

# The Economist

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Boris Johnson, party animal

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Kazakhstan's steppe in the dark

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The dangers of Hindu chauvinism

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Do tips make for better service?

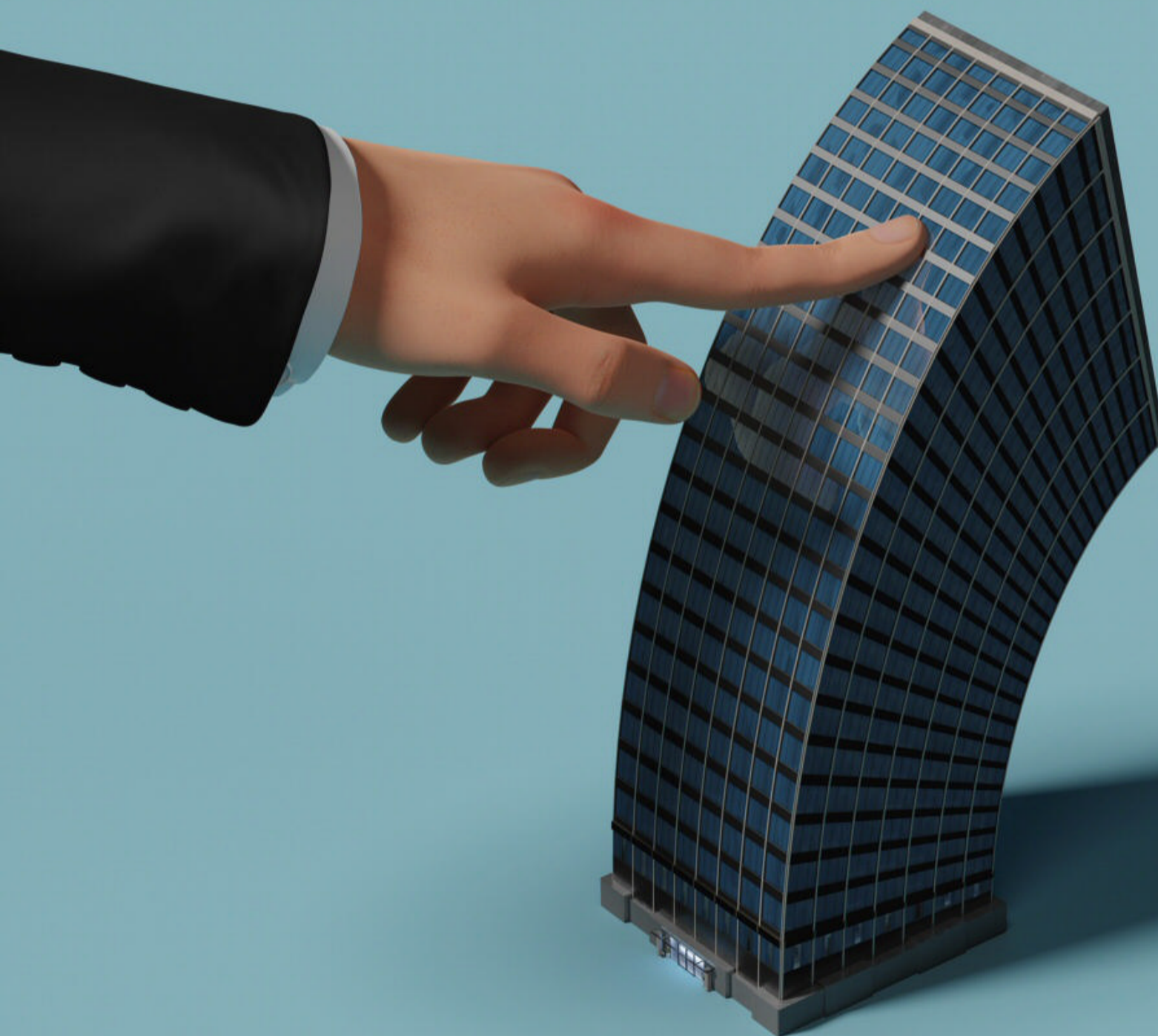
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JANUARY 15TH-21ST 2022

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# Beware the bossy state

Government, business and the new era of intervention





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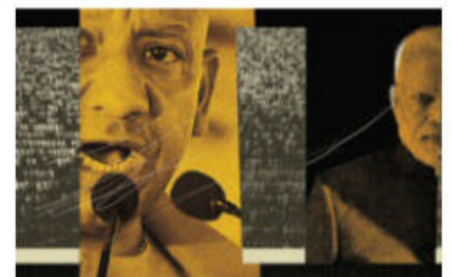
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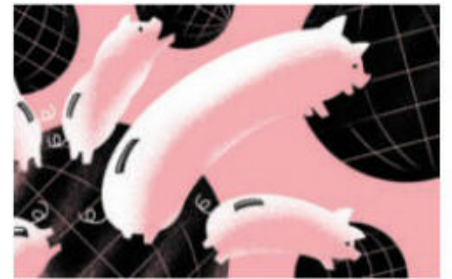
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# Introducing ATEM Mini Pro

The compact television studio that lets you create presentation videos and live streams!

Blackmagic Design is a leader in video for the television industry, and now you can create your own streaming videos with ATEM Mini. Simply connect HDMI cameras, computers or even microphones. Then push the buttons on the panel to switch video sources just like a professional broadcaster! You can even add titles, picture in picture overlays and mix audio! Then live stream to Zoom, Skype or YouTube!

### Create Training and Educational Videos

ATEM Mini's includes everything you need. All the buttons are positioned on the front panel so it's very easy to learn. There are 4 HDMI video inputs for connecting cameras and computers, plus a USB output that looks like a webcam so you can connect to Zoom or Skype. ATEM Software Control for Mac and PC is also included, which allows access to more advanced "broadcast" features!

### Use Professional Video Effects

ATEM Mini is really a professional broadcast switcher used by television stations. This means it has professional effects such as a DVE for picture in picture effects commonly used for commentating over a computer slide show. There are titles for presenter names, wipe effects for transitioning between sources and a green screen keyer for replacing backgrounds with graphics.

### Live Stream Training and Conferences

The ATEM Mini Pro model has a built in hardware streaming engine for live streaming via its ethernet connection. This means you can live stream to YouTube, Facebook and Teams in much better quality and with perfectly smooth motion. You can even connect a hard disk or flash storage to the USB connection and record your stream for upload later!

### Monitor all Video Inputs!

With so many cameras, computers and effects, things can get busy fast! The ATEM Mini Pro model features a "multiview" that lets you see all cameras, titles and program, plus streaming and recording status all on a single TV or monitor. There are even tally indicators to show when a camera is on air! Only ATEM Mini is a true professional television studio in a small compact design!

- ATEM Mini.....\$295
- ATEM Mini Pro.....\$495
- ATEM Mini Pro ISO.....\$795





**Boris Johnson** looked wobbly as more evidence emerged of Downing Street's disregard for stringent restrictions introduced early in the pandemic. In an excruciating appearance before the House of Commons the British prime minister struggled to explain why he attended a bring-your-own-booze get-together in Number 10's garden in May 2020, when people were allowed to meet only one other person outdoors. He described it as a "work-related" event. Some MPs in his Conservative Party called on him to resign.

Negotiations between **Russia** and **America** over the future of **Ukraine** and NATO were inconclusive. Vladimir Putin, Russia's president, has demanded a veto over future NATO expansion, and an end to NATO military aid to countries such as Ukraine, which he currently threatens. America refused, but offered to talk about arms control. Mr Putin deployed more military hardware to the Ukrainian border, where he has stationed an estimated 100,000 troops.

Other Russian troops, newly deployed to **Kazakhstan**, shored up the rule of its president, Kassym-Zhomart Tokayev. After a mob seized an airport, Mr Tokayev had requested help from a military alliance of former Soviet states. He blamed the unrest on "terrorists" and unspecified foreigners. Many observers suspected the violence stemmed from a power struggle between Mr Tokayev and Nursultan Nazarbayev, his predecessor and patron. Russia said that order had been largely restored and it would start pulling back its troops.

A court in Germany sentenced Anwar Raslan, a former **Syrian** colonel, to life in prison for crimes against humanity. Mr Raslan was linked to the torture of more than 4,000 people at a prison in Syria. He had sought refuge in Germany after defecting from the Assad regime. It was the world's first criminal case involving state-sponsored torture in Syria.

David Sassoli, the president of the **European Parliament**, died from complications following a bout of pneumonia. Mr Sassoli, an Italian social democrat, had fought to increase the parliament's power as a way of deepening the EU's democratic accountability.

Polish prosecutors vowed to charge the head of **Poland's** independent judges association, for recommending in an interview that Poland comply with rulings made by the EU's top court and curb political meddling with the judiciary. The prosecutors demanded that a news website turn over records of the interview.

### Hungary for change

A general election in **Hungary** will be held on April 3rd, the government said. An alliance of all major opposition parties is trying to unseat Viktor Orban, the illiberal populist who has been the country's prime minister since 2010.

Pedro Sánchez, **Spain's** prime minister, called on the EU to consider reclassifying covid-19 as an endemic disease rather than a pandemic. He hopes to see restrictions loosened. The WHO said it was too soon to declare covid endemic. It added that half of Europe could catch Omicron within two months.

**Aung San Suu Kyi**, Myanmar's de facto leader until a coup last February, was found guilty by a military court of breaking covid rules and possessing walkie-talkies. She was sentenced to four years. A previous ruling found her guilty of other trumped-up charges.

**North Korea** tested what it claimed was a hypersonic missile. It was the second test within a week and the third of a missile with hypersonic capabilities. America imposed sanctions on five North Koreans who it says are part of the weapons programme.

The UN halted aid work in parts of **Ethiopia's** Tigray region because of air strikes by the government. Little food, medicine or aid has reached Tigray since the start of a civil war more than a year ago, leaving millions of people at risk of starving.

West African countries imposed economic sanctions and closed their borders with **Mali** after the junta running the country said it would delay elections to late 2025, instead of holding them in February this year as promised.

Joe Biden pressed Republicans in the Senate to back reforms of **electoral procedures**, claiming that American democracy was at a crossroads. A pair of bills under consideration would make election day a holiday, and give the federal government more power to step in if states try to limit methods of voting, such as postal ballots. Mr Biden said Senate Democrats would stop Republicans from filibustering the legislation.

**California's** governor, Gavin Newsom, laid out a plan that would extend Medicaid, a federal-state health-insurance programme for hard-up people, to illegal immigrants, regardless of age. If it passes, California would be the first American state to allow this.

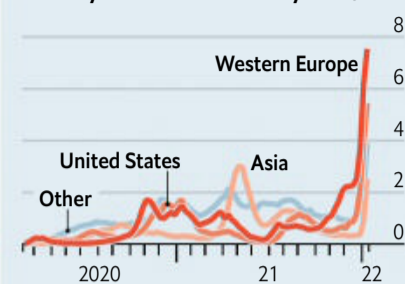
Doctors in Baltimore carried out the world's first transplant of a **pig's heart** to a human. The pig had been genetically modified to reduce the chance of its heart being rejected. Pigs' heart valves are already used in medical procedures.

The premier of Quebec said that his government would soon impose a "significant" tax

### Coronavirus data

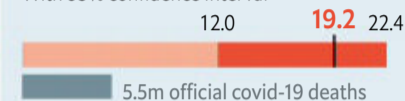
To 6am GMT January 13th 2022

#### Weekly confirmed cases by area, m



#### Estimated global excess deaths, m

With 95% confidence interval



#### Vaccine doses given per 100 people

By country-income group

Low	14
Lower-middle	89
Upper-middle	167
High	173

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

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on residents of the **Canadian** province who refuse to be vaccinated, arguing that they put a financial burden on people who have been jabbed.

Tianjin, a city just 100km from Beijing, was subjected to tighter restrictions, after the first locally transmitted cases of the Omicron variant of covid-19 in **China** were detected. The government is ramping up its zero-covid strategy ahead of the Beijing Winter Olympics. Three port workers in Dalian, another northern city, were jailed for between 39 and 57 months for not wearing protective gear while handling cargo.

### Double fault

The saga over whether **Novak Djokovic** can remain in Australia played out like a tennis rally. Although a judge said the unvaccinated Serb could stay, the government was less keen. Amid the back and forth covid cases surged in Melbourne, which hosts the Australian Open.



America's annual rate of **inflation** jumped to 7% in December, its highest level since June 1982. Several factors are sustaining rising prices, including a tighter labour market. The unemployment rate dropped to 3.9% at the end of 2021; average hourly wages rose by almost 5%. Jerome Powell, chairman of the Federal Reserve, this week described inflation as a "severe threat" to the economy, and reiterated his commitment that the Fed is ready to increase interest rates, and at a fast pace if need be. "It's a long road to normal from where we are," he said.

The IMF told **emerging economies** to prepare for the Fed's policy tightening, warning that faster rate increases could unsettle global markets, and may lead to capital outflows and currency depreciation in those countries.

The **euro zone's** annual inflation rate crept up to 5% last month, another record high for the currency bloc. Energy prices were again the main factor. Wholesale natural-gas prices surged in December, and were up again this week, in a market that is acutely sensitive to fluctuations in gas supplies from Russia, which provides about half of the EU's gas imports.

**Argentina's** central bank raised its key interest rate from 38% to 40%. In December the IMF suggested Argentina's "appropriate" monetary policy would be to lift interest rates above inflation, which is running at an annual rate of 51%.

**Take-Two Interactive**, the company behind console games such as "Grand Theft

Auto" and "Red Dead Redemption", agreed to buy **Zynga**, a pioneer in mobile gaming that is best known for titles such as "FarmVille" and "Mafia Wars", in a deal worth \$12.7bn.

**A financial incentive**  
**Citigroup** was reportedly preparing to fire, by the end of January, employees who have not been vaccinated against covid-19 (unless they are exempt). Around 90% of the bank's staff in America have been jabbed. That number is expected to go up soon.

**Car sales** rose in China last year for the first time since 2017, driven by sales of electric and plug-in hybrid vehicles, which were up by 170%. New-energy vehicles made up 15% of overall passenger-car sales.

America's National Labour Relations Board said that a new vote for workers at an **Amazon** warehouse in Alabama on whether to unionise will begin on February 4th and last two months. The retailer is adamantly opposed to letting the unions in. A vote at the Alabama facility last year, which was seen as a crucial test for supporters of unionisation, resulted in a resounding no, but amid claims of worker

intimidation the NLRB decided there should be a re-run. In December Amazon reached an agreement with the NLRB to make it easier for its employees to organise.

Despite the easing of travel restrictions in the latter half of 2021, **Heathrow airport** said that its passenger numbers were lower last year than in 2020, when lockdowns were first rolled out. Flights to Asia, where some borders remain shut, were down by 40%. The emergence of Omicron in December led to a wave of cancellations.

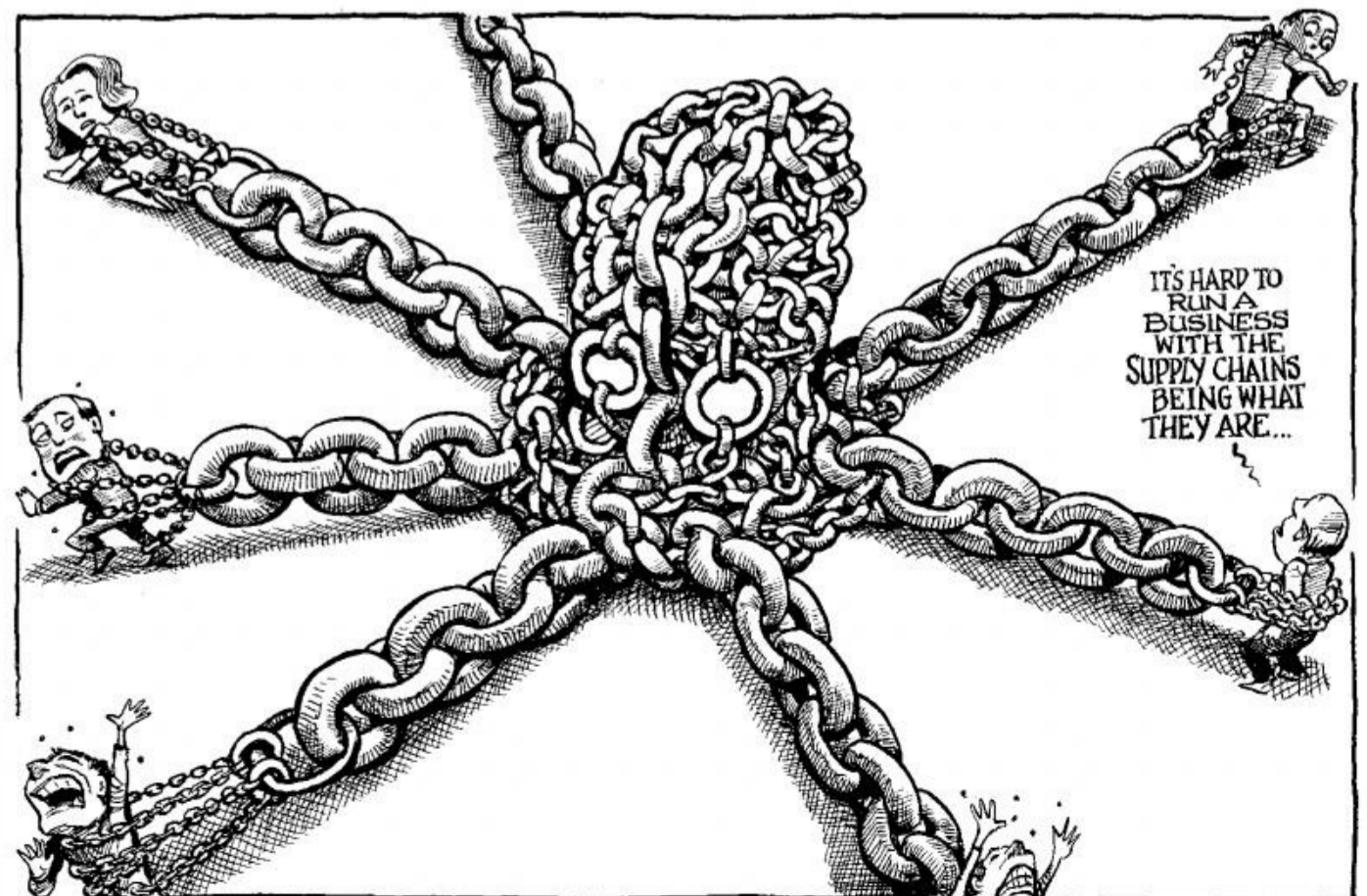
The government of India stepped in to rescue **Vodafone Idea**, the country's third-largest mobile provider. The company has lost tens of millions of subscribers in a price war that started when low-cost Jio entered the market in 2016. The rescue plan will leave the state as Vodafone Idea's biggest shareholder with a stake of 36%, and dilute the holdings of its other big investors, Vodafone Group, a British company, and Aditya Birla, an Indian conglomerate.

