parts of the business. "If you meet a Mars guy, they will talk about brands and people all the time," a rival executive says admiringly, noting its high pay and good employee-retention rates.

As for stakeholderism, or what Mars calls mutuality, it says it puts the interests of customers, workers, suppliers, communities and the environment alongside those of the family shareholders. That comes with some big investments, such as \$1bn to support sustainable initiatives such as renewable energy, and a policy of paying its taxes in full. But when it talks about these publicly, it is mostly because they are germane to its business. It does not wade into political debates, nor does it pontificate on every social issue.

What about the future? With low debt, lots of cash and products resilient to economic turbulence, Mars is in a strong position to expand further. Some of its competitors, such as Kellogg, a food company, are flogging parts of their business. Mars bought Wrigley, a maker of chewing gum, during the financial crisis in 2008—not its finest acquisition, to be sure, but one it has stuck with. It may snap up more during today's inflationary turmoil.

## Willy Wonka moment

It won't discuss strategy, however. Though the family is more open about its commitments to society, it keeps business matters tightly under wraps. That legacy, which also dates back to Forrest Sr, may start to change. In 2020 Mars opened the Slough factory to TV cameras for the first time. Its chocolate-makers were, anti-climactically, locals in hairnets, not Oompa Loompas. But at least some of the secrets of Snickers' nougat filling were revealed. ■

# 26th annual Economist Government Roundtable

**Antitheses, transformations  
and achievements in a changing world**

July 5th-7th 2022 | Grand Resort Lagonissi, Athens



With the support of



European Parliament  
Office in Greece



European Commission  
Representation in Greece



Economist Impact Events for Greece,  
Cyprus, Malta and south-east Europe

Speakers include:



**Volodymyr Zelensky**  
President  
**Ukraine**  
(via internet)



**Katerina Sakellaropoulou**  
President  
**Greece**



**Maia Sandu**  
President  
**Moldova**



**Francis Fukuyama**  
Senior fellow  
**Stanford University**



**Mike Pompeo**  
Former secretary of state  
**United States**



**Margaritis Schinas**  
Vice-president  
**European Commission**



**Teresa Ribera Rodríguez**  
Vice-president and minister  
for ecological transition  
and demographics  
**Spain** (via internet)



**Mohamed El-Erian**  
President  
**Queen's College, University of Cambridge**  
Chief economic adviser, **Allianz**



**Martin Schulz**  
Former president  
**European Parliament**



**Enrico Letta**  
Secretary of the Democratic Party  
Former prime minister  
**Italy**

[www.greece2022.economist.com](http://www.greece2022.economist.com)

Diamond sponsor



Founding sponsor



Platinum sponsors



Gold sponsors



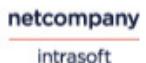
QUALCO Group



Gold sponsors



sardelas petsa  
law firm

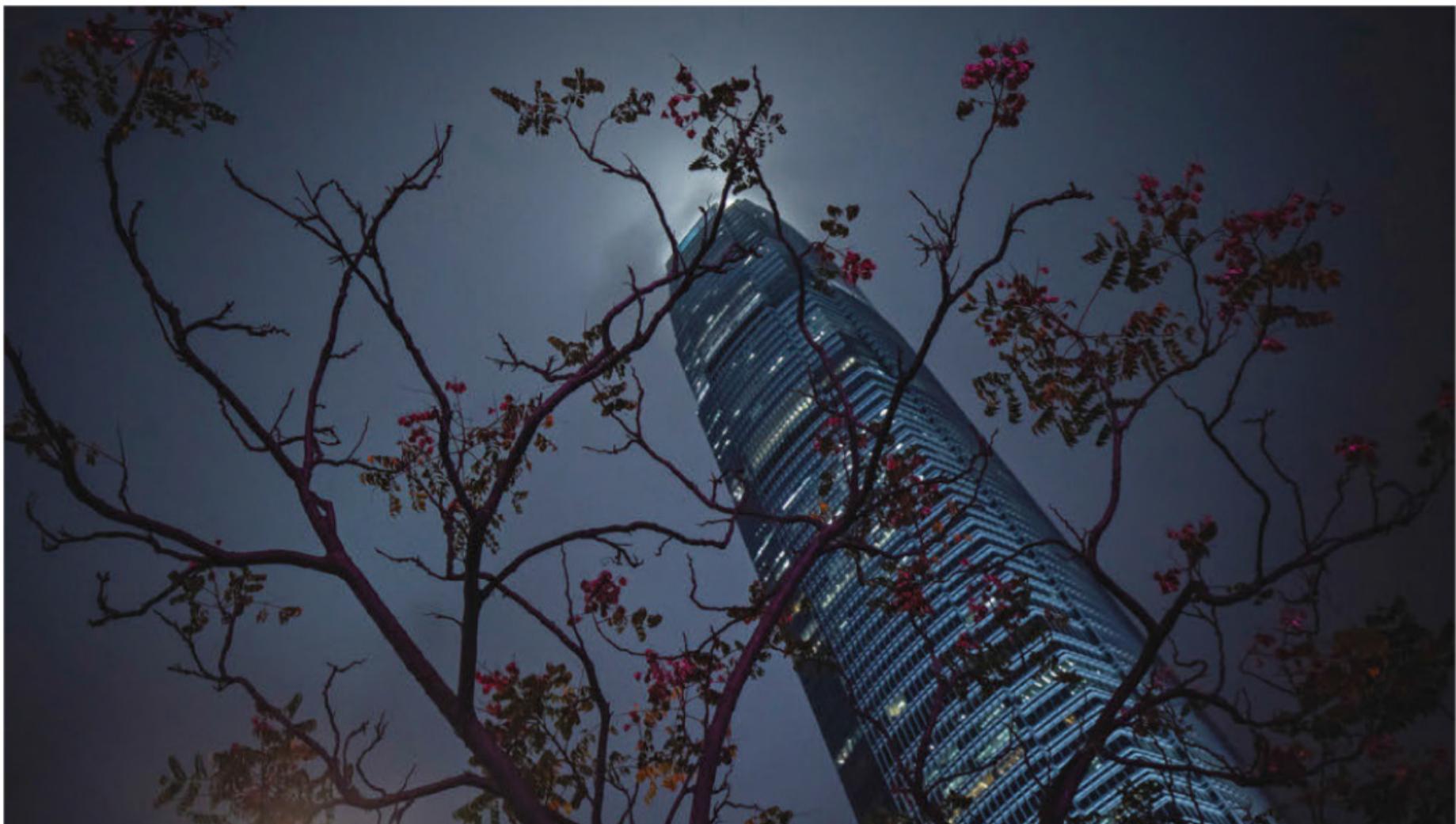


Silver partner



GROUP OF COMPANIES



**Financial centres**

## A tale of three cities

HONG KONG AND SINGAPORE

### The battle between Asia's global financial hubs is heating up

“**A**NOTHER ONE!” was how a Singaporean manager of serviced apartments greeted your correspondent, fresh off the plane from Hong Kong. The response tells you which of the two cities is currently enjoying an influx of people and business. The latest impetus has been their contrasting approaches to the pandemic. Singapore began opening up to the rest of the world last year; by comparison, although the quarantine periods for arrivals to China and Hong Kong have been shortened, there is no sign yet of their end.

Hong Kong is widely seen as the third-most-important city for global finance and business, after New York and London, and ahead of Shanghai and Singapore. Most historians trace its rise as a financial centre to the early 1970s, when it became a hub for Asian offshore financing. Its importance then increased dramatically after China began to open up under Deng Xiaoping in 1978. Hong Kong was where Western bankers could mingle with Chinese businessmen while private-sector activity in the mainland was still finding its feet. The deals they made were governed by the ter-

ritory's reliable regulatory framework and courts that made use of English law.

Yet even before the pandemic, the established order of Asia's global hubs was being thrown into doubt. Over the quarter-century since Hong Kong was returned to Chinese sovereignty, the mainland has tightened its grip on the territory's institutions. Under its influence, Hong Kong has introduced a sinister national-security law; the city's independent judiciary, long valued by foreign investors, has been weakened by political intervention. That

has tarnished its appeal relative to Singapore, another entrepot with a common-law legal system, business-friendly regulation and low taxes. Moreover, South-East Asia has become an increasingly desirable place for Western companies to do business, which, by virtue of proximity, further burnishes Singapore's allure. For firms intending to operate in China, meanwhile, the benefits of setting up in Hong Kong, rather than Shanghai, are diminishing.

How will the roles of these cities evolve in the face of such forces? To answer the question, consider three measures of the importance of a city for global business and finance: its use as a base for conducting regional or global business; its position as a centre for wealth made elsewhere to be managed and invested; and the size of its capital market and the banking activities associated with it.

Start with where business is. Hong Kong's status as a regional base for global firms was always tied to China, but that relationship has become more intimate still in recent years. The number of Chinese firms with regional headquarters in the territory has doubled since 2015, even as the number of American firms using the city as a base for their Asian or greater China operations has steadily declined (see chart on next page).

Singapore does not produce similar statistics, but a flurry of recent openings by big firms is illustrative. Sony Music, an American entertainment company; Dyson, a British home-appliance maker; and Vin-►

---

**→ Also in this section**

---

- 66 Can Europe keep the lights on?**
  - 67 Peak inflation in the rich world**
  - 68 America's duelling price gauges**
  - 69 Creeping capital controls in Turkey**
  - 69 The appeal of betting on mergers**
  - 70 Buttonwood: Past market crashes**
  - 71 Free exchange: Forward guidance**
-

## Capitals of capital

Hong Kong, number of regional headquarters by nationality of parent company



Sources: Hong Kong Census and Statistics Department; Monetary Authority of Singapore; Securities and Futures Commission of Hong Kong

Asset-management industry

Total assets under management, \$trn



\*Asset management and fund-advisory business

► Fast, a Vietnamese maker of electric vehicles, have all set up regional or global headquarters there in recent years. Chinese tech firms including Alibaba, TikTok and Tencent have done so, too, led by their need to be outside China's "great firewall" in order to run their global operations.

Singapore has publicly been ambivalent about stealing business from Hong Kong. Lee Hsien Loong, the city-state's prime minister, has welcomed expats, but said that he would be just as happy if they felt able to remain in Hong Kong, contributing to the region's dynamism. In the background, however, the approach is less magnanimous. The city's sharp-elbowed investment-promotion agency works to help would-be migrants with visas and business registrations.

Shanghai had attracted Western outposts before the pandemic. Some firms, such as Coca-Cola, had moved their Asia headquarters there from Hong Kong. Regulatory changes in 2020 allowed foreign investment banks to run majority-controlled businesses in China. Several have consequently expanded their operations in Beijing and Shanghai. Foreign asset managers including Amundi and BlackRock have also scaled up their onshore presence.

The city's grim lockdowns may have cooled that ardour in the near term. In a recent survey by the American Chamber of Commerce in Shanghai, only one American firm out of 133 planned to increase its investment in China. Yet for firms intending to have some exposure to the mainland, Shanghai may ultimately prove unavoidable. The more Hong Kong comes under China's thumb, the less unattractive being based on the mainland becomes.

China may be more draconian in its approach both to governance and covid-19, but it is at least home to vast numbers of suppliers and customers. "If you want to be in China, it will be increasingly important to be onshore and close to your clients and companies," says Christian Brun of Wellesley, an executive-recruitment firm for the financial-services industry. Mr Brun pre-

dicts job growth on the mainland and in Singapore, with fewer roles for expats in particular in Hong Kong. (He himself has moved from Hong Kong to Singapore.)

A second gauge of the cities' relative dominance is wealth management. It is here that the competition between Hong Kong and Singapore has been fiercest. By one measure, Hong Kong's pot of assets under management and fund advisory rose from nearly \$1.3trn in 2010 to more than \$3trn in 2020. But a comparable measure for Singapore shot up from around \$1trn to \$3.4trn, with the city overtaking Hong Kong as long ago as 2017. Its simple laws for establishing trusts and its tax efficiency have attracted wealth to it. A new form of investment vehicle launched in 2020, the variable-capital company, has also proved popular with fund managers.

Hong Kong has been squeezed in other areas of investment management, too. Of the 20 largest managers of venture-capital funds globally, measured by capital raised in the past decade, seven were in Beijing, Shanghai or Shenzhen. Venture capitalists hoping to cash in on South-East Asia's boom have chosen Singapore as a base. The city's closer links with Indian firms are also an attraction.

When it comes to capital markets and investment banking, our third gauge of the cities' importance, though, Hong Kong retains its crown. With China's government showing no sign of allowing capital to flow freely in and out of the mainland soon, the territory's value as a gateway remains. It hosts the Connect programmes that allow foreign investors to trade onshore bonds and equities, and Chinese punters to trade stocks in the territory. Three-quarters of all transactions in yuan made through the SWIFT interbank-messaging system are

booked in Hong Kong. The territory has been a hub for Chinese firms to list in recent years, including Alibaba and JD.com in 2019 and 2020 (though few have come this year). Overall, the value of the city's listed stocks runs to nearly \$5trn, compared with \$7trn in Shanghai and \$700bn in Singapore. That in turn has helped Hong Kong sustain an edge in global banking, even though some desks have moved to Singapore to skirt the territory's quarantine rules.

Hong Kong, then, will remain a route to investing in China. But it may be less likely to attract other sorts of new business. The companies that do move there are more likely to be Chinese. To others, Hong Kong's delay in reopening seems to typify its indifferent approach to its global status. Faced with it, firms seeking to do business in Asia more broadly may choose Singapore. And those wanting to do business in China may expand their presence onshore instead. Where Hong Kong alone used to suffice, some firms may start to see a Shanghai-and-Singapore strategy—which uses the first for operations in China and the second for those in the rest of Asia—as an attractive long-term bet. ■

## The energy crunch

# Power outrage

## Can Europe keep the lights on this winter?

EUROPE'S ENERGY war is becoming total. Having already banned or promised to ban imports of Russian oil, leaders of the G7 group of countries said on June 28th that they would explore ways to cap its price, as well as that of Russian gas. Populations are being prepared for pain. Britain has hinted that it will reform its power market to curb the influence of natural gas on domestic prices. French utilities have called on consumers to cut energy use "immediately". One goal of such manoeuvres is to deprive Russia of much-needed revenue. Another is to try to ward off the energy crunch that looms over Europe.

Only a month ago it looked like a crisis might be avoided—just. As America cranked up its exports of liquefied natural gas (LNG), its share of Europe's total gas imports rose from 6% in September to 15% in May, even as Russia's slumped from 40% to 24%. What gas Europe needed from its troublesome neighbour still flowed. Russia did turn off the taps to Bulgaria, Finland and Poland after they refused to pay in roubles, as it had demanded, but they bought little in the first place. The continent's re-

## Listen to the podcast

To hear our Money Talks podcast on Asia's business hubs, go to [economist.com/financialcentres-pod](http://economist.com/financialcentres-pod).

▶ serves were building up at a record pace.

Then two things happened. On June 8th a fire shut down the Freeport gas-liquefaction facility in Texas. The outage, which is expected to last 90 days, has deprived Europe of 2.5% of its gas supply. A week later Gazprom, a Russian energy giant, said that supply to Europe through the Nord Stream 1 pipeline would fall to just 40% of capacity, ostensibly because of the delayed return of a turbine being serviced in Canada (Gazprom blames sanctions). That took another 7.5% off Europe's supply.

There are few other sources. LNG terminals are running at full tilt. Little more can flow through pipelines from Algeria, Azerbaijan or Norway. Restarting the Dutch gas field of Groningen, which once supplied as much as Nord Stream but was phased out after causing earthquakes, is politically tricky. The result, reckons Rystad Energy, a consultancy, is that the EU's gas-storage facilities will be two-thirds full by the end of October, short of the bloc's target of four-fifths. There is even a fear that Nord Stream, which is due for regular servicing in July, will not restart once the maintenance ends. If so, Europe may enter the winter with storage levels at just 60%.

That raises questions about the continent's ability to stay warm this winter. Moreover, gas-fired power generation has become the marginal source of electricity supply over the past year in western Europe, implying that its cost is what sets power prices across the region. Last year this was partly because renewable-power generation was hampered by droughts (and thus feeble rivers) and insufficiently strong winds. This time the problem is that nuclear reactors in France require maintenance and are running at less than half their capacity. That is draining Europe's power supply—just as a heatwave in the south is boosting demand for cooling. France's spot power prices averaged €197 (\$206) per megawatt-hour in May, compared with €15 a year ago.

One way Europe copes with imbalances is through trade. France, once the region's



Winter is coming

largest exporter of power, is now buying electricity from its neighbours. Wholesale gas is now dearer in Germany and eastern Europe, because of the reduction of supply through Nord Stream (see chart). That will incentivise flows from Britain and Spain, which have LNG terminals. But it will not increase the aggregate supply of fuel and power. And there are signs that, in a crunch, unity could fray. On June 29th it emerged that one of Britain's first steps in an emergency would be to cut off gas to mainland Europe.

EU countries are thus scrambling to find alternatives to gas. Germany has reversed plans to retire more than one-fifth of its coal-fired power stations this year. Austria, Britain, France and the Netherlands have said they may either delay closures of, or reopen, coal plants. Some of the seven European nuclear plants that are due to be shut by the end of winter may also be kept operating a bit longer. Yet even if all of this is done, gas will probably continue to set electricity prices. A futures contract for Germany's "baseload" (ie, non-renewable) power in December currently trades at 25% above gas-fired power-generation costs, suggesting that the market is pricing in a gas crunch, plus a premium.

A persistent supply shortfall means demand will have to adjust. High prices might do part of the job. But rationing may also have to be imposed on gas- and power-hungry companies, such as producers of fertiliser, glass and steel. How drastic those curbs are, and whether they end up being extended to households, will in turn depend on two wild cards: winter temperatures on the continent; and the extent to which China bounces back from covid-19 lockdowns and soaks up more LNG. Europe has so far been unlucky in its energy war with Russia. If it is to keep the lights on until the spring, that needs to change. ■

## Surging inflation

# The top of the hill

SAN FRANCISCO

**Why inflation looks likely to stay above the pre-pandemic norm**

THE BAD news on inflation just keeps coming. At more than 9% year on year across the rich world, it has not been this high since the 1980s—and there have never been so many “inflation surprises”, where the data have come in higher than economists' forecasts (see chart). This, in turn, is taking a heavy toll on the economy and financial markets. Central banks are raising interest rates and ending bond-buying schemes, crushing equities. Consumer confidence in many places is now even lower than it was in the early days of the covid-19 pandemic. “Real-time” indicators of everything from housing activity to manufacturing output suggest that economic growth is slowing sharply.

What consumer prices do next is therefore one of the most important questions for the global economy. Many forecasters expect that annual inflation will soon ebb, in part because of last year's sharp increases in commodity prices falling out of the year-on-year comparison. In its latest eco- ➤

## Sticker shock

### Inflation-surprise index

Advanced economies



### G10 countries, wages

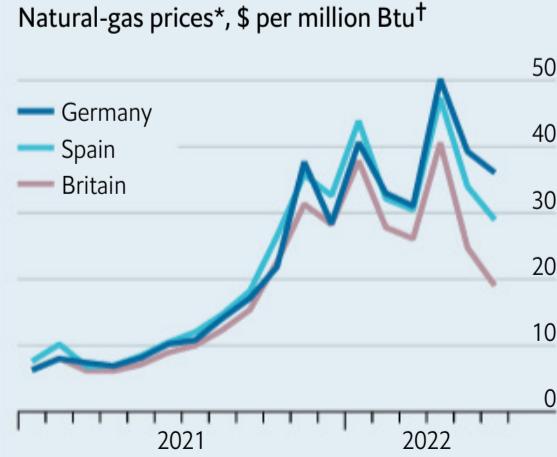
% increase on a year earlier



Sources: Citigroup; Goldman Sachs

## Continental drift

Natural-gas prices\*, \$ per million Btu†



Sources: Argus; The Oxford Institute for Energy Studies

onomic projections the Federal Reserve, for instance, expects annual inflation in America (as measured by the personal-consumption-expenditures index) to fall from 5.2% at the end of this year to 2.6% by the end of 2023.

You might be forgiven for not taking these prognostications too seriously. After all, most economists failed to see the inflationary surge coming, and then wrongly predicted it would quickly fade. In a paper published in May, Jeremy Rudd of the Fed made a provocative point: "Our understanding of how the economy works—as well as our ability to predict the effects of shocks and policy actions—is in my view no better today than it was in the 1960s." The future path of inflation is, to a great extent, shrouded in uncertainty.

Indeed, some indicators point to more price pressure to come in the near term. Al-

ternative Macro Signals, a consultancy, runs millions of news articles in several languages through a model to construct a "news inflation pressure index". The results, which are more timely than the official inflation figures, measure not just how frequently price pressures are mentioned, but also whether the news flow suggests they are building up. In both America and the euro area the index is still well above 50, indicating that pressures are continuing to accumulate.

Inflation worrywarts can point to three other indicators suggesting that the rich world is unlikely to return to the pre-pandemic norm of low, stable price growth any time soon: rising wage growth, and increases in the inflation expectations of both consumers and companies. If sustained, these could together contribute to what the Bank for International Settle-

ments, the central bank for central banks, described in a report published on June 26th as a "tipping point". Beyond it, warned the BIS, "an inflationary psychology" could spread and become "entrenched".

Evidence is mounting that workers are starting to bargain for higher wages. This could create another round of price increases as firms pass on the extra costs. A survey by the Bank of Spain suggests that half of collective-bargaining deals signed for 2023 contain "indexation clauses", meaning that salaries are automatically tied to inflation, up from a fifth before the pandemic. In Germany IG Metall, a trade union, has asked for a 7-8% pay rise for nearly 4m workers in the metals and engineering sector (it will probably get about half that). In Britain rail workers went on strike as they sought a rise of 7%, though it is unclear whether they will succeed.

All this will make wage growth hotter still. Already, a tracker for the G10 group of countries compiled by Goldman Sachs, a bank, is rising almost vertically. A measure of pay pressure from Alternative Macro Signals is similarly animated. And wage floors are rising, too. The Netherlands is bringing forward an uplift to the minimum wage; earlier this month Germany passed a bill increasing its minimum by one-fifth. Australia's industrial-relations agency has raised the wage floor by 5.2%, more than double last year's increase.

Faster wage growth in part reflects the public's higher expectations for future price rises—the second reason to worry that inflation might prove sticky. In America near-term expectations are rising fast. The average Canadian says they are braced for inflation of 7% over the next year, the highest figure of any rich country. Even in Japan, the land where prices only rarely change, beliefs are shifting. A year ago a survey by the central bank found that just 8% of people believed that prices would go up "significantly" over the next year (consumer prices, indeed, rose by only 2.5% in the year to April). Now, however, 20% of people reckon that will happen.

The third factor relates to companies' expectations. Retailers' inflation expectations are at an all-time high in a third of EU countries. A survey by the Bank of England suggests that clothes prices for Britain's autumn and winter collections will be 7-10% higher than a year ago. The Dallas Fed does find tentative evidence that customers are less willing to tolerate price increases than before; a respondent in the rental and leasing business complained that "it is getting tougher to pass on the 20-30% price increases we have received from manufacturers." But that merely points to a lower level of high inflation.

The big hope for lower inflation relates to the price of goods. Fast increases in the prices of cars, fridges and the like, linked in

### America's inflation indices

## The price of accuracy

WASHINGTON, DC

**The Fed's preferred gauge of inflation is more benign but also more obscure**

THE FEDERAL RESERVE'S "preferred measure of inflation" is a phrase that often crops up in reporting on the American economy. It stands in for a verbose official name: the personal-consumption-expenditures price index (PCEPI). Most discussion of inflation, however, focuses on its better-known and pithier relative, the consumer-price index (CPI).

That usually does not matter much. But the gap between CPI and PCEPI has recently widened, hitting two percentage points in April, the largest divergence since 1981. So while headlines blare out that CPI inflation is running at more than 8% annually, it is just over 6% in the PCEPI world. To be sure, the lower PCEPI figure is not cause for celebration. Just like CPI, it is also at a four-decade high. But it is nonetheless instructive to consider why the gap has grown so wide.

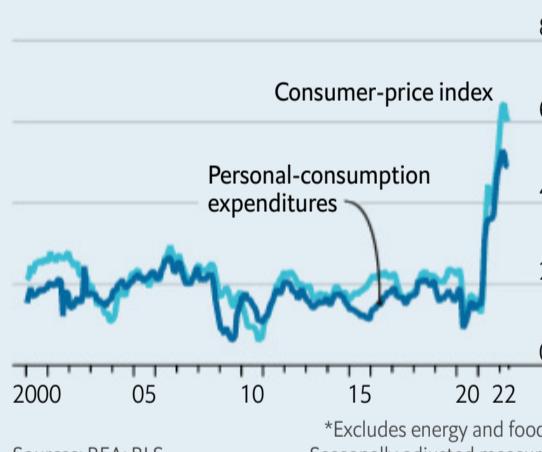
The simple explanation is weighting. Housing, for instance, is 33% of CPI but just 16% of PCEPI. Petrol also has a slightly higher share in CPI. The PCEPI gauge is broader, encompassing things purchased on behalf of consumers (such as medical care, even if paid for by the government or an employer). When rents and oil prices soar, CPI inflation tends to outstrip PCEPI inflation.

The Fed prefers PCEPI because it reflects how money is actually spent. If people stop buying expensive cars and spend more on bus tickets, that shift shows up in PCEPI; CPI, by contrast, just registers the higher car prices. "CPI doesn't allow for immediate substitu-

### High time

United States, core consumer prices\*

% increase on a year earlier



Sources: BEA; BLS  
\*Excludes energy and food.  
Seasonally adjusted measure

tion, which exacerbates the divergence," says Julie Smith of Lafayette College.

In theory that might tempt the Fed to highlight PCEPI now. The latest figures were due out on June 30th, as we went to press. Core PCEPI (excluding food and energy) is expected to have risen by 0.4% in May, compared with April, slower than the 0.6% jump in CPI. But Jerome Powell, the Fed's chairman, instead highlighted CPI when explaining the central bank's jumbo interest-rate rise on June 15th. Partly that is because CPI was published just before its decision. The fact that CPI is more widely discussed, even if less accurate, also recommends it. The central bank's concern is that inflation expectations are becoming unmoored. If people pay more attention to CPI, the Fed will feel obliged to do so too.

part to supply-chain snarls, drove the initial inflationary surge last year. Now there is some evidence of a reversal. The cost of shipping something from Shanghai to Los Angeles has fallen by a quarter since early March. In recent months many retailers spent big on inventories in order to keep their shelves full. Many are now cutting prices to shift stock. In America car production is at last picking up, which could unwind some of the outrageous price increases for used vehicles seen last year.