Storms and floods caused substantially higher losses for insurers in 2021, the industry's fourth-costliest year ever for

**natural disasters**, according to Munich Re. Assets worth \$280bn were destroyed around the world, almost half of that sum in America. Hurricane Ida resulted in \$65bn-worth of overall losses, the flooding in Germany \$54bn, winter storms and frosts in the United States \$30.1bn, floods in China's Henan province \$16.5bn and an earthquake in Japan \$7.7bn.

The sentencing of **Elizabeth Holmes**, recently convicted for fraud at Theranos, will take place in September. The delay is linked to "ongoing proceedings in a related matter", according to a court filing.

**Corporate purpose statement**  
**Unilever**, which has pushed the mantra of environmentalism and sustainability more than most, came in for some withering criticism from an investor. Pointing to the poor performance of the conglomerate's stock, Fundsmith, an investment firm based in London, said Unilever was "obsessed" with displaying its credentials. Referring to one of its best-known brands, Fundsmith observed that a "company which feels it has to define the purpose of Hellmann's mayonnaise has in our view clearly lost the plot."





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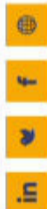
For these and many other reasons, 12 of the world's top 20 pharmaceutical companies already have operations on-island. With billions in federal investment and new advancements in infrastructure – all within U.S. legal and financial frameworks – the time to invest in Puerto Rico is now.

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# Beware the bossy state

**State intervention is being transformed. That won't make it any more effective**

THE RELATIONSHIP between governments and businesses is always changing. After 1945, many countries sought to rebuild society using firms that were state-owned and -managed. By the 1980s, faced with sclerosis in the West, the state retreated to become an umpire overseeing the rules for private firms to compete in a global market—a lesson learned, in a fashion, by the communist bloc. Now a new and turbulent phase is under way, as citizens demand action on problems, from social justice to the climate. In response, governments are directing firms to make society safer and fairer, but without controlling their shares or their boards. Instead of being the owner or umpire, the state has become the backseat driver. This bossy business interventionism is well-intentioned. But, ultimately, it is a mistake.

Signs of this approach are everywhere, as our special report explains. President Joe Biden is pursuing an agenda of soft protectionism, industrial subsidies and righteous regulation, aimed at making the home of free markets safe for the middle classes. In China Xi Jinping's "Common Prosperity" crackdown is designed to curb the excesses of its freewheeling boom, and create a business scene that is more self-sufficient, tame and obedient. The European Union is drifting away from free markets to embrace industrial policy and "strategic autonomy". As the biggest economies pivot, so do medium-sized ones such as Britain, India and Mexico. Crucially, in most democracies, the lure of intervention is bipartisan. Few politicians fancy fighting an election on a platform of open borders and free markets.

That is because many citizens fear that markets and their umpires are not up to the job. The financial crisis and slow recovery amplified anger about inequality. Other concerns are more recent. The world's ten biggest tech companies are over twice as big as they were five years ago and sometimes seem to behave as if they are above the law. The geopolitical backdrop is a far cry from the 1990s, when the expansion of trade and democracy promised to go hand in hand, and from the cold war when the West and the Soviet Union had few business links. Now the West and totalitarian China are rivals but economically intertwined. Gummed-up supply chains are causing inflation, reinforcing the perception that globalisation is overextended. And climate change is an ever more pressing threat.

Governments are redesigning global capitalism to deal with these fears. But few politicians or voters want to go back to full-scale nationalisation. Not even Mr Xi is keen to reconstruct an empire of iron and steel plants run by chain-smoking commissars, while Mr Biden, despite his nostalgia for the 1960s, need only walk through America's clogged West Coast ports to recall that public ownership can be shambolic. At the same time the pandemic has seen governments experiment with new policies that were unimaginable in December 2019, from perhaps \$5trn or more of handouts and guarantees for firms to indicative guidance on optimal spacing of customers in shopping aisles.

This opening of the interventionist mind is coalescing around policies that fall short of ownership. One set of measures claims to enhance security, broadly defined. The class of indus-

tries in which government direction is legitimate on security grounds has expanded beyond defence to include energy and technology. In these areas governments are acting as de facto central planners, with research and development (R&D) spending to foster indigenous innovation and subsidies to redirect capital spending. In semiconductors America has proposed a \$52bn subsidy scheme, one reason why Intel's investment is forecast to double compared with five years ago. China is seeking self-sufficiency in semiconductors and Europe in batteries.

The definition of what is seen as strategic may well expand further to include vaccines, medical ingredients and minerals, for example. In the name of security, most big countries have tightened rules that screen incoming foreign investment. America's mesh of punitive sanctions and technology export controls encompasses thousands of foreign individuals and firms.

The other set of measures aims to enhance stakeholderism. Shareholders and consumers no longer have uncontested primacy in the hierarchy of groups that firms serve. Managers must weigh the welfare of other constituents more heavily, including staff, suppliers and even competitors. The most visible part of this is voluntary, in the form of "ESG" investing codes that score firms for, say, protecting biodiversity, local people or their own workers. But these wider obligations may become harder for

firms to avoid. In China Alibaba has pledged a \$15bn "donation" to the Common Prosperity cause. In the West stakeholderism may be enforced through the bureaucracy. Central banks and public pension funds may shun the securities of firms judged to be anti-social. America's antitrust agency, which once safeguarded consumers alone, is mulling other aims such as helping small firms.

The ambition to confront economic and social problems is admirable. And so far, outside China at least, bossier government has not hurt business confidence. America's main stock-market index is over 40% higher than it was before the pandemic, while capital spending by the world's largest 500-odd listed firms is up by 11%. Yet, in the longer term, three dangers loom.

## High stakes

The first is that the state and business, faced by conflicting aims, will fail to find the best trade-offs. A fossil-fuel firm obliged to preserve good labour relations and jobs may be reluctant to shrink, hurting the climate. An antitrust policy that helps hundreds of thousands of small suppliers will hurt tens of millions of consumers who will end up paying higher prices. Boycotting China for its human-rights abuses might deprive the West of cheap supplies of solar technologies. Businesses and regulators focused on a single sector are often ill-equipped to cope with these dilemmas, and lack the democratic legitimacy to do so.

Diminished efficiency and innovation is the second danger. Duplicating global supply chains is extraordinarily expensive: multinational firms have \$41trn of cross-border investments. More pernicious in the long run is a weakening of competition. Firms that gorge on subsidies become flabby, whereas those that



▶ are protected from foreign competition are more likely to treat customers shabbily. If you want to rein in Facebook, the most credible challenger is TikTok, from China (see Schumpeter). An economy in which politicians and big business manage the flow of subsidies according to orthodox thinking is not one in which entrepreneurs flourish.

The last problem is cronyism, which ends up contaminating business and politics alike. Firms seek advantage by attempting to manipulate government: already in America the boundary is blurred, with more corporate meddling in the electoral process. Meanwhile politicians and officials end up favouring particular firms, having sunk money and their hopes into them. The urge

to intervene to soften every shock is habit-forming. In the past six weeks Britain, Germany and India have spent \$7bn propping up two energy firms and a telecoms operator whose problems have nothing to do with the pandemic.

This newspaper believes that the state should intervene to make markets work better, through, for example, carbon taxes to shift capital towards climate-friendly technologies; R&D to fund science that firms will not; and a benefits system that protects workers and the poor. But the new style of bossy government goes far beyond this. Its adherents hope for prosperity, fairness and security. They are more likely to end up with inefficiency, vested interests and insularity. ■

British politics

## Party animal

With Boris Johnson clinging on as prime minister, Britain is in for a rough ride

MEMBERS OF PARLIAMENT shared their own and their constituents' tragic stories: separation from loved ones in their final hours; illnesses suffered in solitude; mourning alone at gravesides. On January 12th, after days of junior ministers being shoved in front of microphones to defend the indefensible, Boris Johnson at last apologised to Parliament. What brought him to this point was the latest in a string of lockdown breaches by the prime minister and his allies: an impromptu party for 40 in the garden of Number 10. It was held on May 20th 2020, when Britons could go out only for essential work and solitary exercise; or to meet just one person, socially distanced and outdoors.

Mr Johnson's apology was carefully worded to suggest that, monk-like and ascetic, he never comprehended that the braying throngs knocking back bucketloads of booze in his garden constituted a party rather than work. And isn't fresh air a good way to limit infections? After he spoke, one opposition MP after another pressed him to resign. To each Mr Johnson repeated that he commiserated with the suffering, regretted his misjudgment, wished things had been otherwise and advised everyone to wait for the findings of an inquiry.

Nothing in Mr Johnson's public or professional life suggests that the burden of conscience will trouble him enough for him to step down (see Bagehot). Some furious Tory MPs have called publicly for him to go. However, although many must be frightened of paying the price at the ballot box for his hypocrisy and selfishness, the party is still quite a way from engineering a vote to replace him. Yet the country needs him gone—and not just because he has misled the House of Commons and flouted his own government's rules, but because Britain is about to face a tumultuous period, and with a weak, unpopular leader, it is ill-placed to thrive.

After two pandemic-battered years, more misery is looming (see Britain section). Every country's health-care system is creaking, but the NHS, which is poorly managed and short of capacity, is close to collapse. Before the next general election waiting-lists for treatments could reach 13m, or one Briton in five.

Inflation is also a problem, because of Brexit-induced labour shortages and trade frictions. Household energy bills are expected to rise in the next few months by 50%. On top of all that, pay-

roll taxes are due to increase by 1.25 percentage points. Britain is not alone in suffering from blocked supply chains and higher energy prices. Other countries also need to raise taxes to pay for an ageing population. But the pain will be worse than elsewhere because of past policy mistakes, including a poorly designed and unstable retail-energy market, as well as underfunded social care. All this adds up to a cost-of-living squeeze that will be greater than any most Britons have seen in their adult lives.

It is too late to avoid much of this. But a good leader could soften the blows, lift spirits and plan for better. Mr Johnson is the opposite of what is required. Voters chose him in 2019 because the alternative, Jeremy Corbyn, was far-left, anti-Semitic and chaotic, and because Mr Johnson promised to leave the European Union. But above all they thought he was a welcome change from the divisions presided over by the uncharismatic Theresa May. Here was someone who would help Britons re-

member the fight over Brexit as a jolly good jape. His fellow MPs neither liked nor trusted him, but thought he was an election-winner.

Two years later, Mr Johnson looks cynical and heartless—and an electoral liability. Ministers are staying away from Parliament, or keeping silent. Backbenchers are turning from national questions to focus on their pet obsessions or saving their seats. Even the appearance

of consensus within the party is starting to fracture, as MPs in safe seats in prosperous areas pull in one direction and those from poorer constituencies that voted Labour until Brexit pull in another. Would-be candidates for the top job are plotting and posturing. Since they include Rishi Sunak, the chancellor, and Liz Truss, the foreign secretary, the chaos will consume the great offices of state.

Meanwhile, a country that ripped up its constitutional order to pursue the dream of Brexit lacks a government with the will, discipline, direction and power to chart a new course. Festering problems, such as Britain's worsening relations with the EU and tensions in Northern Ireland, will go unresolved. Long-promised and urgently needed legislation, including planning reform and measures to boost growth outside London, will be delayed and watered down, and will ultimately stall. Britain chose a party animal for its leader. Now comes the hangover. ■



## Schools and covid-19

# Poor students

**America's educators have failed to learn from the safe opening of classrooms abroad**

OVER THE past two years America's children have missed more time in the classroom than those in most of the rich world. School closures that began there in early 2020 dragged on until the summer of 2021. During that time the districts that stayed closed longest forced all or some of their children to learn remotely for twice as long as schools in Ireland, three times longer than schools in Spain and four times longer than in France.

In recent weeks American schools have started closing once again, as the Omicron variant of covid-19 has brought a fresh wave of infections. About 5,000, equivalent to roughly 5% of schools, were shut for part or all of the first week in January. Sometimes that was because staff had been forced into isolation (see United States section), but other closures were pre-emptive.

In Chicago teachers refused to turn up between January 5th and 11th. Some staff in California urged healthy colleagues to call in sick. America's shrill debates about schooling continue to set it apart. The new term met with much less fuss in England—even though the country had a higher national infection rate than America and has vaccinated fewer young children.

America's bungling has several explanations. Whereas in Europe national or regional governments have decided when schools close and reopen, in America the choice has largely fallen to its 14,000 or so school districts. That has splintered the conversation about school closures into thousands of noisy arguments. Media coverage has not helped. A study in 2020 found that stories about school reopening run by big American news providers were much more negative in tone compared with similar stories abroad. Teachers' unions have ignored encouraging findings from other countries, such as research suggesting that teachers in schools that had opened faced no greater risk of severe sickness than other professionals.

Defenders of America's record claim that its schools are more crowded and poorer than those abroad. But many foreign educa-

tors envy America's advantages. The federal government has earmarked around \$200bn for schools since 2020. America was quicker than most countries to make vaccines available to all adults, and to offer jabs to children.

Some of those demanding fresh closures argue that Omicron brings new uncertainties, and that it would cost little for schools to shut their buildings for a while. Remote learning may be more effective than being in a classroom where lots of staff and students are absent, goes the thinking. But once schools have closed temporarily, they tend to stay shut longer than expected. Even short closures seem to depress children's attendance after they reopen. Lots of children have no safer place to be than a classroom and many parents cannot work from home. Furthermore, without wider lockdowns that nobody is considering, school closures accomplish little, because youngsters continue to catch and pass on the virus, for example in child care, in shops, or while being looked after by relatives.

Remote teaching has harmed children's learning, mental health and physical safety. America's schools should be buoyed by early evidence suggesting that Omicron infections lead to less severe symptoms than other variants of covid (which are themselves mild in most children) and that vaccination still offers strong protection against serious illness.

Schools must continue to find ways of covering for quarantining teachers, such as pulling administrative staff into classrooms or inviting teachers back from retirement. When staff shortages are severe, it would be better to force only some year groups into remote learning before closing whole schools. Even then, schools should allow vulnerable children and those of key workers to remain in the building. That has been common in Europe, but far from standard in America. Children have little to gain from school closures and much to lose. Teachers' unions should stop dumping the pandemic's costs on them. ■



## Russia and Central Asia

# Standemonium

**Central Asia will remain unstable, however many troops Russia sends**

ANOTHER WEEK, another setback for freedom and democracy in the former Soviet Union—and another show of force from Vladimir Putin, Russia's president. That is one way to read recent events in Kazakhstan, and there is some truth to it.

When gripes about rising fuel prices escalated into broader protests against a corrupt autocracy, and then erupted into mob attacks on government buildings, the authorities violently suppressed the unrest. They not only ordered the security services to shoot rioters without warning, but also turned to Russia, allowing Mr Putin to send in a squad of paratroopers to help restore order. The rights of ordinary Kazakhs, already circum-

scribed, have been ferociously trampled, and Mr Putin has once again affirmed his status as the region's kingpin. He even crowed that he would not allow any more "colour revolutions" in the former Soviet Union, meaning that he would make sure corrupt and repressive governments were always able to crush peaceful protests by exasperated citizens.

But that account is misleading. True, an authoritarian regime has clung to power by force, and Mr Putin has asserted Russia's primacy in its near abroad. But that disguises how the upheaval turned into a power struggle among the country's elites. Until this week Kazakhstan's president, Kassym-Zhomart Tokayev, ►►

▶ was seen as a mere placeman, installed to defend the system built by his long-serving predecessor, Nursultan Nazarbayev. It was Mr Nazarbayev whom the chanting demonstrators denounced, and it is Mr Nazarbayev who has been most obviously weakened by the turmoil. His allies have been accused of hijacking the protests for their own ends, and sacked from senior government jobs; he himself was removed as chairman of the powerful national-security council. It is just about possible that the mildly reformist Mr Tokayev might now find himself freer to clean up the crooked state Mr Nazarbayev bequeathed him.

By the same token, although Mr Putin is doubtless flattered to be asked to pose as kingmaker, Kazakhstan and indeed all of Central Asia are much more likely to be a source of problems for him than of prestige. For one thing, there had been speculation that he might eventually try to emulate Mr Nazarbayev and craft a form of retirement that would protect his interests and those of his cronies. Mr Nazarbayev's troubles suggest that will be hard.

What is more, the internecine battles among the Kazakh elite hint at how unmanageable Central Asia is. The region is a fissiparous one, with many languages and ethnicities, all jumbled up in a whorl of arbitrary Soviet boundaries. Although most of Central Asia's 75m people are at least nominally Muslim, their governments are largely secular, and afraid that the pious might rally against them.

For all their considerable differences, the five Central Asian countries depend on exports of commodities and labourers, with the wild economic swings and entrenched corruption that these things so often bring. All are plagued by mafias of one sort or another. And all are run by authoritarian regimes of widely varying degrees of brittleness and brutality (see Briefing). The tarnished transition from Mr Nazarbayev to Mr Tokayev is about



as close as the region has come to a peaceful handover of power.

Many Central Asian states are crying out for better rulers, regardless of Mr Putin's misgivings. The madcap dictator of Turkmenistan, Gurbanguly Berdymukhamedov, ordered dark cars removed from the streets of the capital because he considers white a lucky colour. He spends his country's dwindling revenues from oil and gas on white elephants, while staple foods run short. Kyrgyzstan's president, Sadyr Japarov, was serving a prison sentence for kidnapping until 2020, when a mob freed him and propelled him to power. Emomali Rahmon, Tajikistan's leader, styles himself "founder of peace and national unity, leader of the nation" and is grooming his son to succeed him.

The good news is that change is possible. Since taking over from a textbook strongman in 2016, the president of Uzbekistan, Shavkat Mirziyoyev, although no democrat, has abolished slave labour, allowed ordinary citizens more personal freedom and tried to modernise the economy. There were hopes that, under Mr Tokayev, the comparatively outward-looking Kazakhstan would follow suit—as it still might.

China has poured money into infrastructure, including pipelines, leaving Central Asia less dependent on Russia, at least economically. But popular resentment at China's internment of Muslims in nearby Xinjiang makes close ties awkward.

The more that other countries are involved in the region, the easier it will be for Central Asian governments to stand alone. The West should certainly not write the 'Stans off, not only because they occupy a strategic spot, between China and Russia, and are a source of commodities, such as uranium. More important still, Western involvement could help the regions' modernisers gain the upper hand over the autocrats. That would be good for Central Asia and the world, if not for Mr Putin. ■

## India

# Stop inciting murder

**The ruling party is unleashing forces it will not be able to control**

“ALL HINDUS must pick up weapons and conduct a cleanliness drive,” bellowed a Hindu priest at a three-day “religious parliament” in north India last month. Another speaker fired up the large crowd even more crudely: “If a hundred of us become soldiers and kill two million of them, we will be victorious.” By “them”, she meant India's 200m Muslims.