Falling goods prices could, in theory, help douse the inflationary flames in the rich world, easing the cost-of-living crisis, giving central banks breathing room and buoying financial markets. But, with enough indicators of future prices pointing the other way, the odds of that happening have lengthened. Don't be surprised if inflation roars for a while yet. ■

#### Turkey's economy

## Creeping controls

ISTANBUL

#### The latest desperate attempt to prop up the lira

**I**N TURKEY, THE abnormal is the new normal. If official figures are to be believed, annual inflation now exceeds 73%. If Turkish consumers are to be believed, it is much higher. Measured against the dollar, the lira resembles a black-diamond ski slope. The currency has lost a fifth of its value against the greenback since the start of the year. The obvious solution would be a dramatic increase in interest rates. But the country's president, Recep Tayyip Erdogan, refuses to allow the central bank to tighten monetary policy.

The shock value of the zany economic theory Turkey's leader has peddled for some time, namely that the solution to high inflation is low interest rates, has worn off. What has investors and Turkish companies spooked now are the lengths to which Mr Erdogan may go to keep the current monetary settings in place. The spectre of capital controls has begun to loom over the country.

On June 23rd the central bank decided to keep its benchmark interest rate unchanged for the sixth month in a row. That much was expected. The surprise came the next day, courtesy of Turkey's banking authority, known as the BDDK. Turkish companies, it ruled, would no longer be eligible for loans in lira if their foreign-currency holdings exceeded 15m lira (roughly \$900,000) and if the amount exceeded a tenth of their assets or yearly sales.

By forcing companies to sell dollars and

euros, the government hopes to breathe some life into the lira. (Turkish exporters already have to convert 40% of their foreign revenues, according to an earlier decision made by regulators.) But the move may also hamstring companies and trigger capital outflows. The more the government penalises foreign-currency holdings, the less able firms are to protect their savings against inflation, undermining confidence. They will also find it harder to buy goods and services from abroad. Some will look for ways to circumvent the new directive, says Durmus Yilmaz, a former governor of the central bank, and will park more money abroad.

Turkey's increasingly unorthodox attempts to support the lira have already taken a heavy toll on the economy and the public finances. Since 2019 the central bank has burned through at least \$165bn in foreign reserves by intervening in currency markets. Late last year the government unveiled a scheme to compensate holders of special lira deposits for the currency's depreciation against the dollar, in an attempt to stop a further lurch. Turks have since poured 963bn lira into the special accounts. Because the currency has nonetheless continued to slide, the treasury owes them billions of dollars.

The government's latest move does not meet the textbook definition of capital controls (measures to stem the flow of foreign capital into and out of the country). But it suggests more severe interventions might be in store if the lira continues to plummet. Analysts say Mr Erdogan would much sooner impose capital controls than allow rate increases. "I'm 100% sure he will not use interest rates as a tool," says Ozlem Derici Sengul of Spinn, a consultancy in Istanbul. The country is sliding down a slippery slope. ■



Leery of the lira

#### Corporate takeovers

## Sweet dealmaking

#### The allure of betting on mergers

**B**IG DEALS rarely happen without big personalities. If Elon Musk were an uninteresting tycoon with a low public profile and a puritanical approach to promises, then shares in Twitter, a social-media platform, would be trading within a whisker of his \$54.20 per share offer. The difference, or "spread", between this offer and Twitter's current trading price, of below \$40, is a reminder that he is not.

The wider the spread, the lower the chance investors assign to a deal completing. To Mr Musk and Twitter's management, the spread is a live opinion poll in a fractious situation. But to a group of specialised hedge-fund managers, it is their bread and butter.

Merger arbitrage, also known as risk arbitrage, involves purchasing the shares of a target firm during the risky interval between a deal's announcement and its completion. The arbitrageur first identifies a merger that the market is relatively gloomy about—ie, a spread that they believe overestimates the chance of a deal's failure. Then they buy shares in the company, and wait until the deal closes and the acquirer pays the offered price per share. The amount of capital dedicated to this strategy has quadrupled during the past decade to more than \$100bn, despite some patchy returns. For several reasons, its star will continue to rise.

For a start, big deals are in plentiful supply. It is no coincidence that this strategy came of age during America's buyout boom of the 1980s. After a white-hot 2021, more than 50 deals with a value exceeding \$5bn have been announced so far this year. Companies' balance-sheets are stocked with cash and tumbling valuations have created bargains. The arbitragers are not yet seeing any signs of recession.

The deals themselves also need to have some controversy associated with them. Ideally, someone should be trying, and failing, to kill them. Here lies another tailwind: that regulators are in an interventionist mood. Corporate synergies are coming up against national-security and antitrust concerns. Shares in Avast, a Czech cyber-security firm, were edging towards the price offered by NortonLifeLock, its bigger American competitor, before Britain's Competition and Markets Authority said it was taking a closer look at the deal in March. More than \$1bn was wiped off the market value of a firm that was be-

ing bought for around \$8bn. Arbitragers were not far behind: around a quarter of Avast's stock is currently in the hands of hedge funds that bought only after the deal was announced.

Warren Buffett, a celebrated investor who became an active and successful arbitrageur early in his career, is returning to the action. In January Microsoft announced a blockbuster takeover of Activision Blizzard, a video-game developer. A gaping spread cause by internal strife and competition worries was enough to tempt Berkshire Hathaway, the conglomerate run by

Mr Buffett, to increase its stake in the game-maker, to nearly 10%. Mr Buffett was already a shareholder. But some arbitragers have been known to screen investments by hiring translators, lawyers and even courtroom spies.

The final bump comes from rising interest rates. Spreads are widened by an increase in the risk-free rate, since investors demand a higher rate of return for holding shares; those piling their capital into merger-arbitrage funds salivate at the thought of inflation-proof returns largely uncorrelated with the wider stockmarket.

The catch is that not every merger is completed. "If the deal goes through, we make some money. And if the deal doesn't go through, who knows what happens," ruminated Mr Buffett recently. The "who knows" part is also now more complicated. The price shares would trade at following a deal's collapse, a crucial determinant of the risk-reward calculation for an arbitrage strategy, becomes harder to assess when markets are volatile and valuations uncertain. But arbitragers have, at least, been given a heady cocktail of dealmaking, corporate complexity and rising rates. ■

## Buttonwood Terms of surrender

*What past market crashes say about "capitulation"*

LOOKING BACK, it is easy to think of stockmarket crashes as abrupt shocks. And some of the most dramatic of them were indeed abrupt. At the onset of the covid-19 pandemic, the S&P 500 index of American stocks plummeted by 34% in a little over a month. The last time Russia defaulted on its debt, in 1998, the index took six weeks to travel from zenith to nadir, nearly taking Long-Term Capital Management and the rest of Wall Street with it. Quickest of all was the lightning bolt of October 19th 1987, or "Black Monday", which wiped 20% off the market in a single day.

The biggest downturns, though, have tended to be much more drawn-out affairs. The bloodbath in equities that accompanied the financial crisis of 2007-09 was no single, vertiginous plunge: it played out over 17 months. Talk of the dotcom bubble "bursting" in the early 2000s can obscure the fact that the journey from peak to trough took two and a half years. The greatest crash of all, beginning in 1929, took nearly three years to run its course.

In each case, losing streaks were interspersed by rallies lasting weeks and fitful days when not much of anything happened. If not quite months of boredom punctuated by moments of terror, they were long, uncertain slogs. Today, six months after America's equity market started falling in the face of persistent inflation and tighter monetary policy, another slog might lie ahead. But when the bottom finally arrives, what will it look like?

Like a bubble, capitulation—investors' jargon for the final, frenzied phase of a rout—is accompanied by a kind of mania. It is the part of the crash when something snaps in the collective consciousness and everyone who is going to

give up and sell does. Perhaps they are retail investors who kept their nerve after losing a third of their capital but, seeing another 20% of value vanish, conclude that it really might go to zero and rush to the exit. Perhaps they are professionals who know full well it's a bad time to sell, but can't get their risk manager (or their clients) off their back. Either way, it is the violence of the shake-out itself that creates the market bottom: those who refuse to sell at the height of the panic are unlikely to lose their cool further down the line. After the frenzy is over, prices start to climb again.

So much for recognising capitulation in hindsight. Spotting it as it happens is harder. Perhaps some clues can be gleaned from how historical crashes have played out. Start with the crudest measures: the length of the crash and the size of the drop from peak to trough. Excluding this year, the S&P 500 has notched up 14 bear markets—falls of more than 20% compared with a recent peak—since the second world war. The average downturn took a little over 11 months and resulted in a

decline of more than 32%. Both measures suggest that this year's losses, which hit 23% in June before rebounding a little, may have some way yet to run.

For a more granular picture, consider the rout in March 2020. One lesson from it is that trading volumes spike as the market plummets. Towards the end of the crash, shares in the S&P 500 were changing hands at more than double their average rate in the weeks running up to it. Volumes for stocks in Britain's FTSE 100 tripled. Another signal is that a large proportion of stocks in an index plunge in value. While the downturn in 2020 was at first led by a handful of stocks, by the last phase pretty much everything was flashing red. True capitulation is reached when contagion spreads not just from one stock to another, but across indices and asset classes.

Set against those measures, this year's bear market is yet to reach its culmination. Investors are gloomy, but not so much that they have sold their favourite risky assets. Downward lurches have begun to include defensive stocks, but many of those in sectors including pharmaceuticals and telecoms are still up on the year. And the drops do not yet smack of panic: the S&P 500's worst day this year was its 39th-worst since the turn of the century. Trading volumes, for the most part, suggest a market that is just about holding its nerve.

If capitulation is tricky to pinpoint as it arrives, profiting from it is harder still. How many prices need to be plummeting in lockstep before it becomes time to buy? Trading volumes might have spiked, but have they peaked? Are you sure that you will keep your head when all around you are losing theirs? Studying historical crashes is one thing. Putting their lessons into practice is entirely another.



## Free exchange | Forward misguidance

*Do central bankers need to talk so much about tightening? The second in our series on the central-bank pivot*



LATE ON JUNE 13TH, a curious article appeared in the *Wall Street Journal*. It said that the Federal Reserve was “likely to consider” raising interest rates by 0.75 percentage points at its meeting on June 15th. The article was unusually silent about its sources. And it proved uncannily prescient. Two days later the Fed did indeed raise interest rates by that amount, its biggest increase in 28 years. Many investors believe the central bank had used the press to warn financial markets about what it would do in advance (albeit not very far in advance). That would make the *Journal* story an unconventional example of “forward guidance”.

Central banks often telegraph what they might do before they do it. This kind of forward guidance is as old as central banking itself, according to Willem Buiter, a former rate-setter at the Bank of England. It is certainly as old as inflation targeting. The Reserve Bank of New Zealand (which was the first to adopt a formal inflation target in 1990) quickly learned that it could move markets with its utterances (what it called “open-mouth operations”). It now publicly forecasts its own decisions. If you want to know where it thinks its policy interest rate will be in the future, you do not have to look out for mysteriously sourced stories in the press. You can just download the central bank’s spreadsheet.

This kind of guidance is intended as no more than a prediction, based on the central bank’s fallible forecasts of the economy. It is sometimes called “Delphic” guidance, after the oracle of Delphi in ancient Greece. If the economy defies the forecast, as it usually does, the central bank may well defy its prophecy of its own behaviour. In a paper published in 2012, Jeffrey Campbell, then of the Chicago Fed, and his co-authors distinguished Delphic forward guidance from another kind, “Odyssean”. Odyssean guidance is more than just a prediction. It includes a promise or commitment of some kind. Central bankers use it to tie their own hands, like Odysseus lashing himself to the mast of his ship.

Why would they do that? The aim, as the paper put it, is to change public expectations about what central banks will do tomorrow, so as to improve the economy today. In a slump, a central bank might not have room to cut short-term interest rates by enough to revive the economy. (Rates cannot easily be cut below zero.) It might then promise to keep rates low for longer than it

otherwise would, even after hearing the siren call of an economic recovery. If its promise is believed, expectations of inflation will rise. That will magically reduce the real cost of borrowing even when the central bank’s policy rate can fall no further.

Odyssean language crept into central-bank guidance after the financial crisis of 2007-09. In April 2009, for example, the Bank of Canada promised, with some qualifications, not to raise interest rates for 14 months. In 2016 the Bank of Japan said it would keep easing until inflation had durably overshot its 2% target. Similar commitments were made in the pandemic. When a central bank is stuck close to the zero lower bound, it can at least say what it will do—or refrain from doing—when economic conditions warrant it moving again. Its words speak louder than inaction.

But when a central bank is not so constrained, the case for Odyssean forward guidance becomes less clear. If a central bank is free to act, why rely on words rather than deeds? In particular, why bother with forward guidance during a tightening cycle? There is, after all, no upper bound on interest rates. That question was recently posed on Twitter by Jason Furman, a former chairman of the White House’s Council of Economic Advisers.

If the central bank knows that interest rates should be higher in the future, there is nothing to stop it raising them now. Indeed, it could increase them up to the point where it is no longer sure if the next move should be up or down. In 2004 Ben Bernanke, a former chairman of the Fed, called this the “bang bang” approach. If a central bank were to adopt it, it would have little need to offer advance guidance about its future actions, because everything it is committed to do, it would have done already. In one go.

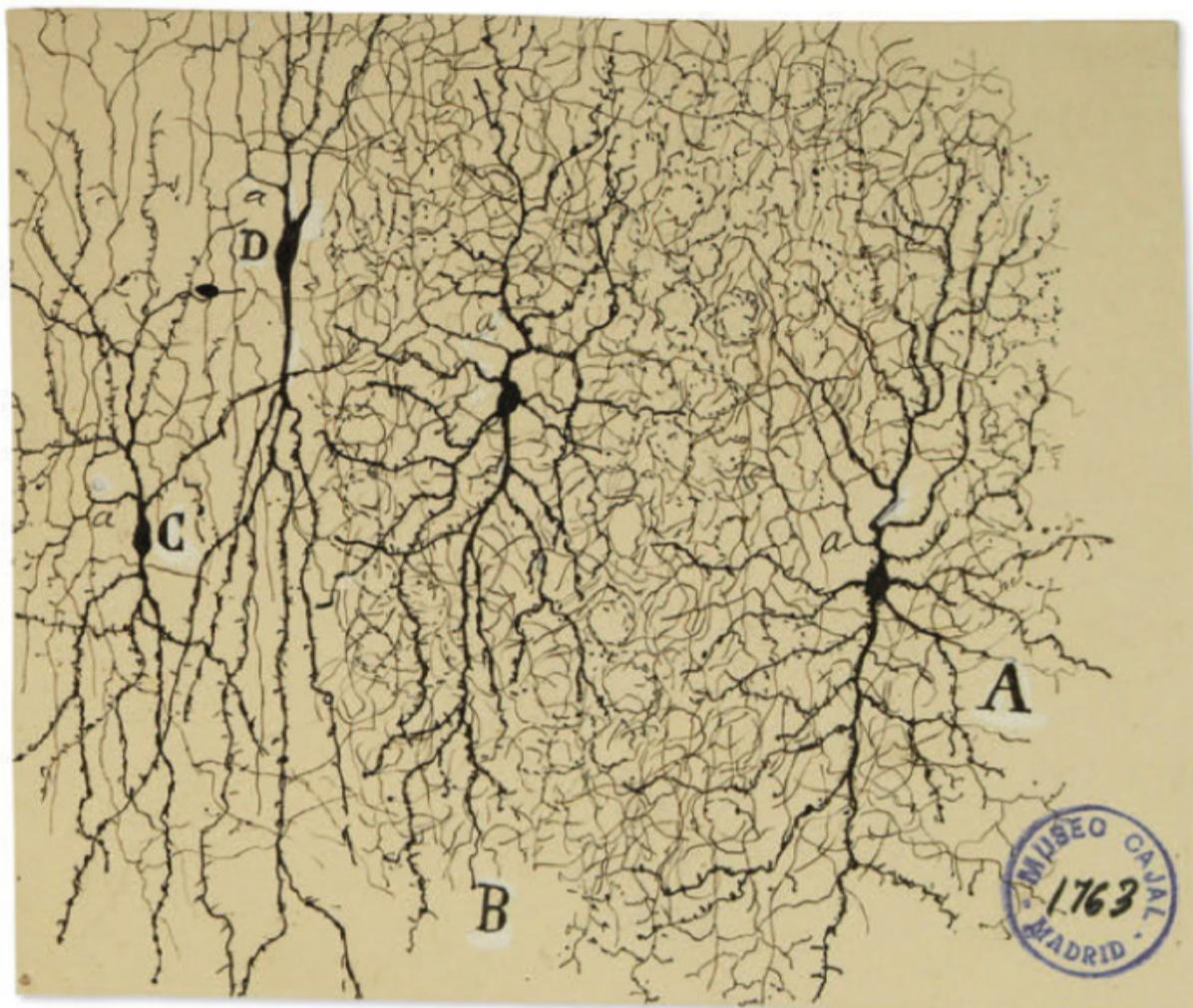
One reason why central banks nonetheless like to offer guidance is precisely because they dislike the bang-bang approach. They prefer to change interest rates in small increments. Forward guidance allows them to move gradually, while signalling that the first small step will not be the only one. But if investors heed the guidance, the future steps will be priced in to longer-term interest rates straight away. Thus gradual moves in the policy rate can be accompanied by big swings in broader financial conditions.

In principle, a central bank could abandon gradualism while still offering non-binding forecasts of what it might do in the future. But such Delphic utterances can be more trouble than they are worth. Financial markets often treat them as promises, not predictions. “People don’t hear the caveats that well,” says Mr Furman. Knowing this, central banks may feel unduly constrained by their past prophecies. That can make it harder than necessary to adjust when their predictions inevitably go awry. The Fed found itself in precisely such a predicament on June 10th, when surprisingly bad consumer-price inflation figures invalidated its recent prediction that it would raise interest rates by no more than half a percentage point at a time.

### The strong, silent type of monetary policy

Markets react badly when they think a central bank has broken a promise. That may add to volatility in itself. It may also erode the central bank’s credibility, so that when it does need to make a commitment its words are no longer believed. Because promises are hard to keep, a central bank should make no more than necessary.

The Fed could not adopt a closed-mouth monetary policy overnight, Mr Furman points out. Preparing markets for such a shift would take time. But the Fed could start considering it for its next tightening cycle. Even better, he jokes, perhaps a pioneer like the Reserve Bank of New Zealand could try it for a year first. ■



## Neuroscience

# Butterflies of the soul

**How neurons really work is slowly being elucidated. That will help both medicine and the search for better artificial intelligence**

**A** NEURON IS a thing of beauty. Ever since Santiago Ramón y Cajal stained them with silver nitrate to make them visible under the microscopes of the 1880s (see drawing above), their ramifications have fired the scientific imagination. Ramón y Cajal called them the butterflies of the soul.

Those ramifications—dendrites by the dozen to collect incoming signals, called action potentials, from other neurons, and a single axon to pass on the summed wisdom of those signals in the form of another action potential, turn neurons into parts of far bigger structures known as neural networks. Engineers now use simulacra of these to create what they are pleased to call artificial intelligence, though it is a pale shade of the real thing.

How neurons actually work their magic is only now being disentangled. One conclusion is that each is, in its own right, as powerful an information processor as a fair-sized artificial neural network. That has implications not only for learning how brains work—and how they go wrong—but also for designing artificial versions that more closely resemble the natural sort.

The first widely adopted neuron model, proposed in its existing form in 1957 by Frank Rosenblatt, an American psychologist (who drew, in turn, on Alan Turing, a British computing pioneer), was the perceptron. This is a mathematical function that receives sets of binary digits (zeros and ones) as inputs. It multiplies these by numerical “weights” and then adds the products together. If the result exceeds a preordained value, the perceptron spits out a “one”. If not, it spits out a “zero”.

### Layer cake

To make artificial neural networks, perceptrons are encoded as software. They are organised, logically speaking, into interconnected layers and the result is trained to solve problems via feedback and feedforward loops between the layers. These loops alter the values of the weights, and thus the behaviour of the network. The more layers, the “deeper” the network. Deep neural networks now underpin everything from Google Translate to Apple’s Siri.

All this imitates how action potentials arriving at the synaptic junctions between

### → Also in this section

73 Friends smell alike

74 Faeces banks

axons and dendrites, via which neurons communicate, were thought to trigger signals that then combined with each other to trigger (or not) new action potentials in the receiving cell’s axon. It is thus tempting to see neurons as physical perceptrons, with the difference from the computer versions that their signals are carried by sodium, potassium and calcium ions crossing cell membranes, rather than by a flow of electrons. And for decades that was just how many neuroscientists did see them.

In the early 2000s, though, Panayiota Poirazi of the Institute of Molecular Biology and Biotechnology in Heraklion, Greece, began looking at the matter differently. She imagined neurons themselves as perceptron networks. In 2003 she argued that a simple two-layer network might be enough to model them. Recent work has upped the ante. In 2021 David Beniaguev of the Hebrew University of Jerusalem concluded that, for human cortical neurons at least, five (and sometimes as many as eight) layers are needed, each with up to 256 perceptrons.

This means lots of computing must be going on inside individual neurons. And it is. Dendrites are now known to generate their own, tiny action potentials, called dendritic spikes. These come in several varieties: calcium spikes (long and slow); sodium spikes (short and fast); and NMDA spikes (triggered by a chemical called N-methyl-D-aspartate). Together, they let dendrites perform 15 of the 16 basic operations of Boolean algebra, a branch of math-►

ematics that is the basis of digital computing. Those operations compare two input values and spit out a third as a result. Some, such as AND, OR, NOT and NOR, are self-explanatory. Others, such as NAND, XNOR and XOR, less so.

XOR, in particular, is notorious. It gives a non-zero output only when its inputs are dissimilar. In 1969 two eminent computer scientists, Marvin Minsky and Seymour Papert, proved that XOR cannot be performed by a single perceptron—one of only two Boolean operation for which that is the case. This result stalled artificial-intelligence research for a decade, the first “AI Winter”, as it is retrospectively known.

That was thought true of dendrites, too. But in 2020 work by Albert Gidon of Humboldt University, in Berlin, in which Dr Poirazi was also involved, found a new class of calcium-based spike which permits XOR. That a single dendrite can thus outperform a perceptron suggests an entire layer of complex computation is going on out of sight of conventional models of neurons. That might help explain the remarkable performance of brains and the failure of artificial intelligence to reproduce it.

Axons, too, have been reassessed. The action potentials they carry had once been seen by many as analogous to the all-or-nothingness of a binary digit. Look closely, though, and action potentials vary in both height and width. That matters.

In 2016 a group from the Max Planck Institute for Neuroscience, in Florida (one of the organisation’s few campuses outside its German homeland), showed that neurons in the central nervous system actively adjust the breadth of their action potentials. The following year a team from Dartmouth College in New Hampshire discovered that those in the cortex actively adjust their heights as well.

Even the lengths of the intervals between action potentials matter. In May 2021 Salman Qasim of Columbia University reported that neurons in the hippocampus, a part of the brain involved in memory formation, modulate the timing of their firing to encode information about the

body’s navigation through space. And in August of that year Leila Reddy and Matthew Self of the University of Toulouse, in France, reported that neurons also do this to encode the order of events in memories.

All this has clinical implications. In particular, there is growing evidence that atypical dendrite development in childhood and early adulthood is linked to autism, schizophrenia and epilepsy. Deteriorating axonal function, meanwhile, is similarly associated with psychosis in multiple sclerosis, schizophrenia and bipolar disorder. These discoveries inform the development of new medicines. For example, ketamine, which triggers long-lasting structural change in dendrites, is receiving attention as a treatment for depression.

### The art of forgetting

The sophistication of the neuron and its constituent parts has also caught the attention of computer scientists. In the early 2010s deep neural networks drove such dramatic improvements in the abilities of artificial intelligence that there was genuine concern people would soon have to wrestle with machines cleverer than they were. Then, suddenly, progress stalled.

Deep neural networks have hit three obstacles. First, computer scientists found that once a network has learnt a task, it struggles to transfer those skills to a new one, however similar, without extensive retraining. Second, when such a network is retrained, it tends to forget how to perform the original task—an effect called catastrophic forgetting. Third, to train a large network requires immense volumes of data, access to supercomputers, and the megawatts of electricity needed to run those supercomputers for days (or even weeks) at a time.

The brain struggles with none of this. It effortlessly transfers knowledge between domains, has no trouble integrating old and new skills, and is remarkably efficient—running on watts, not megawatts. The sophistication of neurons may make the difference. In studies published last year and this, a team from Numenta, a Cali-

fornian research company, designed artificial neurons, with dendrite-like subcomponents, that are immune to catastrophic forgetting. A network of these trained on 100 tasks in sequence retained the ability to perform all with reasonable accuracy. The same network also outperformed networks of perceptrons at learning many tasks simultaneously.

Several studies show that sophisticated artificial neurons can approximate complicated functions—XOR, for example—with greater accuracy and less energy than perceptrons do. Connected into networks, such devices learn faster and at a lower computing cost than perceptrons. The question of how brains apply knowledge from one domain to others remains a mystery, but it would not be a surprise if the complexity of neurons explains that, too.

The lesson, then, is familiar: nature got there first. Necessity may be the mother of invention, but natural selection is the mother of inventors. In both neuroscience and artificial intelligence the next decade promises to be wild. Over a century after he described them, Ramón y Cajal’s butterflies are taking flight. ■

### Human behaviour

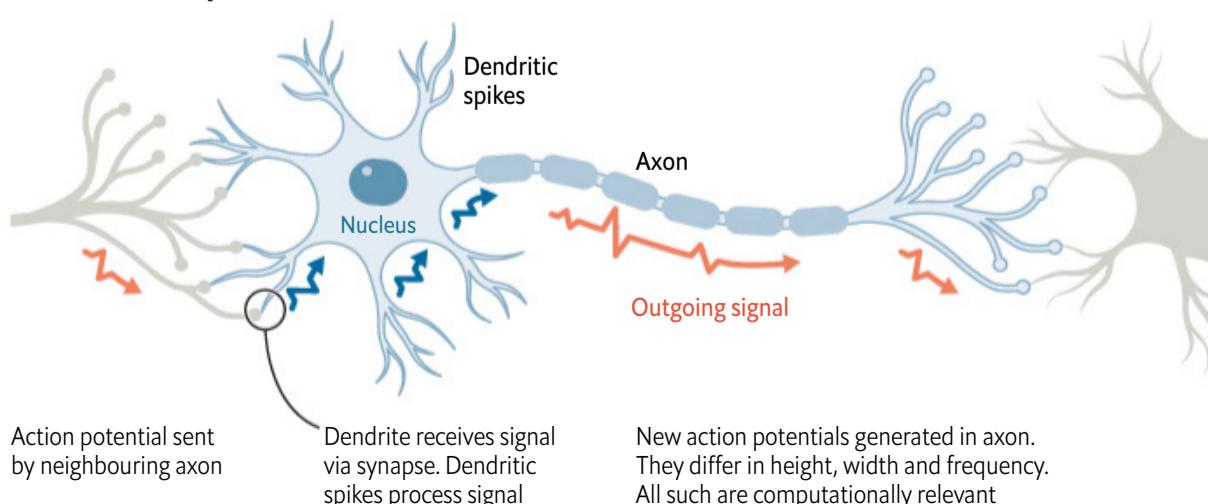
## Smell you later, alligator

**Friends, it seems, often have similar body odours**

Dogs greet other dogs nose-first, as it were—sniffing each other from fore to (especially) aft. People are not quite so open about the process of sniffing each other out. But the size of the perfume industry suggests scent is important in human relations, too. There is also evidence that human beings can infer kinship, deduce emotional states and even detect disease via the sense of smell. Now, Inbal Ravreby, Kobi Snitz and Noam Sobel of the Weizmann Institute of Science, in Israel, have gone a step further. They think they have shown, admittedly in a fairly small sample of individuals, that friends actually smell alike. They have also shown that this is probably the case from the get-go, with people picking friends at least partly on the basis of body odour, rather than the body odours of people who become friends subsequently converging.