Those priests baying for blood are not isolated bigots. Under the Hindu-nationalist government of Narendra Modi, the world's most populous democracy has seen a growing wave of intolerance (see Asia section). In Gurgaon, a satellite city of Delhi, Muslims have been denied the use of open space to pray because it “offends sentiments”. They have also been denied permission to build mosques. Elsewhere Muslims accused of transporting cattle for slaughter, or of being in possession of beef, are sometimes lynched. Muslim businesses are boycotted. In recent months young Hindu radicals have persecuted high-profile Muslim women by creating apps to “auction” them off.

Muslims are not the only target of Hindu chauvinism. In Varanasi, a Hindu temple town, posters warn non-Hindus to stay away. Attacks on Christians, a tiny minority, have risen in recent

years. Last week, after Mr Modi, the prime minister, was briefly delayed on an overpass in Sikh-majority Punjab, people associated with his ruling Bharatiya Janata Party (BJP) warned darkly of a repeat of 1984, when thousands of Sikhs were killed in pogroms after the assassination of Indira Gandhi by her Sikh bodyguards. In an index of societal discrimination against minorities compiled by Bar Ilan University in Israel, India scores worse than Saudi Arabia and no better than Iran. It is impossible to know the number of hate crimes in the country: independent trackers were shut down in 2017 and 2019, and the government stopped collecting data in 2017.

Another reason to worry is the silence of the government. From the prime minister downwards, no senior figure has condemned the drumbeat of incitement. When asked about it by the BBC, one BJP politician ripped off his microphone and stomped off. Academics, bureaucrats and retired army officers have sent anxious pleas to Mr Modi to appeal for calm. Yet only one unimportant official—the vice-president—has spoken up.

With big elections due next month, the mood could grow even more fissile. Senior BJP officials stop short of urging people ▶

▶ to kill minorities, but they do incite hatred. Yogi Adityanath, the Hindu-nationalist chief minister of Uttar Pradesh, India's biggest state, declared that the vote was about the 80% against the 20%—that is, Hindus against Muslims.

Some pundits fear the BJP is resorting to divisive rhetoric because it can no longer rely on divisive promises, such as stripping the Muslim-majority former state of Jammu and Kashmir of its special status and starting work on a temple where a mosque once stood in the holy city of Ayodhya. Having honoured those commitments, it needs something new. And with the economy battered by the pandemic, a hostile China poking at the border and slim prospects for the millions who join the labour force every year, it is succumbing to its worst instincts.

The Indian government should realise that by pumping up the ridiculous notion that India's 300m or so non-Hindus represent a threat to the 1.1bn majority, it is unleashing forces that

may become uncontrollable. Sectarian bloodshed can generate a momentum of its own. India has suffered enough in the past for the risks to be obvious: hundreds of thousands died during its post-colonial partition, possibly more. Subsequent decades have seen episodic pogroms. But until recently, although rogue politicians often stirred up hatred for electoral advantage, the secular state mostly acted as a restraint. No longer.

The West, distracted by Russia and China, has paid little attention. Yet a stable, democratic India would be a counterweight to authoritarian China. A Hindu chauvinist India would not only be nastier for its inhabitants; it could also spread instability, prone to even worse relations with its Muslim neighbours. India's friends, starting with America, should use their influence to persuade Mr Modi and his acolytes to check the spread of hate before it explodes into widespread violence. Mr Modi should want to prevent such a calamity, too. Does he? ■

### Financial risk

## A good idea, until it isn't

### Poorly understood cross-border capital flows pose a threat to stability

WHEN GLOBALISATION was at its zenith, huge rewards flowed to those who squeezed out redundancies in the world's supply chains. Only when the pandemic struck—when lockdowns in Asia threatened the supply of goods to the world—was it clear how fragile the system could be. The world's financial supply chains are just as crucial, but even less well understood. A similar shock may lie in store.

Since the global financial crisis, flows of capital across borders have risen unabated. In 2020 the stock of cross-border financial assets reached \$130trn, an increase of almost 60% since 2007. Measured relative to world GDP, at 153%, they now exceed the peak just before Lehman Brothers collapsed.

As the scale of investment has ballooned, so its character has changed (see Finance & economics section). Many European countries' share of the total has fallen, while Asia's share has rapidly increased. Emerging markets are slightly more important, too. The world's largest banks are smaller, better capitalised and less international than they were. Cross-border bank lending was \$34.6trn at the end of June, a fraction above its peak in 2008. By contrast, market-based finance has grown hugely. Insurers, pension funds and a range of stodgy financial intermediaries have become big international investors in their own right. One example is an alliance formed in 2020 between Algemene Pensioen Groep and National Pension Service, the largest pension funds in the Netherlands and South Korea respectively, which has invested in a Portuguese toll-road provider and Australian student housing.

Just as supply chains are a source of efficiency, so cross-border investment matches investors from one part of the world who have capital to spare with investors in another who are eager to put it to work. The benefits spill over into jobs and development. Everyone gains.

But there are dangers. Foreign investors, especially staid institutions, may not understand how much risk they are taking on. High-yield bonds offer lower returns today than ten-year

Treasuries did before the financial crisis. That has sent firms in search of higher returns into more risky, illiquid and opaque assets. In economies with more savings than local investment opportunities, that often means heading overseas where investments are less certain and less well understood. Before the financial crisis, several German banks lost money when structured credit in America soured in 2007.

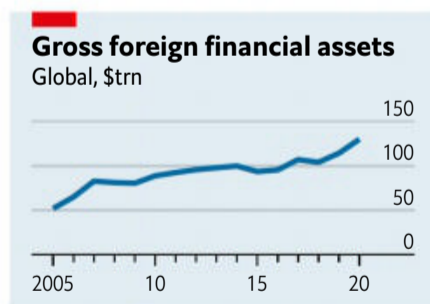
Outside observers are no clearer about the risk than investors. Information on cross-border banking is extensive, partly because the Bank for International Settlements (BIS), which supports central banks, has collected data on international claims and liabilities for traditional lenders since 1963. However, disclosure for other financial institutions is limited. By definition, cross-border investments involve issuers covered by regulators

in one country and buyers covered by regulators in another. Often, nobody has a grasp of the risks. You can tell that the value of global portfolio investment has soared, but not precisely where it is invested or by whom.

Some investors will not properly gauge the risk of default. Others will overestimate the liquidity of their investment or how it is exposed to currency fluctuations. One potential example

is the Formosa bond market, in which international companies sell debt denominated in a range of currencies to Taiwanese life insurers. Around \$200bn in bonds is outstanding, a total that has more than doubled in the past five years. Because there has been a lot of financial engineering, the debt is hard to price.

In March 2020 investors caught a glimpse of the dangers that may lie ahead. During turbulence in dollar-funding markets, large institutions in Asia exacerbated the squeeze by stampeding to cover their exposures. Regulators are alive to the threat. In December the BIS warned about the opaque activities of non-bank financial institutions in currency markets. The Financial Stability Board, a group of regulators, has also recently called for a better understanding of the systemic risks. Whether investors are sufficiently cautious is more doubtful. ■



**Wither the centre ground**

Far too few Republicans are prepared to stand up for the sensible and staid party it once was, known for its belief in free markets and private enterprise (“In his image”, January 1st). Donald Trump may have no true convictions at all and so he’s happy to promote the Republicans’ new focus: the protection of personal liberties, a category that has broadened to include the right to threaten the well-being of the vulnerable, as in the belligerent behaviour of anti-vaxxers. To its great shame, the party also tolerates political viciousness, as well as the poisonous notion that the government is engaged in a “purge” of “patriots”, otherwise known as voters who can’t accept a loss with grace.

When, every so often, Democrats claim that moderate Republicans are extinct, I pipe up and say, “Still here.” But it does appear now that the party has decided we are expendable. If they cared to retain our support, the leadership would have the courage to risk dispatching the bully in our midst, demand that he stop sabotaging the campaigns of the centre-right candidates who are most palatable to voters, and tell him point blank that the party can no longer afford the ongoing damage his continued insistence on a stolen election has done the Republican brand.

MARGARET MCGIRR  
*Greenwich, Connecticut*

If it is correct to call the storming of the Capitol on January 6th 2021 an “insurrection”, then why has no one arrested in connection with those events been charged with insurrection, which is, after all, a federal crime under the United States Code?

HUGH MYERS  
*St Albans, Hertfordshire*

One of the fastest-growing electoral reforms in America is the use of ranked-choice voting. By allowing voters to rank their preferences, their vote is not split among similar candi-

dates. Ranked choice has support from moderates in both American parties. It has enabled centrist Republican senators in Alaska and Maine to stand up to Mr Trump without the fear of being deselected at the next election. Glenn Youngkin, whom you described as a “country club” Republican, was selected as the party’s candidate for governor of Virginia using a ranked-choice vote at a state-wide convention. More elections should use RCV.

KATHRINE SANTOS  
Executive member  
Liberal Democrats for Electoral Reform  
*London*

**Killing by starvation**

Another vital ingredient in Ukraine’s vote for independence from Russia (“Unfinished business”, December 18th) is the lasting memories of the death by hunger of at least 3m Ukrainian peasants from Joseph Stalin’s brutal collectivisation of agriculture in 1933. Rare is the Ukrainian family without a relative or acquaintance whose grandparents perished in the Great Famine, the Holodomor.

Some quarter of a million ethnic Poles, at the time also citizens of Soviet Ukraine, were likewise liquidated by order of Stalin. Hardly a recommendation for reviving the historical links between Ukraine and Russia.

LESLIE COLITT  
*Berlin*

**Improving gaming data**

A focus on data from the video-game industry will not be enough to understand whether excessive gaming can become addictive (“Share the data”, January 1st). We recently developed the Smart Gaming campaign in partnership with the Electronic Sports League, and have conducted the largest survey on gaming disorder to date. From our standpoint, functional impairment experienced by gamers is a key feature of gaming disorder (now recognised by the World

Health Organisation). However, how can functional impairments be understood from gaming data alone? Time spent gaming is not a sufficient predictor to diagnose the disorder.

We agree that it is important to understand how A/B testing of different game-design elements impacts on play time and other objective play variables, but this needs to be understood within a larger framework for studying the well-being of gamers. Hence, such industry data needs to be combined with self-reported data provided by gamers. Finally, independent scientists should not only have access to such industry data, but be able to conduct studies on the many existing online platforms. This would enhance our knowledge of the associations between well-being and gaming, and also the potential links between well-being and social-media use.

PROFESSOR CHRISTIAN MONTAG  
Department of Molecular Psychology  
Ulm University  
*Ulm, Germany*  
HALLEY PONTES  
Department of Organisational Psychology  
Birkbeck, University of London

**No place to hide**

There are few places one can passively view “controlled panic” than the streets of Pamplona during the running of the bulls. However, I do not see a need to widen the town’s streets (“Of architects and bull-running”, December 11th). I worked as a film producer in Pamplona for six consecutive years filming with a crew. We worked in and around the “panic zone”, every morning for seven days.

During the filming we had to contend with panicked people climbing up and over, onto our equipment and colliding with our gear and crew. We tried many ways to steer them clear. What we learned was that when humans become panicked you cannot stop them, but you can

steer them effectively by simple gestures and shouts to redirect their path. We successfully deployed a crew member to each position who would shout, “Run!” and point away from the camera and this worked beautifully.

You can’t beat the panic but you can direct it. Rather than bulldozing streets to create more space, it would be far easier to just install large signs showing an arrow and the words “Run” or “Escape”.

JONATHAN KITZEN  
*Vancouver*

**Pitter-patter**

When I lived in Darwin the sound of the monsoon rains on corrugated iron was a happy sound (“Gimme shelter”, December 18th). Corrugated iron is the roofing material of choice in Australia’s Northern Territory. Because of the intensity of the rains most houses don’t have eaves or gutters. Instead the roof extends a metre or so outside the wall, so when it rains the corrugated channels simply funnel the water away from the sides of the house, much like the function of gargoyles on a Gothic cathedral.

JOHN SHIELD  
*Gladstone, Australia*

**The doors of perception**

“The new normal” (December 18th) told us that many “of the institutions and attitudes that brought stability in the old world look ill-suited to the new. The pandemic is like a doorway. Once you pass through, there is no going back.” This intriguing view of doorways must complicate *The Economist’s* commute. But I’ve often gone back through doorways (most of them, in fact). Perhaps there is hope?

MATTHEW DRAPER  
*Charlottesville, Virginia*

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## Steppe in the dark

ALMATY AND NUR-SULTAN

**Kazakhstan's bloody turbulence will affect all of Central Asia**

THE REVOLUTION, if that is what it was, was as brief as it was bloody, leaving at least 164 civilians, including children, and 16 police dead. Peaceful protests against a rise in fuel prices began early this month in Zhanaozen, a depressed town in Kazakhstan's western oil region. Within days they had spread to neighbouring towns. Next, the spark raced eastward across the vast steppe to Almaty, Kazakhstan's commercial hub, and even to the tightly policed capital, Nur-Sultan. Along the way cost-of-living grievances morphed into demands for political change. And then, suddenly, violence: a statue of Nursultan Nazarbayev, the 81-year-old "father" of the nation, after whom the capital is named, was pulled down. Almaty's city hall (pictured) was torched. A mob stormed the airport.

With some of the security forces dead and his own position as Mr Nazarbayev's hand-picked successor apparently at risk, President Kassym-Zhomart Tokayev went on the offensive. He declared a state of emergency and an "anti-terrorism" operation against "bandits" seeking to over-

throw the state. He ordered the security forces to shoot troublemakers on sight. Most dramatically, he asked for help from the Russian-led Collective Security Treaty Organisation (CSTO), a military alliance of six post-Soviet states. Vladimir Putin, Russia's president, lost no time dispatching paratroopers and armoured vehicles by air to guard crucial sites.

It seemed to turn a murky tide in Mr Tokayev's favour. On January 11th the president delivered a speech whose emollience stood in stark contrast to his iron-fisted pronouncements of a few days earlier. He acknowledged economic grievances, criticised the wealth accumulated by a few well-connected families and even promised political changes in a system that has been run as a mostly oppositionless autocracy since Kazakhstan emerged as a state out of the ruins of the Soviet Union. As *The Economist* went to press, a phased withdrawal of Mr Putin's troops had begun.

Mr Tokayev, pasty-faced and with tinted glasses, is a diplomat by training, an apparatchik's apparatchik. Only a week ago he

looked out of his depth, his future precarious. Now, he exudes composure, even confidence. In police cells around the country, some 10,000 face charges (and beatings) over the unrest, many of them probably innocent bystanders swept up in events. Within government the president has emerged with a firmer grip on power. He has sacked the prime minister, Askar Mamin, replacing him with a malleable technocrat, Alikhan Smailov. As for the powerful security chief, Karim Masimov, who like Mr Mamin (and indeed the president himself) is a Nazarbayev protégé, Mr Tokayev has not only sacked him but had him charged with treason. Animosity is said to have grown between the president and the security chief since it emerged last year that Mr Tokayev's phone had been hacked.

Perhaps most dramatically of all to followers of Kazakhstan's politics, Mr Nazarbayev's influence in the state that he erected seems to have been severely curbed. He is gone from his position as chief-for-life of the all-powerful security council, from where he was assumed to be Mr Tokayev's puppet-master. Now the puppet appears to have cut the strings. Neither Mr Nazarbayev nor his family, despite their still-prominent role in business and politics, have been seen since the unrest began.

So is that the end of the story? Almost certainly not. A welter of questions and contradictions emerge from the events and the official explanations of them.

That protests erupted in Zhanaozen is ►►



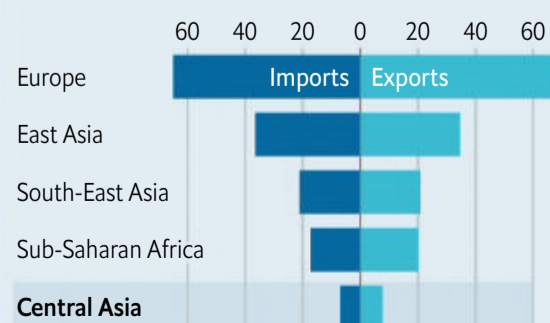
▶ the least surprising turn of events. To a degree which Mr Tokayev only now acknowledges, the wealth from Kazakhstan's vast reserves of oil, coal and metal ores, and the development that was expected to flow from them, has been spread unequally. That has bred resentment among oil-workers, as well as low-earners in the countryside and smaller cities. The greatest beneficiaries have been well-connected oligarchs. Just 162 people hold half of the country's wealth, according to KPMG, an accounting firm. The oil industry has made several of Mr Nazarbayev's relatives enormously rich.

The government explained the phasing out of subsidies for liquefied petroleum gas, used in many vehicles, as a market reform, but many Kazakhstanis saw it as a sop to oligarchs at the expense of their much poorer compatriots. Unwilling to risk a repeat of events in Zhanaozen a decade ago, when striking oil workers were gunned down by trigger-happy security goons, the government was quick to offer concessions, notably reintroducing the subsidies. But it also warned that the protests would not be allowed to continue.

The carrot-and-stick approach was straight from the authorities' well-thumbed game plan. But events then departed from the script. Many in Kazakhstan find it odd that the protesters suddenly turned violent, seizing weapons from state arsenals and occupying the airport, instead of singing and chanting in squares. No one popped up to claim leadership of the demonstrations or to articulate demands. Perhaps the state's systematic suppression over decades of all but a manufactured opposition goes some way to explain this. But it does not explain the attacks on strategic sites such as Almaty's main telecoms tower and the airport, which suggest a co-ordinated movement seeking to challenge those in power. Nor does it explain the sudden vanishing of the security forces supposed to protect the airport. The violence does not seem to have stemmed from a mass, Western-backed "colour revolution", whatever Mr Putin's loud claims to the contrary.

### Silk side-road

Intra-regional trade, selected regions  
2020, % of total trade



Source: United Nations Conference on Trade and Development



The most plausible explanation is that popular, leaderless protests were hijacked by members of the elite with mafia thugs at their disposal, either to protect their economic interests or, more ambitiously still, to oust Mr Tokayev in favour of their own people. An incentive to move now, says Nargis Kassenova of Harvard University, is Mr Nazarbayev's worsening health. He caught covid-19 in 2020, and looked visibly frailer when meeting Mr Putin in St Petersburg in December.

At any rate, Mr Tokayev's allies privately blame relatives of Mr Nazarbayev for instigating the insurrection. The president himself has not publicly accused his predecessor or his family. Indeed, officials have denied rumours that one of the former president's nephews, Samat Abish, the deputy head of intelligence, has been dismissed from his post or arrested like his boss. It may be that Mr Tokayev has struck some kind of deal with the Nazarbayevs, whereby the clan gets some kind of immunity in return for a promise for them all to step back, the old man included. The opacity and ambiguity of the current situation is one reason to think the saga is not over.

Other Central Asian governments are looking on appalled. Kazakhstan was long considered the strongest, most stable and most successful state in Central Asia. Yet the region's five countries all face huge economic problems and share brittle regimes that respond to political challenges mainly with harshness.