As they report in *Science Advances*, Dr Ravreby, Dr Snitz and Dr Sobel started their research by testing the odours of 20 pairs of established, non-romantic, same-sex friends. To do this they employed an electronic nose (e-nose) and two groups of specially recruited human “smellers”. ■

### How neurons process information



The e-nose used a set of metal-oxide gas sensors to assess t-shirts worn by participants. One group of human smellers were given pairs of these shirts and asked to rate how similar they smelt. Those in the other group were asked to rate the odours of individual t-shirts on five subjective dimensions: pleasantness, intensity, sexual attractiveness, competence and warmth. The e-nose results and the opinions of the second group of smellers were then subjected to a bit of multidimensional mathematical jiggery-pokery (think plotting the results on a graph, except that the graph paper has five dimensions), and they, too, emerged as simple, comparable numbers.

All three approaches yielded the same result. The t-shirts of friends smelt more similar to each other than did the t-shirts of strangers. Friends, in other words, do indeed smell alike. But why?

To cast light on whether friendship causes similarity of scent, or similarity of scent causes friendship, Dr Ravreby, Dr Snitz and Dr Sobel investigated whether e-nose measurements could predict positive interactions between strangers—the sort of “clicking” that is often the basis of a new friendships. To this end they gathered another 17 volunteers, gave them t-shirts to wear to collect their body odours, ran those odours past the e-nose, and then asked the participants to play a game.

That game involved silently mirroring another individual’s hand movements. Participants were paired up at random and their reactions recorded. After each interaction, they demonstrated how close they felt to their fellow gamer by overlapping two circles (one representing themselves, the other their partner) on a screen. The more similar the two electronic smell signatures were, the greater the overlap. Participants also rated the quality of their interaction in the game along 12 subjective dimensions of feelings that define friend-

ship. Similar odours corresponded to positive ratings for nine of these dimensions. Intriguingly, however, two participants smelling alike did not mean they were any more accurate at the mirroring game than others, as measured by a hidden camera.

Why scent might play a role in forming friendships remains obscure. Other qualities correlated with being friends, including age, appearance, education, religion and race, are either immediately obvious or rapidly become so. But while some individuals have strong and noticeable body odour, many—at least since the use of soap has become widespread—do not. It is present. But it is subliminal. Dr Ravreby speculates that there may be “an evolutionary advantage in having friends that are ge-

netically similar to us”. Body odour is known to be linked with genetic make-up (particularly with the genes underlying part of the immune system called the major histocompatibility complex). Smelling others may thus allow subconscious inferences about genetic similarity to be drawn.

That still, however, does not quite answer the question. Dr Ravreby speculates that odour-matching of this sort may be an extended form of kin selection, which spreads an individual’s genes collaterally, by helping the reproduction of relatives who are likely to share them. If those who smell similar are kin enough for this to apply, their children will be as well. “So by helping friends,” Dr Ravreby offers, “we help spread our own genes.” ■

#### Faecal transplants

## A little something in the bank

#### A new way to save for old age

IT NEVER HURTS to put something aside for a rainy day. And not just money can be put in a bank. Blood from donors is routinely banked, too. And some parents bank blood from their child’s umbilical cord, on the off-chance that stem-cells therein will prove useful for the future treatment of bone-marrow cancer. But three researchers at Harvard Medical School propose going further. They suggest people consider banking deposits, as it were, of their faeces.

Yang-Yu Liu, Shanlin Ke and Scott Weiss describe their proposal in *Trends in Molecular Medicine*. Modern life, they observe, is not kind to gut bacteria. Terrible eating habits; frequent use of antibiotics; jet-lag-inducing, diet-changing travel; sleep deprivation; even simply living longer; these all take a toll on the complex microbial ecosystems hosted by people’s intestines. That contributes to a range of illnesses, including *Clostridioides difficile* infections, irritable-bowel syndrome (IBS), inflammatory bowel disease, type 2 diabetes, asthma, cardiovascular problems and colorectal cancer.

One approach to dealing with some of these (*C. difficile* and IBS, in particular) has been faecal transplantation. This takes healthy people’s stools and inserts them, with their payloads of well-adjusted bugs, into the guts of suffering individuals. It is 80-90% successful at treating *C. difficile* infections, though only between a quarter and a half of those with IBS gain benefits. At least as intriguing are animal studies that install the gut microbes of thin animals in obese conspecifics. This often causes the recipients to lose weight, though it has

not yet been tried in people.

Faecal transplanting is still in its early days. But faeces banks analogous to blood banks now exist in America, Britain, China, France and the Netherlands. As with blood transplants, donations from these need to be matched to a given recipient, otherwise a bad reaction, such as a new infection, may result. But unlike tissue-matching by blood group, faecal matching is still an inexact science.

Hence the three researchers’ suggestion that people might, when young and healthy, bank their own faeces for future use. They propose establishing facilities where stool samples will be held at the temperature of liquid nitrogen, as happens with existing faeces banks. Then, if a depositor needs a little gut rejuvenation in later life, he or she can withdraw part of the account, return it to room temperature, and make of it an enema.

There may be risks in this approach, too. Immune systems decline in potency as they age, so a bug kept under control at the time a deposit was made might go haywire later. Also, science may advance in the interim to a point where cocktails of microbes can be mixed reliably in a laboratory to perform whatever medical tasks are needed. The deposit will then be redundant, and any annual maintenance payments wasted.

On the other hand, the list of conditions affected by gut microbes is so long that other microbe-related treatments may well be developed. Those with a sample of their microbial youth to hand might be best placed to benefit from these. If successful, the result could be a whole new movement.



Fragrant friendships

**Artists at war**

## No more “Swan Lake”

KYIV

**Olesia Vorotnyk was a dancer with Ukraine's national ballet. Then came the war**

UKRAINE IS PROTECTED by men with guns. They are dug into trenches and posted at the many bases that dot the front lines. They browse in shops, stroll by the sea and lie splayed across tanks. But since the war began another heroic figure has emerged: the woman with a gun. One of them is Olesia Vorotnyk, a ballerina with the National Opera of Ukraine who left the company to defend her country.

Now 30, Ms Vorotnyk has been dancing professionally since 2009. She was a child gymnast before starting ballet lessons at ten. She studied at the Kyiv Choreographic College and then joined the dance troupe of the National Opera. “A career that’s tough on the feet,” she says simply.

Military service is as much a part of her life story as dance. Her husband, with whom she had a son, was killed three years ago in the rumbling conflict in the east of Ukraine that followed the Russian-backed

insurgency of 2014. When the new war began in February, she knew she had to do something, but wasn’t sure what. “I could shoot, though,” she says. “It’s my hobby. I knew that if there was a full-on invasion I wouldn’t go abroad. I would fight.”

Immediately she quit the ballet and took up a position at a checkpoint, armed with an AK-47. Those first few days were chaos, she recalls. Russian troops were said to have encircled the city. People waited for the tanks to roll in. Ms Vorotnyk decided to start evacuating civilians. “I used back roads to get people out. Mostly they were my friends, women with children.”

Soon she resolved to join the Territorial Defence Forces, the country’s military reserve. It wasn’t easy to get in. Everyone wanted to sign up—and the preference was for men with military experience: “As a female ballerina I wasn’t top of the list.” Yet there are, she thinks, some useful similar-

### → Also in this section

---

**76 A novel of motherhood**

---

**77 Escape from Auschwitz**

---

**77 Regulating tech**

---

**78 Michael Armitage’s innovative art**

---

**79 Johnson: The miracle of writing**

ties between ballet and military service.

Ballet instils discipline. It cultivates strength of mind—and means tolerating pain. “The shoes hurt; staying on your toes hurts,” Ms Vorotnyk says. “Your feet bleed. But you learn to dance through it all.” She knows several women now serving in the army who studied rhythmic gymnastics, which, for similar reasons, she sees as akin to military training.

So she waited in the queue at her local recruitment office and was eventually accepted. Thus began a life of guarding her neighbourhood in Kyiv, gun slung over her shoulder, and working the checkpoints. “It was a nightmare,” she remembers. “Fear of saboteurs was everywhere.” She helped evacuate more people, once spending 19 hours driving some to (relative) safety in western Ukraine. The Russians were shelling the Zhytomyr Highway, which runs to the Moldovan border, and she was forced to use winding village lanes as the barrage roared around them.

But there was nowhere else she would rather have been. Along with dance and discipline, national feeling was inculcated in her from an early age in what was a devoutly pro-Ukrainian household. After the insurgency began in 2014, she took a break from dancing to travel to the Donbas region and see the situation with her own ➤



The dancer and the stance

eyes. She brought books in Ukrainian to libraries in the east, on subjects of national importance such as the Holodomor, the famine Stalin inflicted on Ukraine in the 1930s. The aim was to nurture knowledge about the country, and pride in it.

For Ms Vorotnyk, the war—and the facts—are simple. Ukraine is a great sovereign nation, whose people are demonstrating their unity. “Every citizen is playing their part,” she says. “We want our children to grow up with a strong, confident Ukraine, not the lies that were sold to us during the Soviet Union.”

#### The stage of history

The arts have a special role in this struggle. With varying ferocity, Russian tsars and Soviet rulers stamped on Ukraine’s culture for centuries, persecuting Ukrainian artists, ridiculing their national aspirations and suppressing their language. Here culture is always political—never more than during a war in which history and identity are as contested as territory. Since it began, for instance, Ms Vorotnyk’s ballet company no longer puts on work by Russians. “There is no more ‘Swan Lake’,” she says. Tchaikovsky is out.

In the West, arguments continue over boycotting Russian culture—how to balance outrage with engagement, whether to distinguish between classical and current artists, or between those who now support the Kremlin and those who repudiate it. For Ms Vorotnyk and others in Ukraine, the situation is straightforward. “Foreigners don’t fully understand our position because ballet is always associated with Russia,” she says. “But people in occupied Mariupol refused to take food and humanitarian aid from Russians—they chose to starve. It’s not fair for the ballet to perform [Russian works] while they suffer.”

In early June Ms Vorotnyk decided it was time to dance again. The heavy fight-

**Still Born.** By Guadalupe Nettel. Translated by Rosalind Harvey. *Fitzcarraldo Editions; 200 pages; £12.99*

THE NARRATOR of Guadalupe Nettel’s transfixing fourth novel makes what she calls “the best decision of her life”: she resolves to get her tubes tied. In the past Laura, now a 30-something graduate student, had been tempted by the idea of pregnancy, “just as someone who without ever having contemplated suicide, allows themselves to be seduced by the abyss from the top of a skyscraper”. After the surgery, she describes the procedure to her friend Alina as “the perfect precaution”, an inoculation against the pressures that society heaps on women.

Like Elena Ferrante’s tale of maternal ambivalence, “The Lost Daughter”, and Rachel Cusk’s unblinking memoir, “A Life’s Work”, “Still Born” evokes the darker side of motherhood. In Laura’s case, the feeling of aversion to it runs deep. As a five-year-old, she remembers, she once looked at her own mother, worn out from the kind of “incurable” exhaustion “that comes from having to deal with problems and tamping down your emotion”, and was “filled with rage”.

Like the author, Alina and Laura are from Mexico City, but meet in their 20s while living in France, bonding over their distaste for “the human shackles” of parenthood. Years later, when they are both back in Mexico, Alina reveals that she and her partner have decided to have a baby. Laura laments a decision that, in her view, will see her friend join the “sect of mothers, those creatures with no life of their own who, zombie-like, with huge bags under their eyes, lug prams around the streets.”