These common features are a product of the region's shared history. At the time of Russia's imperial expansion in the second half of the 19th century, Central Asia was a congeries of clans and khanates. Many were proud of their descent from the armies of Genghis Khan and Tamerlane. Russian and subsequently Soviet rule brought development, but little in the way of nation-building. Indeed, though the Soviet Union theoretically divided the region into ethnically defined republics, in practice boundaries were quite arbitrary. It remains a jumble of ethnicities, including 500,000

descendants of Koreans forcibly deported from the Russian far east in the 1930s owing to suspected sympathies with Japan. Kazakhstan boasts a big Russian minority, of nearly 20% of the population, plus Koreans, Jews, Uzbeks, Dungans and more.

The raw, landlocked states that arose out of the Soviet Union's wreckage inherited a great deal of Soviet baggage. This includes traditions of autocratic rule, environmental damage—the disappearance of the Aral Sea after water from the rivers that feed it was diverted for cotton-growing is only the most notorious instance—and state-dominated economies. Soviet habits die hard. Forced labour in Uzbekistan's cotton fields ended only a couple of years ago. Only last year did Kazakhstan do away with over 200 categories of jobs from which women were barred, among them driving heavy-goods vehicles. The bans were supposedly to ensure "the protection of maternity and women's reproductive health"—in effect, preserving women as good breeding machines.

Strongmen are the norm in Central Asia. Emomali Rahmon has ruled Tajikistan since 1994, when civil war raged in the newly independent republic. Kazakhstan, Uzbekistan and Turkmenistan are on only their second presidents since independence. Glossy-coated steeds feature prominently in the personality cult of Turkmenistan's current ruler, Gurbanguly Berdimukhamedov, "The Protector", just as they do in Kim Jong Un's North Korea. Tiny Kyrgyzstan is the exception, a nominal democracy. But even there, power has only once passed smoothly from one president to the next after an election, rather than in mini-revolutions played out on the streets. What is more, the new president soon fell out with the old one, and had him arrested.

The region's autocrats seek to justify cracking down on all opposition by talking about stability and growth. Yet, for all the glitzy new buildings in their capitals, rarely are the leaders as visionary as they claim. Economic models have not changed fast enough. Economies suffer from the re-▶

▶ source curse. Kazakhstan depends on oil and gas, and is the world's biggest producer of uranium (see Finance section). Although it has tried to diversify, it has been largely into energy-hungry fields: bitcoin-mining is a new fad. Turkmenistan has the world's fourth-biggest reserves of natural gas. Cotton and gas dominate Uzbekistan's economy. A single gold mine, just nationalised, accounts for a tenth of Kyrgyzstan's GDP and is the biggest contributor to the government budget. As for Tajikistan, next door to Afghanistan's poppy fields, it bears the hallmarks of a narco-state.

All across Central Asia, bribery and corruption are not incidental to the business model but intrinsic to it. A predatory state discourages investment. In Bishkek, the capital of Kyrgyzstan, a young IT entrepreneur bemoans how greedy customs officers demanded such high fees to allow imported servers into the country that his backer in Dubai gave up on his venture. Others turn to well-connected smuggling mafias. Some Nazarbayev family members are believed to have import-export rackets as well as control of the bazaars around Almaty. In Kyrgyzstan, Raimbek Matraimov, a former deputy customs chief, is a smuggling kingpin. In his southern base around Osh, he buys popularity by building mosques and hospitals. In Bishkek, politicians say, he buys governments.

Internal weaknesses spill into inter-ethnic conflicts. Bloody pogroms of ethnic Uzbeks took place in the southern Kyrgyz city of Osh in 2010. And they hold back cross-border co-operation. Central Asian countries trade less with one another as a share of total imports and exports than do the countries of sub-Saharan Africa (see chart on previous page). The region's arbitrary borders spawn disputes over water-sharing or delineation of frontiers. Last year, to distract attention from problems at home, Tajikistan provoked a spat with Kyrgyzstan that left dozens of civilians dead.

Still, there are notable points of light. When Islam Karimov died in 2016, ending a brutal 27-year reign over Uzbekistan, his successor, Shavkat Mirziyoyev, admitted the dead-end into which Uzbekistan had been driven. He lifted restrictions on converting currency and streamlined customs procedures. He made it plain that apparatchiks were not to shake down local businesses. At the same time he closed the country's most notorious prison, encouraged a degree of monitoring and criticism of the government, and abolished rules limiting where people could live or travel. The change, even in everyday interactions with Uzbekistanis, now largely freed from fear, is palpable to anyone who has not visited the country for a while. In government, the desire for advice from Western-led firms and multilateral institutions remains enthusiastic.

Yet deeper changes, including the privatisation of state banks and other businesses, and the reform of land, where the state squats, are proving trickier. The band of committed reformists in government is stretched thin. The obstacles come from oligarchs with entrenched interests; from below, where many bureaucrats with Karimov-era mindsets remain; and even from above, where, as across all of Central Asia, the imperious summons of the great man at any time of day or night means wasted hours in the presidential antechamber.

The obstacles to economic and especially political change across the region are one reason why Kazakhstan is being so closely watched. To senior modernisers in Uzbekistan, reform is already on a knife-edge. These people fear that events in Kazakhstan will lead neighbouring regimes, Uzbekistan's included, to conclude that the risks of the state relaxing its grip are too great. In recent months, after all, Mr Tokayev had introduced what, by his regime's standards, were serious changes. He had encouraged a degree of decentralisation, including by allowing a little political competition in local elections. He had released a few political prisoners and abolished the death penalty. Some see the recent violence as the result.

Russia's return to Kazakhstan is another reason why the region is following events there closely. In truth, Russia never left. Russian operatives remain in Kazakhstan's successor to the KGB. Russia controls a space-launch site, the Baikonur Cosmodrome. Through Mr Putin's Eurasian Economic Union (which, among Central Asian states, also includes Kyrgyzstan), Russia in effect controls Kazakhstan's customs policies. And the many ethnic Russians in the north of the country provide Mr Putin with an excuse to meddle.

To a lesser (Uzbekistan) or greater (Kyr-



From Russia with strings

gyzstan) extent, Russia enjoys similar influence across Central Asia. The influence is reinforced by the millions of Central Asians who have migrated to Russia in search of work. Their existence, says one Kyrgyz analyst, gives Mr Putin yet more leverage in Central Asia's domestic politics when it suits him.

Sending in the troops will give him much more. It was only a couple of years ago that Central Asia's five leaders met in Nur-Sultan, their first collective summit without Russia's involvement. Now, Russia is propping up the government that hosted them. Tajikistan and Kyrgyzstan also contributed troops to the CSTO's mission. That suggests that they, too, will more readily call in Russia if their regimes are threatened by internal foes.

### Silk Road scrum

Others outside the region are also watching. China's influence in Central Asia has grown markedly as it has built continent-girdling roads and railways intended to link China with Europe (see map on previous page). For all the protestations of Sino-Russian friendship, defined in part by a shared animosity towards the West, the speed of Russia's deployment to Kazakhstan, which also underscored the demise of the Nazarbayev era, appears to have taken China by surprise. Its supportive rhetoric since suggests that China quickly concluded that its interests are best served by Russia's intervention. Stability is all, and China is never averse to piggybacking commercially off others' security.

Another country that thinks of itself as a former Silk Road power, Turkey, has been caught flat-footed. It harbours ambitions to lead the Turkic world, including Central Asia. The attraction of Turkey's soft power is undeniable. Kazakh, Kyrgyz, Turkmen and Uzbek are all Turkic languages. Turkey is a Muslim country, but also a modern, relatively prosperous one. Culturally, the lights of Istanbul shine more brightly for many young Central Asians than do those of Moscow or Beijing. In Almaty and Tashkent many of the fashionable malls are Turkish-built. Yet now Turkish dreams bump up against a new Russian reality.

The West's influence in Central Asia is also at stake. Perhaps to a surprising degree Western counsel has been welcome in Nur-Sultan, Bishkek and Tashkent. Mr Tokayev, who spent years in Geneva and is comfortable in the West, sought Western opinion before delivering his speech on January 11th, in which he was at pains to show his concern over joblessness, poor living standards, inflation and corruption. As he surely knows, the answer to the challenges facing Kazakhstan and the region is more modernisation, not less. Yet despite the promising talk, such modernisation is far from a given. ■



### Law enforcement

## Refunding the police

NEW YORK

**As murders and shootings spike, liberal cities rethink cutting police budgets**

**I**N THE DAYS after George Floyd was murdered by a Minneapolis police officer in May 2020, protesters took to the streets across America. They urged cities to “defund the police”, and politicians listened. Eric Garcetti, the mayor of Los Angeles, called for his department’s budget to be cut by up to \$150m. London Breed, San Francisco’s mayor, announced that she would “redirect funding from the SFPD to support the African-American community”. City councils in Oakland and Portland, Oregon, among other cities across America, approved budgets that cut police funding.

That trend has reversed. Portland and Oakland increased police funding to hire more officers. The Los Angeles Police Department’s budget will get a 12% boost. Last month Ms Breed vowed to “take steps to be more aggressive with law enforcement” and “less tolerant of all the bullshit that has destroyed our city”. Why such a stark reversal, and what does it mean for the future of criminal-justice reform?

The first question is easy to answer. Though crime overall did not rise during the pandemic, the type people fear most—murders and shootings—did, and the

surge has not abated. Over three decades from 1990, America’s homicide rate fell steeply (see chart on next page). From 2019 to 2020, however, the rate had its highest-ever year-on-year rise, of nearly 30%, followed by a further rise in 2021. More than three-quarters of the murders were committed with guns. In Oakland, 133 people were murdered in 2021, more than in any year since 2006, and almost 600 more were shot but not killed. Portland was one of at least 16 American cities that set all-time homicide records last year.

The cause of this leap in violent crime is unclear. It probably stems from a combination of factors: soaring gun sales; financial

stress; fewer bystanders and witnesses; pandemic-driven closure of schools, community centres and other institutions that gave young people things to do and a place to go; thinned police ranks caused by covid; and police being less proactive in the wake of widespread protests.

The murder spike has left reform-minded elected officials in an awkward position. But cities’ decision to back away from reducing police budgets is not purely political. No evidence suggests a relationship between the size of a police force and the number of people its officers kill; ample evidence suggests that bigger and better-funded forces tend to reduce violent crime. Murders can rise or fall for reasons outside police control, but if a city wants to drive down its murder rate, hiring more officers seems a reasonable place to start.

That does not mean any hope of criminal-justice reform is dead. David Muhammad, who heads the National Institute for Criminal Justice Reform, a research and advocacy group, says the current environment requires “more nuanced ways in which we explain the need for criminal-justice reform”. Many people in high-crime neighbourhoods reject defunding, and call for more but better-trained police who spend more time solving serious crimes. The slogan “defund the police” is also politically toxic. Joe Biden opposed it. Lots of Democrats blame it for nearly costing them their narrow congressional majorities in 2020.

Yet the policies that reformists advocate are often popular. Criminal-justice re-▶▶

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form is one of the few policy areas in which the centre is actually holding in America. Some 45 states, conservative and liberal alike, have seen their prison populations decline in recent years. The First Step Act, intended to reduce the federal prison population and improve outcomes for inmates, was one of Donald Trump's few legislative achievements.

In a Vox/Data for Progress poll taken last April, 63% of voters, including 43% of Republicans, supported redirecting some police funding to create a new agency of first-responders "to deal with issues related to addiction or mental illness". Banning chokeholds, requiring body-worn cameras, ending qualified immunity (a judicial doctrine that impedes holding police accountable for misconduct) and banning no-knock warrants also received majority support. In the same poll, 63% of respondents also said they trusted the police. "The problem with the defund-the-police movement is that it felt punitive," notes Aaron Chalfin, a criminologist at the University of Pennsylvania.

Plenty of officers will happily admit that they are not trained to respond to mental-health crises. They have simply become society's default first responders to any problem not requiring an ambulance or fire truck. And, as Mr Muhammad says, "Police don't sign up to get kittens out of trees. Officers say they want to focus on serious and violent crimes." Around half the officers in every department are in patrol units, meaning they respond to calls for things such as home or car alarms, noise complaints and people in distress.

Not all of these require armed officers. Cities including Denver and Olympia, Washington have launched programmes that replace police with trained mental-health responders in some situations. But determining which ones those are in advance is all but impossible. When tragedy strikes, reform's opponents will pounce. The greater the incidence, and the fear, of violent crime, the more plausible the anti-reform case becomes.

Still, reformers are digging in. New Yorkers elected Eric Adams as their mayor after he distinguished himself from his Democratic rivals by running a strong public-safety campaign, but they also elected Alvin Bragg, a staunch progressive, as Manhattan's district attorney (Mr Adams's police commissioner has already taken issue with Mr Bragg's plans to seek prison time for only a few serious offences). Last November Larry Krasner, a pugnacious reformist district attorney in Philadelphia, thumped his police-union-backed rival in the Democratic primary and his Republican opponent in the election—even as his city set an all-time homicide record.

America's five biggest cities by population all have progressive district attorneys,



as do many smaller places. Mr Krasner estimates that more than one-fifth of America's population lives in jurisdictions with chief prosecutors who think like him. But all five of those big cities increased police funding. Although voters there oppose an excessively punitive criminal-justice system and support better-trained and more accountable police forces, they also want fewer people shot and killed. ■

## Foreign policy

# Diplomacy minus diplomats

WASHINGTON, DC

**More than one-third of America's ambassadors are missing**

AMERICA'S CAMPAIGN to avert a Russian invasion of Ukraine intensified this week, as American and Russian officials met: first bilaterally, then collectively with NATO and at the Organisation for Security and Co-operation in Europe. For all his belief in the power of "relentless diplomacy", however, President Joe Biden's team is worryingly short of senior diplomats. He still has no ambassadors in important European capitals such as Berlin, London and Rome. Strikingly, there is no envoy in Ukraine—and has not been since 2019, when Donald Trump removed Marie Yovanovitch amid a scandal that led to his first impeachment (he was accused of illegally exerting pressure on Ukraine to find dirt on Mr Biden and his son, Hunter).

The dysfunction that hampers America's dealings with the world comes just when Mr Biden wants to tighten alliances to counterbalance rivals. Trouble is brewing in the Middle East as nuclear talks with Iran falter. Yet America has no ambassadors to any of its major Gulf allies: Saudi Arabia, the United Arab Emirates and Qatar. In Asia, where the contest with China looms largest, there are no envoys in India,

the Philippines and Thailand. And though it deploys tens of thousands of troops in South Korea, America does not have an ambassador there either.

In Washington the State Department has no assistant secretaries for the Near East, for international security and non-proliferation, or for arms control. Nor is there a counter-terrorism co-ordinator or a legal adviser. The post of inspector-general, an internal watchdog, has been vacant since Mr Trump fired Steve Linick in 2020.

"This is a huge problem," Antony Blinken, America's secretary of state, warned on December 14th. "On virtually every challenge we face, including dealing with Russia, with China, with non-state actors, we're hampered by the fact that we don't have our full national-security and foreign-policy team on the field." More than 30 nominees were confirmed in an end-of-year spurt last month, among them big hitters such as Nicholas Burns as ambassador to China, Rahm Emanuel to Japan and Mark Gitenstein to the European Union. Even so, Mr Biden still has 68 empty ambassadorial positions out of a total 190.

All presidents struggle to fill their administrations. They bring in their train some 4,000 political appointees, of whom about 1,200 must be confirmed by the Senate. On nominations overall, Mr Biden is roughly keeping up with predecessors such as George W. Bush and Barack Obama, according to data from the Partnership for Public Service (PPS), a non-profit group. Yet that is a slothful pace, with only about 460 people named to the 800 most important jobs. In terms of confirming officials in their jobs, though, he is scarcely doing better than the chaotic Mr Trump.

Having the largest number of posts requiring Senate confirmation, the State Department suffers disproportionately. Mr Biden has yet to submit names for about one-quarter of ambassadors. The bigger problem is obstructionism by Republican ▶▶



**Blinken, we have a problem**

► senators. Between them Josh Hawley of Missouri, Marco Rubio of Florida and, above all, Ted Cruz of Texas have delayed or blocked dozens of nominations, whether to posture or to extract concessions on various foreign-policy demands. Democrats can force confirmations by a full vote in the Senate, but that takes up scarce floor time when they have domestic priorities, such as appointing judges (see box).

It is hard to assess how much damage is being done by the diplomatic vacancies. Much business is conducted directly between foreign ministers or leaders. Other officials can take up the work. But however professional, a chargé d'affaires running an embassy often lacks the clout that comes with being the president's chosen ambassador, endorsed by the Senate. It is possible that some foul-ups, such as the

failure to tell France last summer about the US-British deal to provide nuclear-powered submarines to Australia, pushing out a French contractor, was thanks to poor co-ordination resulting from the absence of senior appointees.

A bipartisan investigation into the terrorist attacks of September 11th 2001 found that delays in appointing key personnel to national-security positions had contributed to America's failure to prevent them. At the time just over half of the most important national-security personnel were in place. Two decades on, the PPS reckons, Mr Biden had just over a third of the equivalent staff in their jobs.

In many countries, the prolonged diplomatic vacancies are an irritant, or a slight. They feed the perception of America's withdrawal, if not decline. Mr Biden's failure even to name an envoy to Ukraine reinforces its worry of being kept at arm's length. Perhaps Vladimir Putin has read matters similarly. The Biden team wants to signal that he has not forsaken Ukraine, or the security of Europe. But without ambassadors his reassurance is harder to convey—and may sound less convincing. ■

Biden's judges

## Filling the courts

WASHINGTON, DC

More diverse appointments are set to reshape America's judiciary

DEMOCRATS ARE ACCUSTOMED to feelings of despair about the increasingly conservative Supreme Court. But in the lower courts President Joe Biden and Senate Democrats have wasted no time filling the federal bench. The 40 judges confirmed so far are the most at this point in a president's first term since Ronald Reagan, and more than double the mark set by Donald Trump in his first year. Mr Trump filled the judiciary with young, conservative judges, confirming almost as many to the appeals courts in his one term as Barack Obama managed in two. Mr Biden is reshaping the judiciary in a more progressive direction.

This has depended on close co-operation with the party's leader in the Senate, Chuck Schumer. Along with an ambitious legislative agenda, Mr Schumer has prioritised precious voting time on the Senate floor for judicial appointments—often at the expense of confirming executive-branch officials. A focus on court vacancies in states represented by Senate Democrats has ensured fewer objections from Republicans in committee.

Mr Biden has also elevated a far more diverse range of judges than his predecessors. He has already promoted more black women to the federal appellate courts than any other president—after Mr Trump did not appoint a single black judge for a federal appeals court, the first full-term president not to do so since Richard Nixon. Fully 80% of the appointed judges confirmed are women. Research suggests that such gender and racial diversity is likely to lead to different judgments on affirmative action, workplace discrimination and more.

The judges' backgrounds also mark a break with the past. For decades, the surest path to becoming a federal judge was to first be a prosecutor or a partner at a major law firm. Mr Biden's appointments have included more public defenders than those appointed in the first years of his four immediate predecessors

combined. Just one confirmed circuit-court judge is a former prosecutor.

This reflects the turn among rank-and-file Democrats towards a more lenient stance on crime in recent years, and a belief that judges have been too friendly to prosecutors. Public defenders, they hope, will bring a different perspective. "Having somebody who has for years stood side-by-side with people who are oftentimes in the worst moments of their lives, that's an experience not everyone can bring to the bench," argues Geoff Burkhardt of the National Association for Public Defence.

With elections looming in November, and a possible loss of control in the Senate, time is not in Democrats' favour. John Collins of George Washington University suggests Mr Biden, himself a former chair of the Senate Judiciary Committee, is keenly aware that those appointed today will shape the law for years after he leaves office. A judge in her 30s can be expected to serve for over two decades before retiring. Unlike his recent predecessors, however, Mr Biden has yet to secure the ultimate prize: the appointment of a Supreme Court justice.



Schumer in a hurry

Schools out

## Classes cancelled

CHICAGO AND WASHINGTON, DC

Many schools are closed to in-person learning, against pupils' best interests

GIVEN THE way the fight had been proceeding, it ended in a whimper. On January 10th a stand-off between Chicago's teachers' union and its mayor, Lori Lightfoot, escalated to personal insults. Jesse Sharkey, the union's president, called Ms Lightfoot "relentlessly stupid". She responded by calling him a "privileged, clouted white guy". Hours later, the teachers agreed to go back to work, bringing to an end a nearly weeklong strike over covid-19 safety fears. The city stuck to its terms, but agreed to increase testing and supply more KN95 masks.

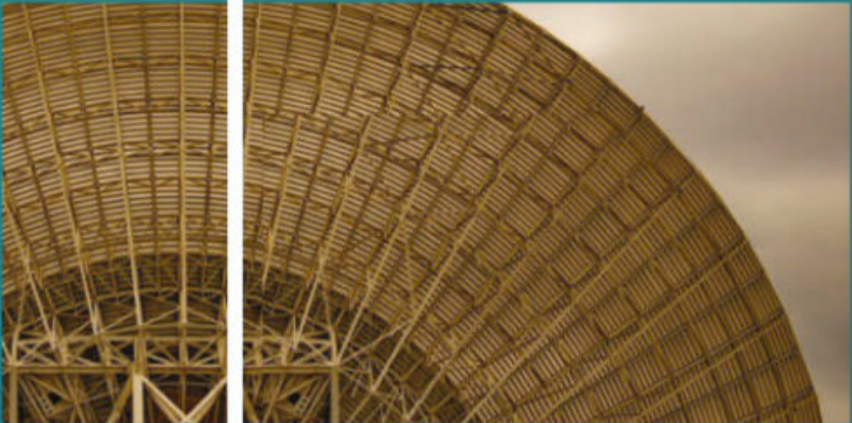
Across America, more than 5,000 public schools, about 5% of the total, switched to remote learning for one or more days during the first week of January due to covid-19. It is a controversial call. The case for cancelling in-person learning was stronger early in the pandemic. "We didn't know what we didn't know," says Michael Hinojosa, superintendent of the Dallas Independent School District in Texas, whose schools are now open for in-person learning. Without a vaccine and consistent mitigation measures, teachers and pupils were at risk. But prioritising health over educa- ►►

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tion had many serious consequences.

Remote classes led to a huge learning loss. According to NWEA, an education-research firm, pupil achievement declined by 3-7 percentile points in reading and 9-11 points in maths by the end of the 2020-21 school year. McKinsey, a consulting firm, estimates pupils lost four to five months of learning that year. The *Journal of the American Medical Association* reports that pupils engaging in remote learning also had more mental-health difficulties than children attending school in person.

The evidence on the health risks in schools is mixed. A study published in October in *Proceedings of the National Academy of Sciences* found that American counties that opened schools saw an increase in the growth rate of cases of five percentage points on average. Another study, published in April by the American Academy of Paediatrics, found that opening schools in North Carolina led to little virus spread. The authors credit the schools' public-health measures, including daily screening and mask-wearing for pupils and adults, for minimising the impact.

In-person learning is better for many pupils, and vaccines have lowered the risk. But vaccination rates lag in America, particularly among the young: 73% of adults are fully vaccinated compared with 53% of 12- to 17-year-olds. Only 25% of five- to 11-year-olds have received at least one dose since they became eligible in November.

School leaders could encourage vaccination by giving families information on how to get it or by hosting clinics. They could consider mandates similar to the current vaccination requirements for childhood diseases in all 50 states. Frequent testing could also support a safer environment, but America has struggled to provide enough kits. The Biden administration promised to make 200m at-home tests available a month by the end of December, but it has failed to do so (on January 12th it pledged to more than double the number of tests available to schools, with an extra 10m a month). Families are struggling to find testing in their communities, says Tracie Sanlin, CEO of Chicago Collegiate, a charter school in Chicago. She plans to provide free testing on campus.

Research on the general public shows a clear link between masking and diminished covid spread. Yet four states, including Florida and Texas, have implemented mask bans for schools. In Florida eight school districts defied the rule, resulting in a loss of state funding. Legal challenges have been unsuccessful in Florida but others have prevailed. Mr Hinojosa's school district is one of several in Texas that resisted the state's executive order against mask mandates. A federal judge ordered a halt to the enforcement of the ban, allowing the districts to insist on masks.

Another concern is a substitute-staffing shortfall driven by overall teacher shortages. Ms Sanlin hoped to open her school last week, but she decided to switch to remote learning when 40% of her staff tested positive over the winter break. "If I only have 60% of my staff, that means grade levels are collapsed," she explains. "We would have been baby-sitters. Whereas by choosing to go remote, we can teach our kids and actually can get some school-work done." As a charter academy, Ms Sanlin's school was not hampered by the negotiations between the teachers' union and the school district. It returned to in-person learning on January 10th.

The union in Chicago claimed that mitigation measures, such as testing, had not been properly implemented. Its teachers refused to return until their concerns were addressed. The city's mayor rejected this claim. Pupils and their families were caught in the middle. Chicago's squabble is merely the most public and attention-grabbing. Few imagined that America's schools would still be struggling to stay open nearly two years after the first wave of closures in March 2020. ■

### Buildings burning

## Two tragedies, one explanation

PHILADELPHIA

**The real cause of recent deadly fires was poverty**

THE SMELL of smoke hung in the air for days after the fire on January 5th that killed 12 members of an extended family. Philadelphia's mayor called it "one of the most tragic days in our city's history". The burnt row house belonged to the city's public-housing authority. Four days later in



A Twin horror

the Bronx, a borough of New York City, 17 people were killed and dozens injured in a fire that whizzed through a 19-storey apartment building, home to scores of low-income families who rely on vouchers for federal rent subsidies. Though the circumstances differ—a Christmas tree was accidentally ignited in Philadelphia and a faulty space heater, along with open doors, may have been the culprits in the Bronx—each fire has sparked questions about the state of affordable housing.

In Philadelphia there is a shortage of housing for the 400,000 people living in poverty. Much of the available stock is old and shoddy. Philadelphia's housing authority (PHA) serves 81,000 people; some 40,000 are on its waiting list, which has been closed for almost a decade.

In the 1950s the PHA began buying up empty row houses around the city. In theory such scattered housing, where people from different income brackets live in the same neighbourhood, is a sound idea, but could be hard for a cash-strapped agency to maintain. The fire was in Fairmount, a former working-class neighbourhood now gentrified by high-earners attracted by the quaint houses on narrow tree-lined streets. Jenna Collins of Philadelphia's Community Legal Services, an advocacy group, says, "It's easy to hide the underinvestment outside a really beautiful-looking row home in Fairmount." The scope of the Philadelphia fire had a lot to do with overcrowding: 26 people were crammed into the house's two small apartments.

Many of the apartments in the Bronx fire were also crowded and home to poor, multigenerational families, including immigrants from the Gambia. The building, Twin Parks Northwest, was part of an urban-revitalisation plan dreamed up by local clergy at the height of white flight in the 1970s. With help from the state, they built a dozen buildings for renters. When Twin Parks Northwest opened in 1973 it was considered a model of low-income-housing design, with spacious apartments, outdoor areas and nursery-school rooms. But within a few years drugs and crime took over. Fire alarms go off often, so are ignored.

After some lethal blazes, such as that at the Triangle Shirtwaist Factory in 1911, the horror of so many deaths prompted changes to building codes, fire regulations and labour laws. This time the lessons may be missed. The fire department is reminding New Yorkers to close doors behind them when they flee flames. Officials are talking about the need to use space heaters properly, not wondering why the family had to resort to one. In Philadelphia officials revealed that a five-year-old child, who has lost his family, accidentally started the fire. Better to have protected his privacy and wondered why his large family was not accommodated adequately. ■





## The future of Austin

# City limits

AUSTIN

**Texas's capital city is on the rise as a tech hub. Can it emulate San Francisco's success while avoiding its problems?**

ELON MUSK has predicted that Austin will be “the biggest boom town that America has seen in 50 years”. From 2010 to 2020 its metro area had the second-fastest growth in the country—its population expanded by a third. Already America's 11th-largest city, Austin could soon displace Silicon Valley's San Jose in the top ten.

If the proliferation of oil rigs was once the symbol of Texas's vibrancy, today it is the number of cranes assembling new skyscrapers in Austin, muses Evan Smith, boss of the *Texas Tribune*, a newspaper. Meta, née Facebook, recently confirmed expansion plans there, leasing 33 floors in what will be the city's tallest building when completed next year. Mr Musk's Tesla and Oracle, a software giant, have moved their headquarters to Texas's capital city.

Bay Area residents have flocked there, seeking a higher quality of life in a place with no state income tax, lower housing costs and fewer covid-19 restrictions. Austin's politics are the closest to San Francisco's of any Texan city. Austinites embrace the motto “Keep Austin Weird”, cultivating a funky creativity. University of Texas (UT) at Austin helps churn out brainy workers. Jay Hartzell, UT's president, is the former dean of the business school and promotes close ties with local firms.

Jim Breyer, a prominent venture capitalist, created a second headquarters for his investment firm in Austin and moved there himself after noticing that younger entrepreneurs were put off by the Bay Area's high cost of housing. “The Bay Area is untouchable when it comes to the next-

generation, deep technologies around AI and quantum and the venture opportunities,” he predicts. But he wanted a base somewhere where young people building companies could afford to live.

The arrival of Californians and others is leading to problems that are similar to San Francisco's but on a smaller scale. Austin has some of the worst congestion of any Texan city. Billions of dollars are being spent expanding public transit and widening a major thoroughfare, but such projects will take years. “We don't have those things yet, and we still have more people coming, so there's going to be an awkward period of time as we go from here to there,” explains Steve Adler, Austin's mayor.

After voters decriminalised public camping in 2019, homelessness became more visible in Austin, with people occupying parks and public spaces in scenes reminiscent of San Francisco. Last May voters reinstated a ban, making it illegal for the homeless to camp in public spaces. Most public spaces have been cleared.

But the problem of homelessness remains, and the rising cost of housing could make it worse. Between March 2020 and November 2021 the average home value in Austin increased by 56% (the second-biggest jump of any city or town after Kalispell, Montana), and a further 20% rise is expected in 2022, according to Zillow, a real-estate firm. In October mortgage payments as a share of income were the eighth-least-affordable of any metro area in America. UT has begun paying out signing bonuses to woo professors. “We used to

call professors in California and tell them how much they'd save by moving to Austin,” says Mr Hartzell. Now other universities “are playing the trick on us”.

To increase the supply of housing, pro-growth politicians and residents will have to battle a cohort of longtime locals who oppose changing the character of the city. Some think “if we don't build it, they won't come”, explains one politician, identifying a form of neighbourhood protectionism similar to the Bay Area's. The city is trying to enact a change to its zoning code to make it easier to increase density, but residents sued; the case is still making its way through the court. Without more housing, Austin risks losing artists, musicians and the creative class that has made the city so attractive to others, says Mr Adler.

As it seeks to confront the downside of being a boom town, Austin has a few things going for it. For one, there is a lot of land in driving distance of Austin. Thirty minutes in any direction one can find dwellings that are far more affordable, compared with the more landlocked Bay Area. It is also earlier in its “life-cycle”, which means “the city and state leadership have an opportunity to do things creatively that may very well work,” predicts Mr Breyer. This could include doing more to prioritise infrastructure, housing affordability and the fight against homelessness.

There is also a strong desire among many of Austin's new arrivals to avoid recreating the Bay Area. “The people who are coming here are very mindful of not repeating the same mistakes,” says Patrick McKenna, a techie who moved from there and is a founder of One America Works, which connects talent with new tech hubs. He warns of the risk of local communities not sharing in the prosperity that tech firms create for their employees and shareholders, as happened in San Francisco, driving inequality and fanning a backlash.

### Red and blueberry

Conventional wisdom suggests that as more Californians move to Texas, the Lone Star state will become more Democratic. Yet Austin is already blue. (Rick Perry, a former governor, once described Austin as the “blueberry in the tomato soup” of Texas.) Rather than pushing Austin to the left, those leaving California could push the city more to the centre. “The majority of people fleeing California are fans of a free society or more to the right,” says Joe Lonsdale, a venture capitalist, who is also describing himself. He has supported initiatives like reinstating the camping ban and recently launched an anti-woke university.

The mayor's race in November will be a “Rorschach test for how this city sees itself”, says Mr McKenna. Mr Adler is unable to run due to term limits. Many expect a business-friendly moderate to win. ■

# Lexington | Death, taxes and a failing presidency

*Joe Biden is a flawed politician in an impossible job*



**H**A VE ANY voters demanded more of their leaders than modern Americans? The thought occurred to your columnist while listening to a group of eight Georgians, Ohioans and Pennsylvanians, all aged under 30 and college-educated, opine on President Joe Biden this week. It was not pretty.

“Covid is the worst it’s been and the government is doing basically nothing about it,” said Lydia, speaking from Philadelphia. “We’re not even employing the good parts of Donald Trump, if there were any,” said Desiree, in Atlanta. “I don’t know what kind of powers Biden has,” offered Sara, another Georgian, “but I feel like he should be doing a lot more.” Asked to grade the president, the group, which had been convened remotely by Sarah Longwell, a conservative activist, gave him four Cs, three Ds and an F. And it was not a hostile crowd. All the group’s members were Biden voters, and none regretted their vote. Indeed, if asked to support the president again in 2024, all said glumly, they probably would do.

With friends like these, Mr Biden might ask, who needs a multitude of voters convinced that he is a senile election-stealing socialist? Anyway, he has them. After a year of being informed by conservative bigmouths that the president has dementia, most Republicans believe this to be the case. Together, these disenchanted Democrats and deluded Trump voters have made Mr Biden almost the most unpopular president since records began. A mere 42% of Americans approve of his efforts. Only Mr Trump, on 39% at the same point in his term, was rated worse.

To explain this debacle, most commentators have focused on Mr Biden’s weaknesses. Prolix and error-prone, at once too cautious and too changeable, the 79-year-old rarely set Democratic hearts racing even before he aged, as in recent years he noticeably has. The modesty of his talents was so obvious on the campaign trail that it seemed almost like a perverse selling-point—supporting evidence for his promise to restore low-key normalcy to the government. But with his predecessor out of the picture, for now, that promise appears less compelling. And Americans find themselves being led through tumultuous times by their least charismatic and politically able president since George H.W. Bush.

Tempting as it always is to bash the politician, however, Mr Biden’s shortcomings are only a marginal reason for his unpopular-

ity. The main one is the dismal reality that half the electorate was against him from the get-go. This is a relatively new phenomenon. Mr Trump was the first modern president not to have been backed by a significant minority of his opponent’s supporters early in his term. By contrast, the fact that Mr Biden started out with an approval rate two percentage points higher than his share of the popular vote looked like an achievement. But relentless criticism and disinformation from the right soon reversed that. According to modelling by *The Economist*, which correlates historical presidential approval ratings with measures of partisanship, a generic president could be expected to have an approval rating of 46% at this point in his first term.

The resurgence of covid-19 and related economic glitches have made that slippage even more unavoidable. Notwithstanding the economy’s overall vigour, an alternative polling model, which correlates presidential approval with inflation and unemployment, also puts the generic president on 46%. That Mr Biden’s ratings are even lower than the models predict is probably largely due to the virus itself. Though most of the focus-group participants understood that he has limited power to crack down on the anti-mask, anti-vax mob that have exacerbated America’s covid struggles, most blamed him for not doing so anyway. “If you don’t have someone in charge, there isn’t any control,” said one participant.

This analysis is not to ignore Mr Biden’s mistakes. The debacle in Afghanistan, which helped propel his slide, was a howler. The administration underplayed its achievement in muscling through a trillion-dollar infrastructure upgrade and overestimated its ability to pass additional climate and social spending. It also allowed that package to become defined by its cost, not its contents, and ultimately made a hash of getting it past the mercurial Senator Joe Manchin. Yet the likelihood that a more inspiring president, who made none of those errors, would be almost as unpopular as Mr Biden is, suggests that their importance has been exaggerated.

It follows that Mr Biden’s ability to recover his footing looks limited, notwithstanding a modest improvement in his efforts of late. He has given a few good speeches, including a well-judged jab at his predecessor on the anniversary of the Capitol riot and some remarks on the economic recovery that dwelt sensibly on price rises. Nonetheless, the administration’s hopes of winning back disenchanted Biden voters—the only sort he probably has a fighting chance with—appear naive.

Such disaffected Democrats tend to be relatively young, disengaged and unlikely to consume mainstream media. Only one of the focus group’s members watched cable news; the rest got their facts from social media, where the president’s addresses make little splash. In addition, some in the group displayed such an exaggerated view of presidential power that Mr Biden’s modest expression of empathy and implied admission of failure seemed destined to leave them cold.

## Failure is the only option

This is another new way in which presidents are set up to fail. In response to misleading media coverage and congressional gridlock, many voters, especially on the left, have come to imagine the office possessing “superman powers”—at once awesome and non-existent—says Jeremi Suri, a scholar of the presidency. Burdened by such expectations, it is becoming hard to imagine any mortal making a success of it, let alone the clay-footed Mr Biden. Even if inflation and the virus recede much faster than expected, a mid-terms shellacking for his party looks highly probable. ■



## Tech disruption

## Silicon linings

BUENOS AIRES

## The pandemic has accelerated Latin America's startup boom

WHEN THREE YOUNG entrepreneurs decided to start an online marketplace in Argentina in 1999, their chances seemed slim. Only a select few had access to the internet and money was scarce. "There were no local venture-capital firms, and international ones wouldn't even look at Latin America," says Marcos Galperin, one of the founders. In 2001 the trio met an investor in Silicon Valley who looked at their sales and asked if the figures were in "millions or billions". They were in thousands.