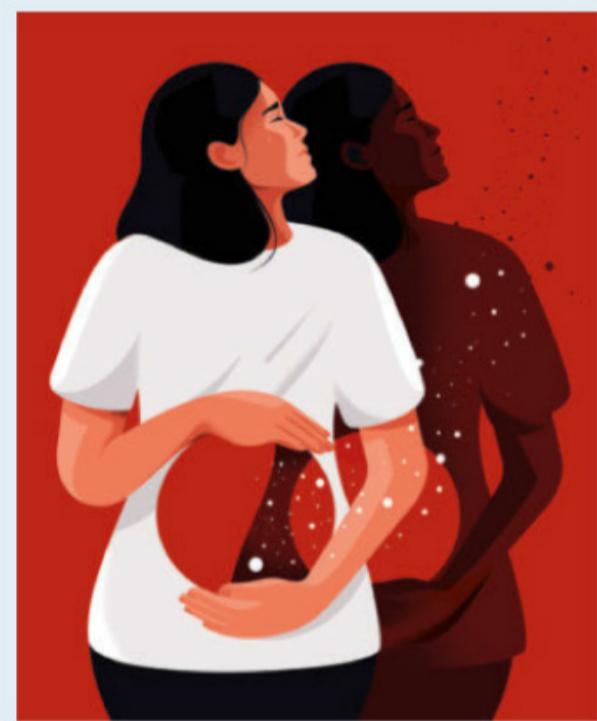
Alina eventually becomes pregnant, but in her final trimester is warned that

had long moved far from Kyiv. Her next performance will be in “Die Libelle” (“The Dragonfly”) by Josef Strauss. Her overriding virtue as a dancer, says Viktor Lytvynov, a ballet master at the National Opera, is her courage. “It requires bravery to perform the role of an ugly woman, which she will be doing next,” he says. “It’s this that makes her such a good fighter.”

Ms Vorotnyk knows she can be called back to serve at any time. She still practises shooting almost every day. She still volunteers in her neighbourhood. Amid missile strikes on the city, she knows the violence

the infant will die as soon as she is delivered. “Still Born” unspools from this horror to convey the extremes of love and grief. An unflinching witness to her friend’s experiences, Laura is a flawed but engaging narrator. Unforgiving and indiscreet—she announces Alina’s pregnancy at a party without her permission—she also forms an unexpected bond with a neighbour’s child, a little boy “who seems dissatisfied with life” and is prone to tantrums.

Rosalind Harvey skilfully translates the original Spanish into precise and plain, but deeply moving, prose. Without resorting to sentimentality, the novel charts its characters’ halting efforts to understand and comfort one another. It is a piercing reflection on the ways acts of care can bind people together, and on the unpredictability of life. You make decisions, but as Alina tells Laura, “whatever has to happen will happen. No one gets out of that.”



is far from over; for her, it is always close. She shows, on her phone, a picture of her son when he was a baby. He is swaddled in her dead husband’s flak jacket.

“There was this myth of the great Russia, and its great army,” the warrior-ballerina reflects. But in the wake of all the pillage and looting, “we see the truth: they come here to steal our toilets.” These feelings will not fade soon. Ms Vorotnyk says she has “seen Russian culture in Bucha and Irpin”, places near Kyiv where the invaders committed war crimes. “I wonder if those Russians read Pushkin.” ■

## The Holocaust

# Warning from hell

**The Escape Artist.** By Jonathan Freedland.  
John Murray; 400 pages; £20.  
To be published in America by Harper in  
October; \$28.99

ONE DAY IN 1978 Rudolf Vrba was in a restaurant in New York when he spotted a number tattooed on a waiter's arm. Vrba (pictured) told him that he must be a Jew from Bedzin, Poland, who had arrived in Auschwitz in the summer of 1943. The waiter, amazed, confirmed this deduction.

Vrba's extraordinary memory was his curse and a salvation. His curse, because he could never forget the columns of terrified Jews on the ramp at Birkenau, the corpses he had to carry or the smoke spiralling out of the crematoria. A salvation, because the details he memorised eventually helped stop the deportation trains.

Born Walter Rosenberg in Slovakia in 1924, he arrived in Auschwitz in June 1942. Daringly and desperately he escaped with Alfred Wetzler, a compatriot, in early April 1944. They made their way back to Slovakia, finding shelter with the remnants of the Jewish community. The two men's account of the camp was typed up and edited into a 32-page forensic report on the inner workings of the Nazi death machine.

Jonathan Freedland is both a columnist at the *Guardian* and a thriller writer, and he tells this harrowing and astonishing story with pace and verve. Vrba (as he became after the escape) wound up as a clerk in Auschwitz, so was fairly free to roam the camp. He had also been posted to the section known as Kanada, where inmates unpacked the suitcases of those recently gassed, quickly forcing down any food they might find: "The lemons, the tins of sardines, the bars of chocolate...they had all been packed by anxious mothers and worried grandfathers." By the spring of 1944, the SS guards were joking about the "Hungarian salami" that would arrive with the Jews of Hungary, the last surviving community in Nazi-occupied Europe.

Vrba and Wetzler hoped that by alerting the Hungarian Jewish leadership—and the world—to the reality of Auschwitz, they would save Hungary's Jews. Their report reached Budapest at the end of April 1944. Yet between May and July Hungarian officials enthusiastically deported almost 440,000 Jews from the provinces to Auschwitz, most of whom were killed on arrival.

The behaviour of Hungary's Jewish leaders remains controversial. Rezso



Survivor's rage

Kasztner, a prominent Zionist, presented the report to the country's Jewish Council on April 29th. Kasztner negotiated with the Nazis for the lives of nearly 1,700 Jews; whether he smoothed the path to destruction for others has always been fiercely debated. Echoing Vrba's judgment, Mr Freedland thinks that, by not doing more to publicise the report, Kasztner gave the Nazis "the one thing they deemed indispensable...order and quiet". Arguably, though, the Jewish Council itself, which had far more influence, deserves more blame.

The underlying point about the report's reception is wider, and profound. Vrba was sure, says Mr Freedland, that "facts could save lives". Yet, he observes, "only when information is combined with belief does it become knowledge." If the facts are unpalatable or outlandish—as the hell of the camp seemed to many Jews, and some Allied leaders—denial and cognitive dissonance can stifle the urge to act.

The Vrba-Wetzler report made its way to Allied capitals, the Vatican and the offices of Admiral Horthy, Hungary's regent. In the summer of 1944, after entreaties from the pope and warnings of punishment from President Franklin Roosevelt, Horthy halted the deportations. The 200,000 Jews of Budapest were safe—until the Hungarian Nazis, the Arrow Cross, took power in October, after which many perished.

After the war Vrba trained as a biochemist and moved to Canada, forever raging against the Hungarian Jewish leadership's failures. Mr Freedland's vivid, compassionate book brings out the horror and tragedy of his experiences: the Nazis' depravity, the caprices of death and survival, the toll of violence, exhaustion and incomprehension on the doomed deportees. An important addition to Holocaust historiography, it honours the memory of two brave and determined men who helped save some of the last Jews of Europe. ■

## Regulating tech

# Power to the people

**The Digital Republic.** By Jamie Susskind.  
Pegasus Books; 304 pages; \$28.95.  
Bloomsbury; £16.99

THE INTERNET was once billed as a new electronic frontier of unbounded freedom. Nowadays it tends to offer only a manipulative, "click-to-consent" illusion of autonomy. This evolution is not surprising, argues Jamie Susskind, a British barrister who studies technology's relationship with society. Code carries power: the power to determine what choices users get, to gather data on them and to shape their perceptions. Those who wield it—the "autocrats of information", in a phrase borrowed from Ada Lovelace, a 19th-century coding pioneer—are mostly invisible and unaccountable. As life becomes more networked, citizens come to feel dominated by IT and its overlords.

Mr Susskind wants to restrain this unaccountable power, much as 18th-century democrats did for the state and 19th-century reformers for corporations. His idea is to apply the principles of republicanism to IT. Mr Susskind is no Luddite: he does not imagine tech's power could be eliminated, even if that were desirable. Rather, he wants new rules and institutions "to expose that power, to make it answerable, to disperse it, to restrain it and to make sure it cannot be used by one group to dominate others."

The book's diagnosis of the threat is persuasive, if partly familiar. Rather than following Black Lives Matter activists, police can now buy their data from social-media companies, a "big brotherhood" of private surveillance. Twitter hides tweets with only the vaguest explanations and cursory due process. Polarising suggestion algorithms on YouTube and Facebook obstruct citizens' freedom to gain an objective picture of the world. Artificial-intelligence programs that pick job candidates exacerbate the racial and gender bias in the real-world data they are trained on.

The reach and granularity of code are unprecedented. Thomas Hobbes wrote that regulating "all the actions, and words of men" was "a thing impossible", Mr Susskind notes. "But it seems much more possible now—and the rules are coming from private authorities, not just public ones."

Part of the problem, he thinks, is the philosophy of market individualism that has structured internet governance. For markets to function, consumers need in-

formation and choice. But code is invisible, and the information asymmetry between the average user and Google is titanic. (What determines which search results land in your top ten? Who knows?) Worse, people struggle to opt out of most digital systems. Scanners track the movements of Amazon workers; the owners of iPhones have no idea what is in Apple's terms and conditions. The European Union's GDPR data-protection law does not enhance freedom by asking you about cookies 50 times a day. In the digital world, "consent" is often meaningless.

Digital republicanism would replace this philosophy with one that prioritises society's health and citizens' freedom. Laws governing IT should ensure that it preserves democracy, reduces the domination of some groups (including the tech industry) over others, mirrors the ethical culture of the host society and minimises government intrusion. Mr Susskind suggests a number of new institutions to help.

Online tribunals, already functioning

in Canada, could provide quick due process for digital flashpoints like social-media suspensions. Taiwan has pioneered an online platform for consensus-building national deliberations. Data unions could help citizens protect and collectively market their data. Programmers could be required to take ethics courses; tech firms might be subject to government certification and a duty of openness in their code.

These reforms sound promising. But Mr Susskind's book is a bit skimpy on how they might come about. The republican arguments of James Madison changed the world not just through force of rhetoric, but because they chimed with the interests of the new classes and industries of the dawning age of capitalism. Who might embrace the cause of digital republicanism is less clear. Generation Z frets over unaccountable power in tech, but tends to discuss it in terms of platform-denial, safe spaces, ratios and gaslighting. Initiatives such as a duty of openness may be better policy. But who will fight for them? ■

his subjects is no longer living. It is the first picture you see, and also the smallest, depicting the head of Koitalel Arap Samoei, a hero of the Kenyan resistance against British colonialists who began to build a railway across his tribal lands. In 1905 Koitalel was invited to a discussion with the authorities, only to be shot and decapitated by a notorious colonel called Richard Meinertzhagen. Koitalel's bloodied head was dispatched to London and has never been returned. In the background of Mr Armitage's painting a man has taken off his shoes as he bathes in the river, as if washing away his dirty work.

Now 38, Mr Armitage has always been interested in how stories get told. The son of a Kenyan mother and British father, he learned about colonial history at school in Nairobi. At the same time he was introduced to local painters and sculptors whose work evoked a sexual freedom that was almost never publicly discussed in conservative Kenyan society. A course at the Slade School of Fine Art in London and postgraduate studies at the Royal Academy introduced him to dozens more artists who broke rules and confounded norms. Discovered by Irene Bradbury, a curator at White Cube gallery (to which the new show will move in September), his work reflects the influence of Cézanne, Gauguin, Goya and Manet, among others.

Mr Armitage's habit is first to tease out ideas in Kenya, making photographs, informal videos and preparatory sketches, then to return to his studio in London to work these up into finished paintings. A major stylistic breakthrough came with his discovery of *lubugo*, the outer layer of bark from a ficus tree that is commonly used as a shroud in southern Uganda, but also makes for an unusual artist's canvas. Torn, scrunched or thickly stitched to form scars on the surface, *lubugo* offers endless compositional possibilities. In one picture Mr Armitage has used a long line of horizontal stitching to help trace the branch of a tree, in another he paints an imagined Boschean anus around a hole in the material.

### Bark and bite

Smooth industrial canvas carries thick paint without trouble; by contrast, to avoid clogging on the rough *lubugo*, colour must be added in thin layers, almost like a glaze, which allows the artist to experiment with different hues. Notwithstanding those closed eyes, his uses of colour and perspective are the show's most interesting features. "I was thinking about the narrative effect of colour," he explains; "being able to talk about specific things by the way that colour changes."

Some of the brightest and most vivid works are drawn from imagery originally made in black and white. The famed diagram of the *Brookes*, a British slave-ship

### Contemporary art

## Eyes wide shut

BASEL

**Michael Armitage uses startling techniques to tell urgent stories in art**

INVITED THREE years ago to create a body of work for the Kunsthalle in Basel, where a seminal early Picasso show was put on in 1914, Michael Armitage quickly decided to fill one of its galleries with paintings of people with their eyes shut. They are variously daydreaming, fast

asleep or comatose after sniffing glue. "It was just a very simple idea," he explains. "It ended up being somewhere between death and life and something imagined."

The title of his newly opened show, "You, Who Are Still Alive", came to him as lockdown ended; and, indeed, only one of



Ways of seeing the past

► that transported enslaved Africans to the Caribbean, offers inspiration for a painting of a police holding-cell in Nairobi where waves of prisoners, rendered in turquoise and aubergine, lie cheek by jowl. In the title painting, "You, Who Are Still Alive", a man lies on a gurney, his head on a pillow. A hole in the *lubugo* canvas could be a bullet wound in his side. The work recalls a photo of Dedan Kimathi, a Mau Mau general, whose capture in 1956 gave rise to one of the most powerful black-and-white images of 20th-century Kenyan history.

In "Curfew (Likoni March 27, 2020)" the

artist plays boldly with perspective. The title marks the date that Kenya introduced an all-night curfew to help combat covid-19. Mr Armitage has painted workers, one with a black face and candy-pink arms, flooding onto the quayside in Mombasa to catch the last ferry home. Police beat them back with swirling red whips. Figures in the foreground seem tiny, while images at the back appear huge, an inversion of perspective that adds to the atmosphere of unease and dysfunction. "One way of expressing that thought through perspective," Mr Armitage observes, "would be to distort the

way in which one sees it, like the way one's memory is distorted by an event."