Two decades later, during the pandemic, their online shop, MercadoLibre ("free market"), became the highest-valued company in Latin America, surpassing Petrobras, Brazil's state oil firm, and Vale, a mining giant. Although it has since fallen behind both, MercadoLibre remains the region's startup success story, valued at \$59bn. It was big before covid-19, but as people stayed at home it got a boost: in some countries new orders more than doubled between 2019 and 2020.

It is part of a broader trend. According to CB Insights, a data provider, over \$20bn

of venture capital went into 952 deals in Latin America in 2021, nearly four times as much as in 2019 (see chart 1 on next page). The region is catching up from a low base, and quickly: investment since 2015 has grown over ten-fold, speedier than in Asia, Europe or the United States. It now has 27 unicorns—privately held startups valued at over \$1bn—up from four in 2018.

The past two years have been grim in Latin America. According to *The Economist's* excess-deaths tracker, it has lost a higher share of its people to covid than any other region. Long lockdowns have scarred its economies. But the pandemic has also created opportunities. Disruption has accelerated. More startups are likely to emerge, if governments let them.

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Some of the boom reflects a global surge in investment in startups. Venture funding worldwide reached \$621bn in 2021, a record. But some investors are particularly bullish about Latin America's potential. The total market capitalisation of tech firms as a proportion of GDP is still just under 4%, compared with 14% in India and 30% in China. The Inter-American Development Bank (IDB) reckons that the value of the tech sector in the region grew from \$7bn in 2010 to \$221bn in 2020.

Most of the innovation so far has been in fintech. Latin America's banking sector is the most profitable in the world, with an estimated return on equity of 13-15%, much higher than in most developed regions. Fat margins are not the result of efficiency. Operating expenses, relative to assets, are higher than in other parts of the world. Interest rates are, too. The difference (or spread) between the rates that banks pay depositors and charge borrowers was 7% compared with a global norm of 5% in 2018 (the latest available data from the World Bank). Although several factors contribute to this, critics blame a lack of competition.

In Brazil five banks control over 80% of the market. Archaic rules in some countries, such as insisting that people turn up in person to make changes to their accounts, mean that many go without them at all. In Mexico, where there are 13 bank branches per 100,000 people, compared with 30 in the United States, half the population is unbanked. The unmet demand for ▶▶

► credit for small- and medium-sized enterprises is more than \$650bn in Brazil and \$160bn in Mexico.

The most successful fintech is Nubank, a Brazilian startup which listed in New York in December. With almost 50m users, it has become the world's biggest digital bank, valued at over \$40bn. Others are catching up. Creditjusto, a Mexican lender, has disbursed some \$600m to businesses since 2015 and recently bought a conventional bank to expand its lending capacity.

Another Mexican startup, Konfio, became a unicorn in September. It uses credit-rating algorithms based on big data to give out loans to small businesses more cheaply than regular banks. Pierpaolo Barbieri, the founder of Ualá, an Argentine fintech valued at \$2.5bn, claims that two-thirds of its customers had no credit history before downloading its app.

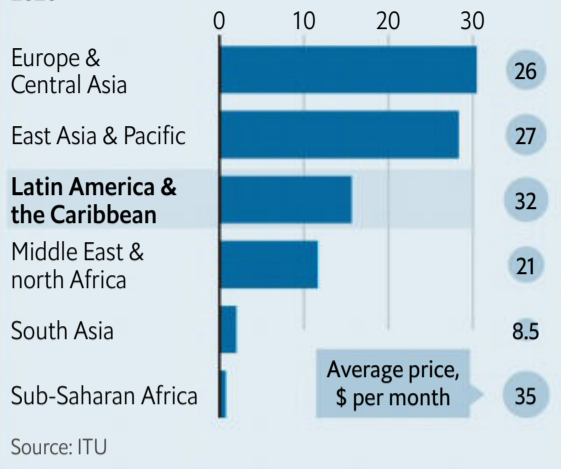
Latin American fintech received 40% of venture funding in 2020. It helps that in several countries, covid-19 stimulus money was disbursed digitally. This meant that an estimated 40m unbanked people signed up for traditional and digital accounts in Brazil, Colombia and Argentina.

Other businesses, such as health care, education and infrastructure, are also ripe for disruption. Most of these sectors are dominated by a few firms that behave like "clubs", says Cristóbal Undurraga, who used to direct InnovaChile, a government-backed accelerator. For example, around a third of Latin Americans are uninsured, largely because premiums are high. "Insurance is where fintech was several years ago," says Ana Cristina Gadala-Maria of QED, an American VC firm.

Innovation is fizzing in all sorts of areas. NotCo, a Chilean unicorn that produces plant-based foods, has developed an algorithm that identifies fruits and vegetables with the most similar molecular composition to animal-based products. During the pandemic many millennials went to live with their parents and nudged them out of their meaty comfort zone, thinks Matías Muchnick, its CEO. Jeff Bezos, the

## Cloudbusting

Broadband subscriptions per 100 people  
2020



founder of Amazon, has invested in it, his first venture in South America.

The main action in the startup craze is in Argentina, Brazil and Mexico, but some smaller economies have seen drama, too. Uruguay has become one of the world's biggest exporters of software, per person. The IDB thinks Peru and Guatemala also have a lot of potential.

Challenges remain. Crucial skills are in short supply. Latin American universities train around 40,000 software developers a year. That is far fewer than the 100,000 that General Atlantic, an American private-equity firm, estimates the tech sector needs annually. Internet provision is patchy and pricey (see chart 2). Argentina, with a population of 45m, has only 30,000 square metres of data-centre space in operation—the same as Austin, Texas, which has just 2m inhabitants.

Political uncertainty does not help. Chile, which has one of the highest numbers of startups per person in the region, recently elected Gabriel Boric, a 35-year-old president with ties to the Communist Party. Many left-wingers are also involved in the drafting of a new Chilean constitution. Cristóbal Silva, the co-founder of Fen Ventures, an early-stage VC fund, thinks it could become trickier to invest there.

Andrés Manuel López Obrador, the president of Mexico, has made life hard for many private firms. Digital investors are unlikely to be immune. The president appears somewhat out of date. When talking about video games, he refers to "the Nintendo", as if the market were still dominated by one company, as in the 1980s.

Some governments have tried to make life easier for startups. In 2020 Brazil's central bank introduced a series of rules to foster transparency and competition in finance. Customers can now compare services and transfer more easily between providers. It also launched Pix, an instant payment system. Colombia's government has also made it easier for fintechs to get going without meeting the full requirements of a financial-service licence.

A Mexican law in 2018 purported to simplify the rules for fintech. However, it is confusing, says Leila Search of the International Finance Corporation, the private lending arm of the World Bank. She estimates that it takes a year and half for fintechs to start operating in Mexico.

Many investors seem undeterred. SoftBank, a Japanese conglomerate, recently announced that it will invest another \$3bn in Latin America, on top of a regional fund it founded in 2019 worth \$5bn. Marcelo Claire, the firm's Bolivian-born chief operating officer, has said he expects at least eight Latin American firms, backed by SoftBank, to list publicly this year. Tencent, a Chinese tech giant, recently co-led a funding round for Ualá.

Hernán Kazah, one of the founders of MercadoLibre, doubts that political upheaval will hurt startups much. He notes that MercadoLibre survived the meltdown of Argentina's economy in 2001 and the Brazilian recession of 2014-16. It helps that the company is legally domiciled in Delaware. Indeed, of the 11 Argentine tech companies with billion-dollar valuations, ten are incorporated abroad.

Many uncertainties remain, not least over inflation. But there is a hunger for innovation in the region. Lots of people shopped online for the first time during lockdowns. Others signed up for small loans. For good as well as ill, the pandemic will leave its mark on Latin America. ■

## Brazil

# Jair and balanced

SÃO PAULO

## Brazil's president scorns accurate data

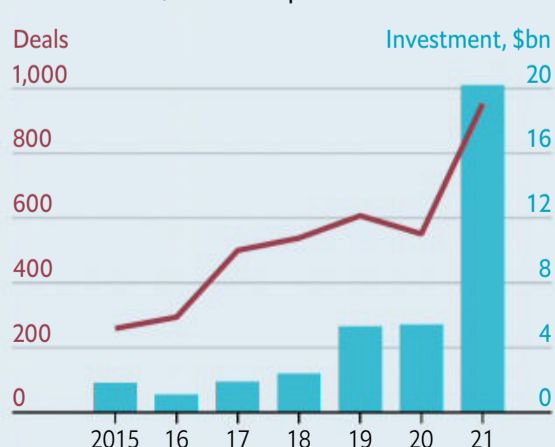
AS THE OMICRON variant sweeps the globe, scientists cannot accurately track its impact in Brazil. In early December the government's main system for counting cases and deaths was hacked in a ransomware attack. Since then, the site has been down. On January 7th more than 63,000 cases were registered in 24 hours, the most since September. The actual number is probably higher. Yet the health minister shrugged off concerns about the lack of statistics as "narratives".

All this is part of an unprecedented decline in data collection, claims Paulo Januzzi, a professor at the National School of Statistical Sciences in Rio de Janeiro. This is partly because under Jair Bolsonaro, the president elected in 2018, data-collecting institutions have taken a battering.

Six months after taking office Mr Bolsonaro called a spike in deforestation in the ►

## Running up that hill

Latin America, venture capital



► Amazon “a lie” and fired the head of the National Institute for Space Research (INPE), the agency that monitors it. More recently the negative attitude to number-crunching has intensified. Late last year the government held back data showing record tree-clearing until after the UN climate talks in Glasgow. On January 6th the government announced that INPE will no longer monitor deforestation in a savannah in central Brazil that is under threat.

Some problems predate Mr Bolsonaro. A recession between 2014 and 2016 strained budgets. In 2018 officials from the statistics agency warned that cash shortages would affect the census planned for 2020. It was postponed twice. It will at last go ahead this year, but with fewer questions. Wonks are few and far between: according to a study in 2020 only a small proportion of civil servants always use scientific evidence to guide policy decisions.

Previous governments were sometimes keen on data. In 2004 Brazil launched an online database of official statistics. Under a law passed in 2011, anyone can request such numbers and (supposedly) hear back within 30 days. The government now flatly rejects a third of requests, the shabbiest performance of any administration since the law came into effect.

Covid-19 has made things worse. Over the past two years the government has twice tried to change the methodology for disclosing data, at one point by emphasising the number of “recovered” patients rather than cases or deaths. After a public outcry, that decision was reversed.

Other attempts to manipulate data are being investigated. Last year testimony during a Senate probe into the government’s handling of the pandemic accused some of Mr Bolsonaro’s advisers of instructing a private health-care provider to alter death certificates so as not to register covid-related ones as such. They deny it. A state-level probe continues.

In a Facebook Live event last year the president cited a report, supposedly by the federal oversight agency, that falsely stated that 50% of covid-19 deaths in Brazil in 2020 were due to other causes. The agency denied the existence of the report. An internal investigation found that a draft was produced by a staff member who said it was edited without his consent.

Mr Bolsonaro has clearly learned the trick, popular with certain other world leaders, of claiming that any facts he doesn’t like are “fake news”. But his disregard for data will have repercussions, not least by depriving Brazil’s government of an accurate view of reality. And there is one statistic the president cannot fudge. Since the pandemic has worn on, killing around 700,000, and his cash handouts have ended, his average approval rating has fallen from 37% to 23%. ■

## Ice hockey

## A puck in the teeth

## Canada’s best ice-hockey players cannot go to the Olympics

ICE HOCKEY matters in Canada. It is the official winter sport and national pastime. Canada has won more Olympic medals for it than any other country. Fully half of Canadians tuned in to watch their team win gold in the men’s ice hockey final at the winter Olympics in Vancouver in 2010, making it the most-watched broadcast television programme in the country’s history.

But the chances that a Canadian team will win at the games in Beijing, which start on February 4th, are looking dismal. Similarly the United States, the sport’s other powerhouse, looks unlikely to win gold, despite the two countries hosting the National Hockey League (NHL) in which 32 teams of the world’s best players do battle every week. This year the league bosses have forbidden players from competing in China.

The NHL blames the disruption wrought by covid-19. Indeed, the pandemic has meant that the league has postponed more than 100 games this season, which started in October. Before Christmas more than 15% of players (or 119 people) were out for the count because of the virus.

Some fans cry foul, however. The league also pulled out in 2018, after a dispute with the International Olympic Committee (IOC) over who should pay for players’ travel, accommodation and insurance. The NHL loses money from lending out its players, so it has few incentives to do so. It also cannot use footage from the games for its ads.

In 2020 players negotiated to go to the

Olympics as part of their collective-bargaining agreement with the league. But even before the Omicron variant, few thought the NHL would stick to its word. “I think they would have looked high and low for an excuse to not send them,” says Ryan Lambert, a hockey writer.

Canada and the United States now have just a few weeks to scrape together teams from junior leagues and college players. Russia’s men, who won the gold medal in 2018, are almost certain to do so again (though under the Olympic flag, rather than their own, because of a doping ban). China’s team, which qualified for the first time this year and faced potential humiliation at the skates of Canada and the United States, may be spared some blushes.

The league is betting that fans care more about their home-city teams. Past Olympic glories have not translated into ratings bumps for the NHL. Its decision to miss the previous games did little to hurt the league’s popularity in North America, according to Cliff Grevler of the Boston Consulting Group. Gary Bettman, the NHL’s commissioner, has suggested that ice hockey be moved to the summer games, during the league’s off-season, but the IOC put his idea on ice.

The NHL may feel it is tapping into a larger feeling in Canada. The Canadian government has been one of the loudest proponents of the diplomatic boycott of the Olympics. The most recent Pew global attitudes survey, from 2020, showed 73% of Canadians had a frosty view of China, a historic high.



The icemen stayeth



## India

## Playing with fire

DELHI

**Narendra Modi's government is ignoring, and sometimes even encouraging, hatred of minorities**

**P**ULSES RACED as 12th-graders answered maths problems at St Joseph's School in Ganj Basoda, a provincial town in the state of Madhya Pradesh, on December 6th. They faced a tough trial: national board exams that decide who gets into India's best universities. But it was not the scratching of nibs or rustling of answer-sheets that heightened the tension. Midway through the test a crowd could be heard gathering outside, clanging at the gates with wooden clubs. "Who will protect the faith?" they chanted. "We will! We will!" Rocks crashed into the glass-fronted school building, spraying jagged shards across classrooms. Then the mob surged in.

Opened in 2009 and charging its 1,500 students around \$30 a month, St Joseph's is like thousands of other private schools across India. Many carry Christian names merely as a brand, signifying instruction in English, though St Joseph's is indeed run by a branch of the Catholic church. Christians are less than 1% of the population in Madhya Pradesh, and a similar proportion of the school's students. But as Hindu-nationalist extremists warn their co-reli-

gionists of trickster Christian missionaries preying on the poor, of handsome Muslims luring unwary women into unsuitable marriages via "love jihad" and of other threats to the faith of four-fifths of Indians, fired-up mobs are seizing their chance to put minorities in their place. In this case the prompt seems to have been rumours that a first communion service for eight Christian children held at a nearby church in late October had in fact been a secret conversion ceremony.

No one was badly hurt at St Joseph's school, which put the property damage at \$26,000. Some might argue, too, that there is nothing new about such incidents. Indeed, whereas in past decades sectarian violence sometimes left hundreds or even

thousands of Indians dead, its victims now rarely number more than a few dozen a year. Yet what such nastiness has lost in numbers it is gaining in scope and frequency. More disturbing still, given the secular constitution that underpins the world's largest democracy, India's government is increasingly turning a blind eye towards and even actively encouraging majoritarian chauvinism.

Consider some of the events of the past few months. The attack on St Joseph's was not the first, but the third on a Christian-affiliated school in Madhya Pradesh since October. According to United Christian Forum (UCF), an advocacy group that runs a hotline for Christians targeted for their faith, last year saw a 75% surge in complaints from across India. With 486 reported incidents, 2021 was by far the most violent year since records began in 2014, when the count was 127. On Christmas Day alone Indian media reported seven anti-Christian incidents across the country.

In many instances police appear to have ignored warnings of trouble, to have intervened late (as at St Joseph's), or to have blamed and even arrested those being attacked. UCF notes that although victims filed charges in some 34 cases in 2021, police accepted more than twice as many complaints from aggressors, typically accusing Christians of having broken the laws against religious conversion that a third of India's states have enacted.

India's roughly 200m Muslims provide a far bigger target, and have been subject to ▶▶

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▶ a more concerted and wide-ranging offensive. Aside from the headline-capturing lynchings of suspected cow-butchers by vigilante mobs that occur with dismal regularity across the north Indian “Hindi Belt”, local extremists have more quietly singled out Muslim-owned businesses, from street hawkers to large corporations, for boycott and harassment. Internet trolls regularly barrage prominent Muslims, particularly women and journalists, with vicious insults. Twice in the past year they have created spurious online “auctions” for the sexual favours of Muslim women who criticise the government, using stolen photos and other web content.

Reporters recently exposed a network of “trads”, believers so ultra-traditional that they dismiss Narendra Modi, India’s Hindu-nationalist prime minister, as a *maulana* (Muslim holy man). Their chat sites feature images of Hindus urinating on Muslim corpses, and of altered Nazi propaganda posters that exhort Hindu mothers to produce more “Aryan” children.

In December alone, saffron-robed speakers at religious colloquiums in two Indian cities publicly called on Hindus to take up arms. Ram Balak Das, a monk from the rural state of Chhattisgarh who claims he has killed people to protect cows, roused his audience at one event to join him in cries of “Shoot them, shoot them!” At the other meeting Prabodhanand Giri, leader of the self-styled Hindu Raksha Sena or Hindu Defence Army, called on Hindus to “cleanse” their country just as Myanmar did—a reference to the latter’s recent genocide of Muslim Rohingyas.

In response to all this Mr Modi and his Bharatiya Janata Party (BJP) have maintained a telling silence. Under Mr Modi the BJP has increasingly resorted to Muslim-baiting to consolidate Hindu votes that tended previously to divide along lines of caste or ideology. According to an informal count by NDTV, a news channel reputed for sobriety amid a media cacophony of parrots and propagandists, the BJP has been responsible for 297 out of 348 incidents of hate speech by senior politicians since 2014. In the past four months the frequency of such outbursts has jumped 140%.

The approach of elections in five states next month may be one reason why the party is turning up the heat. The BJP is anxious to retain its hold on Uttar Pradesh, India’s most populous state, in advance of the next general election in 2024. The party’s saturation advertising has included blunt sectarian content, such as images of Muslims as terrorists, or of opposition politicians dressed in “Muslim” garb. In one speech Yogi Adityanath, the state’s chief minister (pictured, left, on previous page), described the vote as being “between the 80% and the 20%”, a scarcely veiled reference to Uttar Pradesh’s actual religious

## Wildlife trafficking

## Some like it otter

SINGAPORE

Demand for the creatures as pets drives a harmful trade

OTTERS ARE cute, this no one can deny. They have big eyes and snub snouts and paws like tiny leedle hands. They look even cuter when they wear jaunty hats and toss food pellets into their mouths as if they were bar snacks, like Takechiyo, a pet otter in Japan. Documenting Takechiyo’s antics has earned his owner nearly 230,000 followers on Instagram, a photo-sharing app.

Takechiyo’s fame reflects a craze across east and South-East Asia for keeping the cuddly creatures as pets. Enthusiasts in Japan visit cafés where they pay to cuddle them; Indonesian owners parade their pets around on leads or go swimming with them, then share their pictures online. But these jolly photos mask a trade that is doing a lot of damage. Even before they became fashionable companions for humans, Asia’s wild otters faced

plenty of threats. Their habitats are disappearing. They have long been hunted for their coats, or culled by farmers who wish to prevent them feasting on fisheries. The pet trade, which began picking up in the early 2000s but appeared to accelerate a few years ago, has made things worse. The numbers of wild Asian small-clawed otters and smooth-coated otters, two species that are in highest demand, have declined by at least 30% in the three decades to 2019.

The international agreement that governs trade in wildlife, known as CITES, now prohibits cross-border trade in these species. But laws banning ownership are often poorly enforced, as in Thailand, or riddled with holes, as in Indonesia. And the otter-keeping fad has been turbocharged by the internet, says Vincent Nijman of Oxford Brookes University. In 2017 TRAFFIC, a British charity that monitors the wildlife trade, spent nearly five months looking at Facebook and other social-media sites in five South-East Asian countries. During that time it found around 1,000 otters advertised for sale online.

In any case, otters do not even make particularly good pets. Every year the Jakarta Animal Aid Network, a charity in Indonesia’s capital, receives some ten otters from people who have struggled to look after them. Faizul Duha, the founder of an Indonesian otter-owners’ group, admits that his two animals emit a “very specific” (read: fishy) smell. They bite humans and gnaw at furniture. Their screeching can be heard blocks away. And their cages need cleaning every two-to-three hours. That is how often they evacuate their bowels.



Otter foolishness

mix. Amit Shah, India’s home minister and Mr Modi’s right-hand man, has repeatedly used slurs and insinuations to characterise his party’s opponents as Muslims or panders to Muslims.

But the Modi government’s support for sectarian urges goes beyond speech. Minorities of all kinds are woefully rare in central ministries, in security agencies and in BJP-led local governments. Under Mr Modi the government has ceased reporting such statistics as the religious composition of police, or the number of hate crimes. At both the centre and in states it rules, the BJP has pushed government prosecutors to pursue cases against Muslims accused of sectarian troublemaking,

but has rarely shown any zeal with Hindus. Speakers who incite violence openly boast that politicians and police will not touch them. The leading group that sponsors thousands of local vigilante squads which frequently target minorities, the Vishva Hindu Parishad is, like the BJP itself, a creation of the Rashtriya Swayamsevak Sangh, or RSS, the “mother ship” of the broader Hindu-nationalist movement.

In the short term, perhaps, this latest lurch towards majoritarian chauvinism may boost the RSS and win a few more votes for the BJP. But the loser from this equation is not just the increasingly fretful fifth of Indians who happen to profess other faiths. It is India itself. ■

## Sri Lanka's economy

## Thanks, but no thanks

COLOMBO

## The Rajapaksa government refuses outside help as it flirts with default

ALMOST THREE years since terrorists blew up hotels along Colombo's lovely beaches and two years since covid-19 shut down international travel, tourists have begun returning to Sri Lanka, providing sorely needed foreign exchange. The country's stockmarket has been bounding along, up by more than 80% in 2021, trailing only commodity-rich Mongolia among global bourses. Corporate profits have been strong, too. GDP growth last year was somewhere between 3.5% (by private estimates) and 5% (by the government's). This suggests a thriving economy. Yet alarm bells are clanging.

Encouraging though the renewed tourist arrivals may be, they are still barely a fifth of the pre-pandemic peak. Exports grew strongly in the fourth quarter of 2021 but are still too meagre to prevent a looming financial crisis. Years of heavy foreign debt and current-account deficits have taken a toll. Foreign reserves have collapsed (see chart). Supplies of oil, cooking gas, milk, wheat and medicine are running short. A rapidly depreciating currency has helped the country's exporters, including clothing manufacturers and tea growers. But it has made servicing foreign-denominated debt more costly and has stoked inflation, which jumped during 2021 to 12% and appears to be accelerating.

The numbers are sobering. Interest obligations on government debt in 2021 amounted to 72% of total revenues, while public-sector salaries and pensions came to 80%. Multiple downgrades have in effect locked it out of the international private-credit market. On January 12th S&P, a credit-rating agency, downgraded Sri Lanka's debt further, citing "increasingly likely default scenarios without unforeseen significant positive developments".

So Sri Lanka finds itself looking down the barrel of a gun. On January 18th \$500m in foreign-currency-denominated debt will come due. Another \$5.4bn in principal and interest will need to be paid by the end of the year. Similar payments are required for years to come. That has provoked a series of complex financial manoeuvres. In January the central bank disclosed that it had sold off half the country's \$382m of gold reserves. Rumours abound that the rest has been liquidated too. One obligation—an oil bill of \$251m owed to Iran—was paid in tea. The government has also taken a series of heavy-handed actions to

preserve foreign currency. It has banned the import of cars. It briefly tried to ban foreign chemical fertiliser in the name of going organic, until crashing agricultural yields forced it to change its mind.

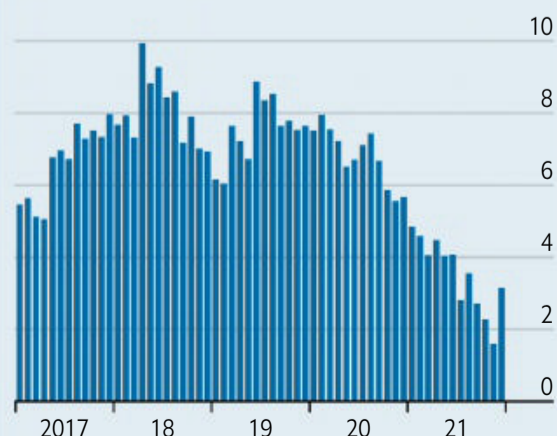
Other measures include a currency swap with China, nominally expanding the central bank's foreign-currency reserves from \$1.6bn to \$3.1bn. It is unclear whether the money can be used for anything except Chinese goods. A similarly complex deal has been announced with India, along with—perhaps not coincidentally—the resolution of a long-running dispute over India's stake in a Sri Lankan oil-storage facility. State assets, including prime property, have been put up for sale. No one has so far been keen to buy them.

A bigger problem is that Sri Lanka's increasingly desperate deals do not address the real reason for its current travails. After Gotabaya Rajapaksa was elected president in 2019, he abandoned the fiscal and monetary-policy conditions imposed by the IMF three years earlier after another financial upheaval. Taxes were cut and interest rates pushed down. The approach was not without merit. It may have softened the harsh consequences of the post-covid global economy and reawakened the animal spirits of businesses that are now reflected by the soaring stockmarket. But it has proved to be unaffordable. Deficit financing on this scale is unfeasible.

Were the IMF to arrange a restructuring of the country's finances, interest rates and taxes would probably rise, government spending decline, and bondholders would have to take losses. In exchange there would be stability and new funds. But Mr Rajapaksa's government has vocally opposed IMF intervention, calling it an infringement of sovereignty. Still, some kind of restructuring seems inevitable, either under the oversight of a multilateral agency or with a more comprehensive government plan that has yet to be presented. The alternative is default—and the risk of higher inflation, fewer imported goods and an end to the current recovery. ■

## That Strinking feeling

Sri Lanka, official reserve assets, \$bn



Source: Haver Analytics

## Borders

## Djebacle

SYDNEY

## Australia ties itself in knots over Novak Djokovic

THE PARK HOTEL in Melbourne is not the kind of place where a gluten-free, vegan tennis star typically holes up. But Novak Djokovic, the world's best player and perhaps its most famous anti-vaxxer, is not typical. For five days he enjoyed the hospitality of the Park, which is better known for housing asylum-seekers, after Australia's government cancelled his visa. On January 10th a federal judge overturned that decision, released him from detention and ordered the government to pay his legal fees.

It is still up in the air whether he will compete in the Australian Open, the tournament which brought him to Melbourne and starts on January 17th. The immigration minister, Alex Hawke, was considering using discretionary powers to cancel Mr Djokovic's visa a second time as *The Economist* went to press. The minister has vast authority to remove unwanted foreigners if he deems it to be in the public interest. If he uses those powers to deport Mr Djokovic, the 34-year-old could be banned from returning to Australia for three years.

The Serb would have had no such problems had he been fully jabbed, like 95% of other professional tennis players. Some 78% of Australians have had two shots, among the world's highest rates. Sympathy for him has been inversely proportional to the country's enthusiasm for vaccines.

The case against him has been spectacularly bungled. The state government of Victoria, where the tournament is held, approved his medical exemption from vaccination, thus allowing him to enter the country, on the grounds that he had recently recovered from covid-19. The country's conservative prime minister, Scott Morrison, endorsed this decision. Then, after a public outcry, he changed his mind. When Mr Djokovic landed in Melbourne on January 5th he was detained for eight hours before officials cancelled his visa on the grounds that he is unvaccinated, and sent him to the Park Hotel to await deportation.

How did the government tie itself up in such knots? "One explanation for the stuff-up is political," says Abul Rizvi, a former deputy secretary of the country's department of immigration. Australians are proudly egalitarian. Their mantra is that everyone should get a "fair go". Yet during the pandemic, governments have bent the rules for the rich and famous. After they slammed state and international borders shut, swarms of celebrities arrived from



▶ Hollywood, isolating in mansions instead of quarantine hotels. That infuriated locals who were separated from their families for months or years on end.

When Mr Djokovic announced that he had been granted permission to fly to Australia, many were incandescent. Why should an anti-vaxxing superstar get special treatment, they demanded. Some still want to send him packing. Mr Djokovic's appeal revealed to rule-abiding Australians that he had flouted pandemic restrictions. He was caught out for conducting a face-to-face interview two days after he was di-

agnosed with covid on December 16th, and for making a false declaration in a legally binding Australian travel form. The second mistake, he says, was a "human error" by the agent who submitted the document.

For Australian politicians, talking tough about the border is usually a vote-winner. Mr Morrison, a former immigration minister responsible for sending asylum-seekers to offshore detention centres, takes a hard line on "illegal arrivals". He has plenty of reason to play it up. A federal election is due by May and his government is trailing in the polls.

Yet detaining the world number one twice would send an odd signal to the world. The saga has already set off a diplomatic incident with Serbia. And it might suggest Australia's government is overruling the courts. The ministerial powers bestowed on Mr Hawke were designed to turf out terrorists and criminals, says Mr Rizvi, who helped design them. Using them against a sportsman would be "entirely inappropriate", he says. Mr Morrison's government has left itself with no good options. Whatever it does, Australians are likely to find fault—and double-fault. ■

## Banyan Treading water

*Despite its dominance, China does not have it all its way in the South China Sea*

DISPUTES IN THE South China Sea go back decades. They involve Brunei, China, Malaysia, the Philippines, Taiwan and Vietnam, all with contesting claims. But it was only ten years ago that China, which makes outlandish maritime claims for nearly the whole sea, greatly upped the ante. First, it provoked a stand-off that left it in control of an uninhabited atoll, Scarborough Shoal, which under UN maritime law clearly belongs to the Philippines, sitting within that country's 200-nautical-mile "exclusive economic zone" (EEZ). Then China launched a massive terraforming exercise, turning reefs and rocks into artificial islands hosting airstrips and bases. What, a decade on, has China accomplished, apart from the wilful destruction of unique ecosystems?

The terraforming in the sea is over. Xi Jinping, China's president, claimed its purpose was to benefit all—bolstering navigational safety for commercial shipping, for instance—and that the new islands had no military purpose. The claims are bunkum. The artificial islands host runways for long-distance bombers, reinforced bunkers, missile batteries and military radar. The long-term aim, say regional diplomats and analysts, is to project Chinese power deep into the South China Sea and beyond, and to hold the Americans away during any conflict.

The immediate aim, though, is to dominate politically and economically as much as militarily. Here, the new bases help not through the deployment of hard power but with "grey-zone" coercion of neighbours. Coastguard, survey vessels and "maritime militias" all play their part. The latter are fleets supposedly involved in commercial fishing but in reality working alongside Chinese military and law-enforcement

operations in disputed waters.

Last March 200-odd Chinese fishing boats swarmed the Whitsun Reef, within the Philippine EEZ. Today, some 300 militia vessels are present around the Spratly Islands, in the heart of the South China Sea, on any given day, writes Gregory Poling of the Centre for Strategic and International Studies, a think-tank in Washington. China has challenged oil-and-gas activity by both Indonesia and Malaysia, and sent drilling rigs to both countries' EEZs and continental shelves. It has bullied foreign energy companies into dropping joint development with Vietnam and others, while offering neighbours the carrot of joint development with itself—once its claims are recognised.

China has paid a diplomatic price. Had Mr Xi engaged in none of the terraforming and bullying, China would be better admired among members of the ten-country Association of South-East Asian Nations (ASEAN). The Whitsun Reef swarming led President Rodrigo Duterte of the Philippines to abandon his wooing of Mr Xi and hold America closer. The United States



and its Western allies have upped their naval presence in the sea, welcomed by most ASEAN members. Yet China acts as if time is on its side—it is, after all, the region's indispensable economic partner. Sooner or later, it calculates, one country will break from the pack and agree to a Chinese joint-development project within its own EEZ, thus ceding to China's wild claims of sovereignty.

Still, appearances count. For years China dragged its feet on agreeing with ASEAN a code of conduct on the South China Sea, a principle agreed on 20 years ago in order to promote co-operation and reduce tensions. These days, China likes to play willing. Not least, says Ian Storey of the ISEAS-Yusof Ishak Institute, a think-tank in Singapore, it reinforces China's narrative that it and its neighbours are managing differences without interference by America and its friends. In 2021—hold your breath—a preamble to the code was at last agreed on. This year, China says, a code may at last be signed.

In fact the two sides are as far apart as ever. China is demanding, in effect, the right of veto over ASEAN members' naval exercises with foreign powers. It also wants to keep out foreigners from joint oil-and-gas development. Such demands are unacceptable to members.

So why, Western policymakers impatiently ask, does ASEAN persist with the charade of negotiating a code? One South-East Asian ambassador replies that dialogue with the giant neighbour is far better than none, and in this arena ASEAN can politely push back whenever China tries its luck. Moreover, the ambassador adds, ASEAN's Lilliputians can ensnare China in an endless web of dialogue. That might curb some of its worst excesses. Meanwhile, a stalemate has settled on the South China Sea.





### Politics in 2022

## All change, bar one

### Officials will have a nervous year, obsessed by sweeping leadership changes

ELITE CHINESE politics take place in a fog of obscurity. But one forecast is commonly accepted: Xi Jinping will still be China's ruler next year and beyond. Having completed a decade in power, he is likely to defy convention and remain in office. But throughout the rest of the hierarchy, huge changes are under way. They will reach a climax late this year with a sweeping shuffle at the top. Mr Xi may be a rule-breaker, but he has not altered the underlying political rhythm. A five-yearly turnover has begun of leaders high and low. Throughout officialdom, the tension is evident.

In speech after speech, bureaucrats harp on a task of paramount importance: ensuring the success of the Communist Party's 20th congress. The party is typically vague about when this will be held—all it will say is the second half of the year. It usually does not confirm the date until a few weeks beforehand. But such gatherings, held every five years, usually take place in October or November. They are largely rubber-stamp affairs, yet play a crucial role. They “elect” a new Central Com-

mittee of nearly 400 members that convenes immediately afterwards to appoint a new Politburo (currently 25 people) and military high command. Only when that is done will officials begin to relax.

China's political landscape has changed considerably since Mr Xi took charge. He has seized more levers of control than any of his predecessors, including over economic matters, which were once largely the remit of the prime minister, now Li Ke-qiang. In 2018 he secured a revision of the constitution that scrapped the term limit on the presidency, allowing him to keep that job indefinitely. There is no term limit on his job as the party's general secretary, the holder of which is by convention also head of state and the army. So Mr Xi could remain China's leader for life.

His position seems secure. There is little sign of the bitter political feuding that

preceded his own anointment as leader at the party's 18th congress in 2012. But the build-up to the 20th congress will not be plain sailing. Mr Xi has to decide on many appointments and stay vigilant. His decision to scrap the presidential term limit was controversial. People affected by his sweeping purges of enemies and corrupt officials are likely to be nursing grievances.

Some changes are enforced by the incumbents' ages. Mr Xi still appears to respect unwritten rules about when senior officials should retire. Assuming he continues to do so, at least 11 of the 25 current members of the Politburo, including two in the Standing Committee, will have to step down after the congress, because they are 68 or over. (Mr Xi will be that age, but the rule will not apply to him.)

That means that some notable Politburo members may face retirement. One is Liu He, a deputy prime minister who has been at the forefront of economic policy-making as well as trade talks with America. He will soon turn 70. Another is Yang Jiechi, China's most senior diplomat, who will be 72. The Standing Committee members who are likely to leave are Han Zheng, a deputy prime minister in charge of Hong Kong affairs, and Li Zhanshu, the head of China's legislature. All eyes will be on their slots. If either or both of their replacements are 62 or younger, one of them could succeed Mr Xi at the 21st congress in 2027 should he decide to step down then.

The future of another member of the ▶▶

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36 Chaguan: US-China military risks

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▶ Standing Committee, Mr Li, is uncertain. The constitution obliges him to step down as prime minister after two five-year terms, so he will be replaced in 2023. But he will be 67 when the congress convenes, ie, young enough to keep his Standing Committee seat and take on another portfolio.

Changes in the Politburo—and at every other level—may help Mr Xi to tighten his mighty grip. Officials stress that loyalty to him is essential for promotion. But a generational change is also under way that may affect politics in the years ahead. More than half of the Central Committee's members are likely to be replaced at the forthcoming congress (a typical churn). Cheng Li of the Brookings Institution in Washington says this will result in 85% of seats being held by people born in 1960 or later, compared with just over half previously.

In a report in December, MacroPolo, an in-house think-tank of the Paulson Institute in Chicago, called this generation's rise "a rare dynamic in Chinese politics". It noted a "gulf" between the younger group's experiences and that of the older cohort to which Mr Xi and most other Politburo members belong. Those, like Mr Xi, who were born in the 1950s grew up during Mao's vicious Cultural Revolution of 1966-76, when formal education was severely disrupted. The younger cohort came of age after Mao's death in 1976. Its members were shaped by a rapidly changing China that was opening up to the West. The think-tank said Chinese politicians belonging to this group tended to be more pro-market and politically liberal than their elders.