His work is in increasing demand among both private collectors and institutions. In May he was asked to design Britain's new £1 coin, which is due to be released next year. His title in Basel, "You, Who Are Still Alive", seems to interrogate the viewer. Who are you and what do you stand for? How have you contributed to the oppression of others? What have you done—and what will you do now? As Elena Filipovic, director of the Kunsthalle, says: "It's almost a call to arms." ■

## Johnson The miracle of writing

*Only in retrospect does the idea of making pictures stand for sounds seem obvious*

**I**F YOU ARE reading this column, a combination of 26 squiggles on a page or screen is putting the sounds and meaning of this sentence into your head almost without effort on your part, though you have almost certainly never met the writer. If you are listening to this on *The Economist's* audio edition, a reader who has also never met the author has turned a copy of those squiggles into intelligible sound waves for you.

Writing is such an everyday miracle that it is easy to take for granted. People who can read cannot stop themselves, as studies have shown in which subjects are told to ignore a word flashing on the screen while attending to another task, but are unable to do so. Reading is the prime goal of education everywhere. Writing seems so fundamental that it is hard to believe just how recent, and contingent, it really is.

Estimates differ widely on when language was developed, from 50,000 years ago to as many as 1.9m years. On even the most recent hypothesis, humans spent 45,000 years talking before it occurred to a few to make their words into durable visual signs. Writing was then independently invented just four (proven) times, in Mesopotamia, Egypt, China and Mesoamerica. Most people lived without it for a few more millennia. Only in the 1940s did humankind pass a literacy rate of 50%.

"The Greatest Invention", a new book by Silvia Ferrara of the University of Bologna, restores a sense of wonder at the imaginative leaps required to invent writing. Part of her story (translated by Todd Portnowitz) is familiar: the procession from drawings (a picture of a bull is just that, a bit of art) to visual icons (just a couple of lines to indicate, say, "house"), to symbols. The leap to sym-



bols is crucial: these are distinct from the original referent, allowing them to stand for abstract things, including the many verbs that are hard to picture. Think of the floppy-disk icon meaning "save", even when no floppy disk is involved.

Ancient cultures could have stopped at the symbolic phase, using stylised, stripped-down images to stand for important things and ideas, without intending to represent full sentences. Several, including the Indus Valley civilisation split between today's India and Pakistan, may have done just that; its script, if indeed it is one, remains undeciphered. But at some point—the Sumerians of the third millennium BC are usually awarded first prize, though Ms Ferrara makes a case for Egypt—people stumbled on the "rebus principle". This is familiar from modern children's games in which a bee stands for the verb "be". In languages like Sumerian that have a small set of simple syllables, a few hundred symbols can represent anything you can say.

It may be that all those who invented writing independently relied on the rebus

(though Mayan shows scant clear evidence of it). Some moved past it to alphabetic writing, with characters representing sounds, not syllables. But the rebus remains the core of the story, bootstrapping societies from complete ignorance of the very idea of writing to lives that cannot be imagined without it.

Ms Ferrara dissents from the narrative in which civilisation and writing advanced in lockstep, to serve increasingly bureaucratic states. She thinks the script of Easter Island is another candidate for independent invention, despite the absence of a state. And some states, like the Inca empire, did without writing (though the Incas developed an extraordinary system of knots called *quipu*, still only partly understood). Her book is a joyful tale of writing as a means of self-expression, showing off and play.

She describes experiments in which participants played a Pictionary-like game that got them to draw things including "Brad Pitt". Though barred from talking, they could share and revise their solutions. Initially they produced bad pictures of Mr Pitt and his famous then-wife Angelina Jolie. But a few souls stumbled on the rebus principle, sketching either a pit in the ground or a stick-man with an arrow pointing to his armpit. Before long, even these were stripped down, until a circle (for the head), an angle (a raised arm) and a line (no longer even an arrow) were all that was needed to depict one of the world's most handsome men. Anyone can invent writing.

But no one did, for aeons of humankind's linguistic existence. Everyone who loves to read and write today owes a debt of gratitude to those who, whether out of play or necessity, finally had the idea, obvious only in retrospect, of making pictures stand for sounds.

## Economic data

	Gross domestic product			Consumer prices		Unemployment rate		Current-account balance		Budget balance		Interest rates		Currency units		
	% change on year ago latest	quarter*	2022†	% change on year ago latest	2022†	%		% of GDP, 2022†		% of GDP, 2022†		10-yr gov't bonds latest,%	change on year ago, bp	per \$ Jun 29th	% change on year ago	
United States	3.5	Q1	-1.6	2.3	8.6	May	7.8	3.6	May	-4.3	-5.9	3.1	161	-	-	
China	4.8	Q1	5.3	4.0	2.1	May	2.1	5.9	May‡§	2.5	-6.2	2.7	§§	-28.0	6.70	-3.6
Japan	0.4	Q1	-0.5	2.1	2.4	May	2.2	2.5	Apr	1.4	-6.0	nil	-8.0	137	-19.2	
Britain	8.7	Q1	3.0	3.6	9.1	May	7.2	3.8	Mar††	-2.7	-5.5	2.4	152	0.83	-13.2	
Canada	2.9	Q1	3.1	3.8	7.7	May	6.2	5.1	May	1.1	-3.6	3.3	191	1.29	-3.9	
Euro area	5.4	Q1	2.5	2.3	8.1	May	7.2	6.8	Apr	2.3	-4.4	1.5	169	0.95	-11.6	
Austria	9.5	Q1	10.0	3.5	7.7	May	7.0	4.4	Apr	-1.3	-4.7	2.1	203	0.95	-11.6	
Belgium	4.9	Q1	2.2	2.0	9.6	Jun	9.2	5.7	Apr	-1.3	-3.8	2.2	212	0.95	-11.6	
France	4.5	Q1	-0.8	2.2	5.2	May	5.5	7.2	Apr	-1.4	-5.7	2.1	188	0.95	-11.6	
Germany	3.8	Q1	0.9	1.3	7.6	Jun	7.7	3.0	Apr	6.3	-3.2	1.5	169	0.95	-11.6	
Greece	7.9	Q1	9.7	4.0	11.3	May	8.2	12.7	Apr	-5.9	-5.0	3.7	282	0.95	-11.6	
Italy	6.2	Q1	0.5	2.7	6.8	May	6.5	8.4	Apr	1.0	-5.9	3.5	263	0.95	-11.6	
Netherlands	6.7	Q1	1.7	2.4	8.8	May	10.4	3.3	May	8.7	-3.4	1.9	192	0.95	-11.6	
Spain	6.3	Q1	0.8	4.0	10.2	Jun	7.2	13.3	Apr	0.8	-5.7	2.7	214	0.95	-11.6	
Czech Republic	5.1	Q1	3.7	2.2	16.0	May	11.9	2.4	Apr‡	-2.5	-4.8	5.1	325	23.6	-9.3	
Denmark	6.6	Q1	-0.4	2.1	7.4	May	6.9	2.4	Apr	8.2	1.0	1.9	178	7.10	-12.0	
Norway	4.8	Q1	-3.8	3.2	5.7	May	4.8	3.2	Apr‡‡	16.4	8.7	1.4	76.0	9.86	-13.2	
Poland	9.4	Q1	10.4	4.5	13.9	May	13.5	5.1	May§	-2.5	-3.7	7.1	534	4.46	-15.0	
Russia	3.5	Q1	na	-10.0	17.1	May	21.0	3.9	May§	9.9	-4.4	8.7	151	53.5	36.0	
Sweden	3.1	Q1	-3.2	2.4	7.3	May	5.1	8.5	May§	4.1	0.4	1.9	153	10.2	-16.5	
Switzerland	4.4	Q1	1.9	2.4	2.9	May	2.5	2.2	May	6.3	nil	1.3	149	0.95	-3.2	
Turkey	7.3	Q1	4.9	3.0	73.5	May	62.2	10.6	Apr§	-4.2	-3.6	18.4	183	16.6	-47.5	
Australia	3.3	Q1	3.1	3.0	5.1	Q1	5.0	3.9	May	3.1	-3.2	3.7	219	1.45	-8.3	
Hong Kong	-4.0	Q1	-11.4	0.8	1.3	May	4.1	5.1	May‡‡	0.3	-6.7	3.1	188	7.85	-1.1	
India	4.1	Q1	1.9	6.9	7.0	May	7.3	7.1	May	-1.5	-6.6	7.5	142	79.0	-6.0	
Indonesia	5.0	Q1	na	5.1	3.6	May	5.3	5.8	Q1§	0.2	-4.8	7.3	68.0	14,850	-2.5	
Malaysia	5.0	Q1	na	5.0	2.8	May	3.1	3.9	Apr§	2.5	-6.2	4.2	92.0	4.40	-5.7	
Pakistan	6.2	2022**	na	6.2	13.8	May	16.1	6.3	2021	-5.3	-7.1	12.9	†††	302	205	-23.1
Philippines	8.3	Q1	7.8	7.1	5.4	May	4.7	5.7	Q2§	-3.0	-7.7	7.1	309	55.1	-11.9	
Singapore	3.7	Q1	2.8	3.6	5.6	May	6.0	2.2	Q1	18.3	-0.9	3.0	141	1.39	-2.9	
South Korea	3.0	Q1	2.6	2.7	5.4	May	4.9	3.0	May§	3.1	-2.4	3.7	156	1,299	-13.1	
Taiwan	3.1	Q1	4.3	4.4	3.4	May	3.8	3.7	May	13.9	-1.2	1.2	79.0	29.7	-6.0	
Thailand	2.2	Q1	4.7	2.9	7.1	May	5.7	1.5	Dec§	0.1	-5.0	3.0	144	35.2	-9.0	
Argentina	6.0	Q1	3.5	4.2	60.7	May	61.7	7.0	Q1§	0.7	-4.6	na	na	125	-23.5	
Brazil	1.7	Q1	4.0	1.3	11.7	May	10.4	10.5	Apr§‡‡	nil	-6.7	13.2	404	5.23	-5.3	
Chile	7.2	Q1	-3.0	2.1	11.5	May	10.2	7.8	May§‡‡	-4.5	-3.4	6.4	194	921	-20.1	
Colombia	8.2	Q1	4.0	4.2	9.1	May	9.8	11.2	Apr§	-3.7	-4.8	11.5	452	4,129	-9.1	
Mexico	1.8	Q1	4.1	1.9	7.7	May	7.6	3.4	May	-0.6	-3.2	9.1	222	20.2	-1.8	
Peru	3.8	Q1	8.1	2.5	8.1	May	7.1	6.3	May§	-3.3	-2.5	7.7	210	3.79	2.4	
Egypt	5.4	Q1	na	5.9	13.5	May	12.9	7.2	Q1§	-6.0	-5.9	na	na	18.8	-16.7	
Israel	9.5	Q1	-1.9	5.1	4.1	May	4.3	3.7	May	3.1	-1.3	2.8	168	3.46	-6.1	
Saudi Arabia	3.2	2021	na	7.5	2.2	May	2.5	6.9	Q4	14.9	10.1	na	na	3.75	nil	
South Africa	3.0	Q1	8.0	1.9	6.6	May	6.0	34.5	Q1§	-1.1	-6.1	10.4	147	16.2	-11.9	

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

## Markets

In local currency	Index	% change on:			index	% change on:			index	% change on:		
		Jun 29th	one week	Dec 31st 2021		Jun 29th	one week	Dec 31st 2021		Jun 29th	one week	Dec 31st 2021
United States S&P 500	3,818.8	1.6	-19.9		41,297.7	-2.7	-7.4					
United States NAScomp	11,177.9	1.1	-28.6		3,134.9	1.3	0.4					
China Shanghai Comp	3,361.5	2.9	-7.6		2,378.0	1.5	-20.1					
China Shenzhen Comp	2,194.5	3.5	-13.3		Taiwan TWI	15,240.1	-0.7	-16.3				
Japan Nikkei 225	26,804.6	2.5	-6.9		Thailand SET	1,586.2	1.7	-4.3				
Japan Topix	1,893.6	2.2	-5.0		Argentina MERV	88,130.8	2.9	5.5				
Britain FTSE 100	7,312.3	3.1	-1.0		Brazil BVSP	99,621.6	0.1	-5.0				
Canada S&P TSX	19,078.6	0.4	-10.1		Mexico IPC	48,061.6	1.9	-9.8				
Euro area EURO STOXX 50	3,514.3	1.4	-18.2		Egypt EGX 30	9,225.6	-4.0	-22.5				
France CAC 40	6,031.5	1.9	-15									

## Quotas on it

### Young children may benefit from having more male teachers

CITICS OF affirmative action, discrimination to promote diversity, say favouring less-qualified candidates is unfair and leads to worse outcomes. A new study shows the trade-off can be more subtle. Ursina Schaede of the University of Zurich and Ville Mankki of the University of Turku found that after Finland abolished a quota ensuring gender balance among primary-school teachers, pupils suffered.

Often quotas favour women. In primary schools it is men who are scarce. Until 1989 the quota ensured at least 40% of those enrolling in Finnish primary-teacher training courses were male. Selection was otherwise based in part on a nationwide matriculation exam taken at the end of secondary school. The quota meant women on the margin of admission lost out to men, despite having higher test scores.

The study followed all 811,000 children who entered Finnish primary schools between 1988 and 2000. The authors estimated their exposure to "quota men" and "marginal women" by looking at how many teachers in each municipality reached 60, the mandatory retirement age, each year. After the quota was abolished retirees were replaced with rookies who had been selected without its influence.

At age 25, pupils estimated to have had less exposure to quota men were less likely to be employed or studying and less likely to have a degree or advanced vocational qualification. Girls were less likely to have studied technical subjects and more likely to have been pregnant. Because variation among places in mandatory retirements was all but random, these effects were probably caused by the quota.

How did quota men help? Not by acting as role models for boys. Their influence on boys and girls was roughly similar. There is also no proof that diversity mattered. The quota's effect was no greater in places particularly short of men, although the estimates of this difference were imprecise.

Ms Schaede suggests that quota men may simply have been better at the job than marginal women. Male and female teachers differ. Men were more likely to speak Finnish as their mother tongue and to have studied mathematics. Perhaps these or other characteristics helped their teaching.

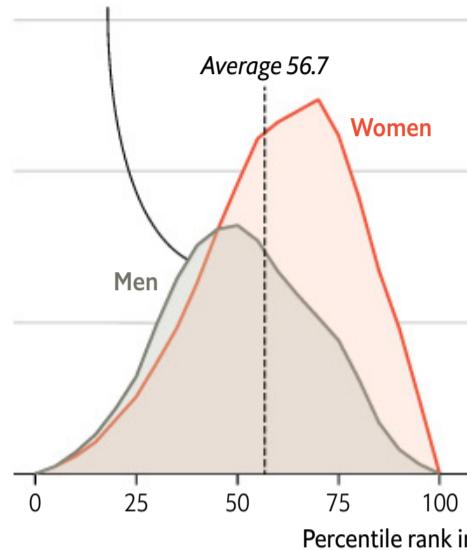
In other words, the selection criteria for teachers may have elevated candidates who were less suitable—exactly the outcome critics of quotas fear. ■

### → In 1989 Finland abolished its quota for male primary-school teachers

Distribution\* of primary-school teachers' scores in matriculation exam, %

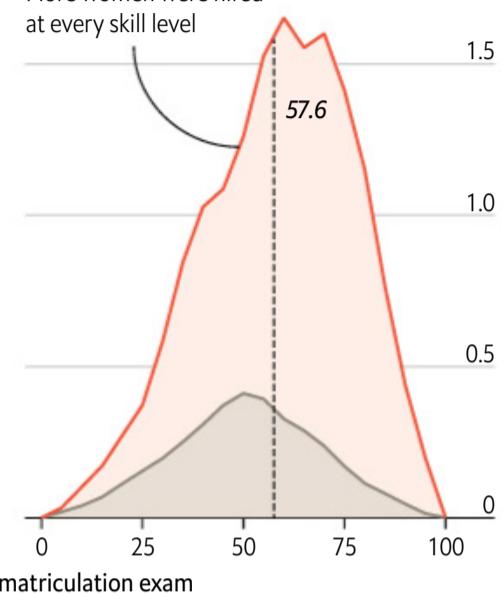
#### During quota 1983-88

Low scorers were more likely to get jobs if they were men



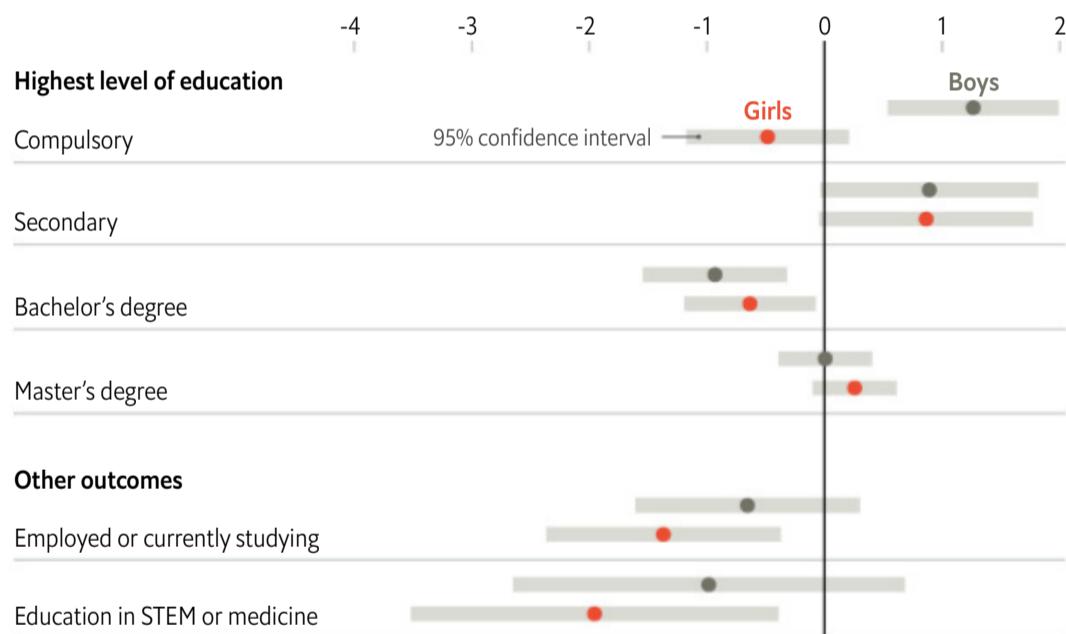
#### After quota 1989-95†

More women were hired at every skill level



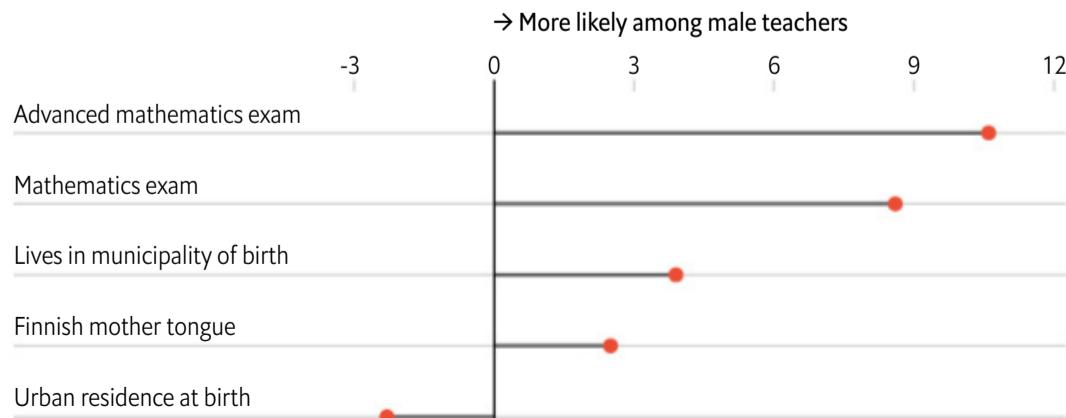
### → After the quota was scrapped, life outcomes for pupils worsened

Change in probability of a given outcome by age 25 associated with a two percentage-point decrease‡ in male quota teachers, percentage points



### → Male teachers were more likely to be native Finnish speakers and to have mathematics qualifications

Difference between men and women during quota, percentage points



\*Smoothed †No data for 1990 ‡Change associated with a 10% annual retirement rate between 1989 and 1995  
Source: "Quota vs quality? Long-term gains from an unusual gender quota", by Ursina Schaede and Ville Mankki, working paper, April 2022



## King of cocaine

**Gilberto Rodríguez Orejuela, boss of the Cali cartel, died on May 31st, aged 83**

**O**N THE STREETS of Cali, in southern Colombia, Gilberto Rodríguez Orejuela was not, at first glance, noteworthy. He was clearly well-off, but not ostentatiously so. His air was that of a banker or professor. His suits and ties were smart, but not exclusive. No showy accessories gleamed on his wrists. At dinners in his house he served the soup and quoted poetry, putting guests at ease. He liked to watch car-racing and football, sometimes with both his mistresses and his wife. His car was a Mazda. An “honest drugstore magnate” was his own description of himself.

This was true, up to a point. As the owner of Drogas La Rebaja (Discount Drug) he ran a chain of 400 pharmacies across the country, employing 4,000 people. That was his first and real vocation. As a boy of 13 he had run deliveries for a local pharmacy, cycling in the stupefying heat of siesta hour to take medicines to an elderly woman on a ranch. It brought in money for the family, struggling as they were to get by on his father’s sporadic work as a sign-painter. By the age of 25 he had saved up enough to buy his own small drugstore and expand from there.

Yet it was not Drogas La Rebaja that made him a billionaire, and later caused people in restaurants to avoid him. His power and wealth came from his position as head of the Cali cartel, which by the early 1990s was supplying 80% of the world’s cocaine. His networks spread all over the United States and Europe, employing roughly 3,000 narcotraffickers as well as processors and spies. The cartel shipped cocaine in planks, lead ingots, frozen fish, ceramic tiles, coffee, whatever they could; and the money that poured in, \$7bn a year at the peak, was laundered through property, ranches, financial instruments and building projects. At one stage he was responsible for 40% of commercial development in Cali, owned several radio stations and richly sponsored América de Cali, the

highest-flying local team. If he needed complaisant banks, he bought them. If he needed political allies he tried to buy those, too, donating \$6m to the campaign of Ernesto Samper Pizano in 1994 for the presidency of Colombia. Money could buy anything.

He had started early on this path, altering drug prices in his delivery-boy days. Friends then persuaded him to try car theft, then marijuana-trafficking, then cocaine. When he saw how vast that market was, it tickled his ambition to make money not merely for himself but for the family, as before. It was a valid enough reason.

Cali was in fact a family business; not, he insisted, a cartel. His brother Miguel oversaw day-to-day operations, while he himself was the strategist. His nickname was *el Ajedrecista*, the Chess-Player. It was he who travelled to Spain in 1984, ostensibly on holiday, to set up his networks in Europe as the American market glutted. It was he who made lucrative distribution alliances with the Russian and Italian Mafias. Most of all, he set the tone. Rather than being showy and violent, like the rival Medellín cartel, he called himself a man of peace, doing nothing to attract attention. Rather than shooting or bombing judges and politicians, Escobar-fashion, he bought them off. His fund for bribes was limitless, and his aim was to make the authorities so beholden to him that they were, in effect, his business partners. Then they would protect him.

The peaceful image often cracked. He stood apart from killings only because his well-paid *sicarios* and vigilantes did them for him. When enemies were tortured, shot or dismembered between SUVs he made sure he was not there to see it. Once, at a dinner where he was playing the gracious host as usual, he seized a silver fork to gouge out a guest’s eyes for being a Medellín spy, but soon put it down again. His soul was always moved, he said, by a look of genuine contrition.

At first, following his cooler instincts, he and Medellín had cooperated. A prominent member of that cartel, Jorge Luis Ochoa, went with him to Spain. Pablo Escobar, the boss of Medellín, treated him pragmatically. They fell out mostly over the New York market, and by 1987 were such enemies that Medellín bombs blew up 85 of his stores. His strategy after that was to help the authorities track that “dangerous psycho” down, mostly by tapping his phone, until in 1993 Escobar was killed and the whole Colombian market became his own. At that point, he offered the government a deal: if Cali’s legally-come-by property and wealth were left intact, they would all abandon the business within six months. Fearing for his family and feeling too much pressure, he wanted out.

Yet neither his operatives nor the state agreed. Instead the authorities, urged on by the United States, turned their full police attention to him. He had managed lucky escapes before. Arrested in Spain for trafficking when he went there, he was found not guilty back in Colombia. Pursued by police at a house party in 1993, he pretended to be an unruly drunk and escaped through the kitchen. Finally arrested two years later—found hiding in his underwear in a wardrobe—he continued to run the business from a prison equipped with cable TV and mobile phones and ever-open to visitors. After serving only half his sentence, he was let off for good behaviour. At last, however, he was rearrested and, in 2004, extradited to the United States, to a federal prison in Butner, North Carolina from which he did not re-emerge.

There he had plenty of time to muse on his career. He told his grandchildren in a last letter that he was still proud of it, by and large. He had been loyal to his friends, vengeful against his enemies and protective of his family. He had brought his sons up strictly, keeping them well away from drugs. (True enough; he was so angry when his eldest dabbled in them that he visited him in jail to lash him with a belt.) Deep down, he admitted, despite all the bravado, he was bitterly ashamed of what he had become.

Life as a trafficker had also interrupted his schooling, at which he had been diligent until he went astray. In prison he made up for it, earning a bachelor’s degree in history and philosophy. His dissertation was on violence in Colombia. He got a merit. ■



*Subscriber-only live digital event*

# Ukraine at war: the crisis intensifies

**Friday July 8th**  
**4pm BST / 11am EDT / 8am PDT**

As combat continues in the east of Ukraine, America and other NATO countries are preparing to send more military aid. Join our editor-in-chief, deputy editor, defence editor and Russia editor for an update on the war. They will discuss the latest battles, China's pledge of closer co-operation with Russia, the effect on the world economy and global food supplies, and the outcome of the latest NATO summit.

Please submit your questions in advance to [subwebinar@economist.com](mailto:subwebinar@economist.com)



Reserve your space:  
[economist.com/ukrainewebsnar](http://economist.com/ukrainewebsnar)



**Zanny Minton Beddoes**  
Editor-in-chief



**Edward Carr**  
Deputy editor



**Shashank Joshi**  
Defence editor



**Arkady Ostrovsky**  
Russia editor



TANK  
*Cartier*