The advance of this generation, and of even younger officials who may have been students during the pro-democracy upheaval of 1989, is already evident at the provincial level and below. Shuffles began in these lower strata early last year. So far, more than half a dozen provincial party chiefs have been replaced. Several of them were leaders of Mr Xi's generation who have been succeeded by officials of the 1960s group. About one-third of new entrants to the inner circles of provincial party leaderships were born in the 1970s.

### Power generation

But, at least while Mr Xi remains in power, few observers expect any relaxation of the party's vice-like grip on China. A return to the relatively liberal political climate of the 1980s is hard to imagine. Leaders who began their careers at that time have been moulded since by two profound changes: China's meteoric rise as a global power, and growing disillusionment among Chinese with the West as a political model.

At every level, the reshaping of leaderships is being intensively managed to ensure that only those loyal to Mr Xi are promoted. That is a colossal undertaking. In 2011, during a similar exercise in the build-

up to Mr Xi's accession, the chief of the party's central Organisation Department, its vast human-resources machine, said that more than 100,000 "senior officials" would retire or be assigned to new posts. The turnover is likely to be just as drastic this time, with changes down to the level of rural townships. They include shuffles in leaderships of government departments and local legislatures (Mr Xi is pictured voting in November for party-picked delegates to his district-level one).

The party often touts this five-yearly shake-up as democracy in action. Delegates to the party congresses are supposedly chosen by ordinary party members. In fact democratic choice is minimal. Organisation departments at various levels ensure that only those favoured by higher-ups are promoted. The delegates are selected carefully for their compliancy.

There will be 2,300 of them at this year's national congress. Work on picking them has just begun. State media will be filled in coming months with reports about the mobilisation of party members to nominate suitable candidates. Past such efforts have involved motorcycle teams driving across remote grasslands to consult party-member herders; party branches sending messages to members abroad to seek their opinions; even officials visiting homes to seek advice from the sick.

In reality, members are used merely to echo their leaders' choices. Before nominations are submitted, party committees organise propaganda campaigns to publicise the deeds of some select "model workers". The message is clear: choose names from among them. Party members in the bureaucracy know whom to nominate: their leaders. The initial round may produce hundreds of thousands of names. Their numbers are whittled down by low-level party committees, which shape the

lists to ensure that quotas are met—specific percentages of officials, women, ethnic minorities, migrant workers and so on.

The lists are passed back and forth, up and down the ranks, for further refinement until every province, the armed forces and a handful of other "electoral units" each has its own list of delegates that satisfies the Organisation Department. Despite the party's role in producing these lists, chosen delegates are still subjected to extensive vetting. This has involved interviews with colleagues, police checks and examination of records relating to everything from tax payments to compliance with family-planning rules. As officials put it, no one is to be selected "carrying sickness", ie, with a blotted copybook.

### Out, out brief candle

Any faint glimmer of democracy that may once have flickered Mr Xi has extinguished. In 2007, about three months before the party's 17th congress (Hu Jintao was then general secretary), the party conducted an unprecedented poll of members of the Central Committee and a few others to assess support for potential Politburo candidates from a list of nearly 200 of them. It was described as an occasion of "great significance" for inner-party democracy. Five years later, before the congress at which Mr Xi took power, the party repeated the exercise, this time also asking for their recommendations for promotions to the Standing Committee.

Mr Xi has made clear his disdain for "simple reliance on votes to choose people". Instead of straw polls, his officials have preferred to interview senior people to assess their support for candidates for powerful roles. Xinhua, a state news agency, said the straw-poll system had been abused by Mr Xi's since-purged rivals, who had tried to win votes with bribes.

So the pre-congress atmosphere is familiar. Officials are scrambling to ensure that nothing will upset preparations. Earlier this month one of the Politburo's youngest members, Chen Min'er (born in 1960), rumoured to be a rising political star, summed it up: "We must resolutely keep the word 'stability' at the forefront."

In the months ahead, security will become ever tighter and officials even less tolerant of dissent. Leaders are unlikely to risk a health crisis by easing their zero-tolerance approach to covid-19. As *The Economist* went to press, a fresh outbreak near Beijing was causing alarm. The capital also has to worry about another big event: the Winter Olympics next month. "We must maintain a stable and healthy economic environment, a clean political environment and a social environment of peace and security," said Mr Chen, setting out pre-congress tasks. For millions of officials, they will be all-consuming. ■



Xi marks the spot

## Chaguan | One accident away from disaster

*Lessons from a fatal Chinese collision with an American spy plane, 21 years ago*



**I**N AN AGE of superpower rivalry and distrust, it is odd to talk of good fortune smiling on America's relations with China. But in one important domain, the rivals have shared a long streak of astounding luck. It is two decades since the last fatal encounter between the armed forces of America and China. Today the skies and seas around China swarm with a growing number of planes and warships from each side. In Beijing, scholars and officials talk of when, not whether another accident will occur. Then they wonder how such a crisis would be managed, by two countries locked in open ideological competition and stalked by rising nationalism.

The last incident involved a collision between a Chinese navy fighter and an American spy plane, high over the South China Sea on April 1st 2001. The Chinese pilot died after his jet broke apart. Badly damaged, America's naval reconnaissance plane, a lumbering, propeller-driven EP-3 with 24 crew aboard, limped to a Chinese military airfield on the tropical island of Hainan, landing without permission. The crew's detention by the People's Liberation Army (PLA) was an early test for George W. Bush, who had been president for less than three months. The crew were freed just 11 days later, after America's ambassador to Beijing, Joseph Prueher, signed a letter saying his government was "very sorry" for the Chinese pilot's death. While noting that the EP-3 made an emergency landing to save its crew, the letter added that America was "very sorry", too, for the plane's arrival in Hainan without clearance. Through deft translation into Mandarin, China presented the letter as a formal apology. Party chiefs declared the pilot, Lieutenant-Commander Wang Wei, a revolutionary martyr and Guardian of the Sea and Sky. Official media told citizens to channel their grief into hard work to make China strong, and the country moved on.

In 2001 both governments took risks to end the stand-off. Chaguan covered the EP-3 collision during an earlier posting to China. Hours before the Americans flew home, he interviewed locals in a hot, rainy street near the Americans' detention place in Hainan. Ignoring police officers listening in, passers-by shouted that the EP-3 pilot should be put on trial.irate university students told of campus protests squelched and of handwritten posters torn down. They were right to sense a fudge. For all their demands that America end surveillance flights near China, party chiefs sig-

nalled to Bush-administration envoys early on that they wanted a deal, in the interests of broader bilateral relations. Notably, China wanted entry to the World Trade Organisation and to host the 2008 Olympic Games, and America had leverage on both counts. After making clear his desire to see the dispute resolved, President Jiang Zemin left for a tour of Latin America.

America compromised, too. Pentagon officials gave reporters images of Wang Wei flying so close to American planes on previous missions that he could be seen holding up his email address. When debriefed later, the EP-3 crew from April 1st described the Chinese pilot making two reckless passes within ten feet (three metres), before misjudging a third and hitting one of their propellers. The PLA account flouted laws of physics and common sense: that Wang Wei was a safe 400m away when the larger, slower EP-3 veered and rammed him. But to get the crew home, American negotiators set aside the question of blame.

Luck played a role in 2001. Mr Bush handed the crisis to his new secretary of state, Colin Powell, a pragmatist with unusual influence as a former general and chairman of the joint chiefs of staff, able to get quick decisions out of the White House. Mr Prueher was a former admiral and head of Pacific Command, who as a naval aviator spoke with confidence about mid-air intercepts. That said, previous contacts with Chinese generals did not help, he recalls in a telephone interview. The PLA was, he says, "non-existent in solving this problem. They did not answer my calls." The EP-3's survival was a stroke of fortune. Brigadier General Neal Sealock, who as America's defence attaché in Beijing led talks on the ground in Hainan, accords the EP-3 pilot "much honour" for saving his crew, thereby averting a catastrophe or even a war if 24 Americans had died in a crash, or, worse, been shot down. Powell's clout somewhat shielded American negotiators in China from Washington politics. Two decades on, a vastly more partisan Congress and media in America would surely denounce or obstruct any compromise like that struck by the Bush administration. Today, "if China is a problem, which it is, a bigger problem is sorting out the effectiveness and efficiency of our government," worries Mr Prueher.

### All lucky streaks end eventually

For their part, Chinese nationalists would be harder to manage today. Most Chinese get their news from often-strident online outlets, rather than the staid television channels that played down the crisis in 2001. Chinese scholars see some positive changes, starting with the PLA's growing capabilities. Zhang Tuosheng, a former military academic and diplomat, is an expert on crisis management at the Grandview Institution, a Beijing-based think-tank. In 2001, he says, American officers debated destroying their own plane on the ground to preserve its secrets, but thankfully decided against lobbing a missile at a Chinese airbase. China's modern-day strength should make America still more cautious now, he argues. Mr Zhang praises emergency hotlines and codes of conduct agreed by PLA and American commanders over the years. But China and America remain fundamentally divided on how to avoid accidents, he concedes. The PLA stresses "national security", meaning that America should stop coming near China. Americans stress "safety", meaning sober behaviour during close encounters.

Meanwhile, Chinese pilots are growing more aggressive. Since 2021 American and allied surveillance planes have logged multiple near-misses with PLA aircraft, some, it is said, within 100 feet (30 metres). When complaints are lodged, China's response is: stay away. A disaster looms. Resolving it will be far harder next time. ■



### Crossing the Mediterranean

## An EU-funded horror story

TRIPOLI

**Libya's coastguard is notorious for abusing migrants, and flush with European cash**

THE JOURNEY of the *Geo Barents* was a long, tense stand-off punctuated by moments of frantic effort. For weeks the ship, operated by Médecins Sans Frontières (MSF), a French-founded medical charity, bobbed in international waters off Libya's Mediterranean coast. Its crew watched for boats full of migrants—as did patrols run by Libya's coastguard, which has threatened aid-workers who try to stage rescues. From time to time, the radio would crackle with warnings. “You have to sail away from this zone,” coastguard officials would say. “Otherwise immigrants will see you and sail towards you.”

When they spotted a migrant boat, both parties would rush to reach it first. For a few days, the Libyans won the race. With the help of drones and manned planes circling overhead, the coastguard caught four rafts carrying migrants. After a week, though, the MSF crew picked off one boat after another. Soon more than 300 migrants occupied every inch of the ship's decks: Senegalese, Sudanese, Syrians—

many with horror stories of their time in Libya, which they shared with the Outlaw Ocean Project, a non-profit journalism organisation with which *The Economist* collaborated on this story.

Since at least 2017 the European Union, led by Italy, has trained and equipped the Libyan coastguard to serve as a proxy maritime force. Migrants who reach Europe have legal protections, and aid-workers and journalists to highlight their plight. By working with the Libyans, the EU has in effect shifted its border controls hundreds of kilometres south of the actual border, to a place where no such niceties apply.

If the goal is simply to keep migrants off European shores, the effort has been a suc-

cess. Tens of thousands are intercepted each year by the Libyans (see chart on next page). The number of people reaching Italy by sea fell by 44% from 2017 to 2021, according to the International Organisation for Migration (IOM), a UN body.

For the migrants themselves, though, European policy has been a disaster. The crossing itself has become more dangerous. One measure of that danger, comparing estimated deaths with attempted crossings, increased from one per 50 people trying to cross in 2015 to one in 20 in 2019. Another metric, which uses arrivals in Europe instead of attempted crossings, climbed four-fold. Tens of thousands of migrants who cannot reach Europe are trapped in squalid detention camps in Libya, subject to torture, forced labour and extortion by their jailers. The EU admits it has little control over its partners—and yet continues to pour money into the scheme.

Libya has long been a jumping-off point for migrants eager to reach Europe. Muammar Qaddafi, the late Libyan dictator, used this to blackmail his European neighbours. In 2010 he demanded €5bn (\$6.4bn at the time) from the EU to stop migrants from crossing the sea. The alternative, he warned, was a “black” Europe. But Qaddafi would not live long enough to collect this extortion payment. He was booted from power the following year, in a revolution backed by NATO and several Arab states, and subsequently killed by militiamen. ▶

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39 Reconciliation in Ethiopia

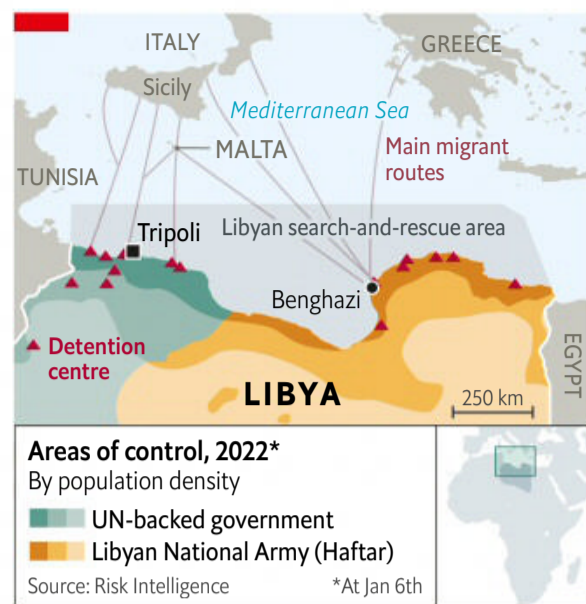
40 Russian mercenaries in Africa

▶ The revolution plunged Libya into a period of chaos from which it has yet to emerge. The militias that overthrew Qaddafi did not lay down their arms; instead they have fought internecine battles for power and wealth. In 2019 Khalifa Haftar, an army general-turned-warlord, marched west from his base in Benghazi, hoping to overthrow the UN-backed government in Tripoli (which itself relied on militias to survive). Foreign powers, including France, Russia, Turkey and the United Arab Emirates, played a big role in the subsequent conflict.

General Haftar's attempt at conquest failed, and the country remains split along geographic and tribal lines. A presidential election scheduled for December was postponed, in part because Libya lacks a constitution and a proper legal framework for voting. The electoral commission suggested rescheduling the ballot for January 24th, but that looks aspirational.

With no government to control Libya's borders, hundreds of thousands of migrants have sought to reach Europe from the country. As the influx peaked in 2016, more than 162,000 people crossed the Mediterranean from Libya to Italy. Not all hailed from Africa. Since the eastern route to Europe is largely closed, owing to a deal in 2016 between Turkey and the EU, some migrants from the Middle East now try their luck through Libya. Last year thousands of Iranians, Iraqis and Syrians, among others, attempted the crossing.

European countries have sought help from the militias that control almost everything in post-revolutionary Libya. The coastguard is one such institution: despite its official-sounding name, it is made up of local patrols run by armed groups. Under Italy's direction, the EU has spent tens of millions of euros to build up the force, supplying six fibreglass boats, dozens of four-wheel-drive vehicles, and hundreds of uniforms, radios and satellite phones. The European Commission recently committed to building a "new and



improved" command centre and donating three more ships to the coastguard.

Frontex, the EU's border agency, conducts aerial surveillance. It alerts the Italian (and, occasionally, Maltese) authorities, who in turn tip off the Libyan coastguard. For those migrants detained and brought to shore, European money pays for the mattresses on which they sleep, the soap with which they bathe and the ambulances that take them to hospital. If they die, Europe pays for body bags.

They are held in detention centres, also run by militias, where they represent a lucrative business. Migrants held under the pretence of enforcing immigration law are forced to ask their families to send money for their release (the average payment is about \$500 a person). Some are forced to work on construction sites or farms. Women are forced into prostitution.

Detention centres are rife with abuse. In July Amnesty International, a pressure group, documented torture and rape at Al-Mabani, a centre in Tripoli. At least two female detainees attempted to kill themselves. Last year guards shot and killed six people there. An Eritrean man burned to death in 2020 in a fire at a different facility.

Things are unlikely to improve soon. In December the Libyan government named Muhammad al-Khoja as the new director of immigration enforcement, responsible for overseeing Libya's roughly 15 migrant detention centres. Mr Khoja previously controlled a prison for migrants where abuses and extortion were reportedly common. On January 10th the authorities violently raided migrant camps in Tripoli, detaining more than 600 people.

European officials do not deny that conditions are grim. A leaked EU report from 2019 acknowledged that the bloc has little ability to monitor the coastguard's activities. In October an Italian judge sentenced a ship's captain to a year in prison for returning 101 stranded migrants to Libya. International law requires they be deposited at the nearest safe port; the court found that Libya did not qualify.

But the EU has nonetheless tried to keep aid-workers and other do-gooders away from migrants. In 2018 it asked the International Maritime Organisation, a UN agency, to create a "search-and-rescue zone" more than 100km off Libya's coast, giving the coastguard jurisdiction well into international waters (see map). Since 2018 Italian ports have been closed to ships run by humanitarian groups such as MSF. European navies have halted their own rescue operations in the Mediterranean.

That means the rescued migrants aboard ships like the *Geo Barents* can be adrift for weeks. To pass the time they prayed, arm-wrestled, danced—and spoke of their experiences in Libya, a sort of group catharsis. One man saw two friends killed in a detention centre; their blood stained his clothes. Another had been beaten by the coastguard after a previous failed attempt at crossing the sea. A Bangladeshi man told of his father selling the family farm back home to pay for his release.

Once the boat was full, it sailed on for days, searching for a port to take its human cargo. "It's not up to us where or when you can go," a crew member explained on the loudspeaker, though he did reassure his passengers of one thing: "You can forget about Libya." ■

## Cycling in the Arab world

### Make way

TUNIS

**Cars still rule the road, but the number of cyclists is growing**

THE DOZENS of cyclists winding past the colonial architecture in Tunis, the capital of Tunisia, are an intriguing sight. They ring their bells and let out cheers. Vélorution wants people to know when it is on the move—and wants cars to give its members space. The group, and others like it, are trying to carve fresh paths for cyclists through the crowded roadways of the Middle East and north Africa.

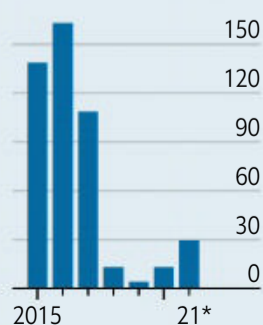
Older Arabs often dismiss cycling as a form of transport for the poor. Those with means own cars, which still dominate the roads. Most others prefer trams and buses. But an increasingly vocal cohort of younger Arabs tout the environmental and health benefits of cycling, as well as the potential for easier commutes. From Morocco to Syria they have set up groups that arrange mass cycle rides, offer free repairs and campaign for more room on the road.

They face plenty of obstacles. The number of cyclists may be increasing in the Arab world, but so is the number of cars. The development of new infrastructure ▶▶

### Sea wall

Migrants crossing the Mediterranean, '000

Arrivals in Italy from Libya



Intercepted by the Libyan coastguard or the GACS†



Source: UNHCR

\*Jan 1st-Nov 30th †Libyan General Administration for Coastal Security

► has not kept up, leading to hours-long traffic jams—and thus dirtier air. When the cars are moving, the situation is often unsafe for cyclists. According to the World Bank, road accidents are a leading cause of death in the Middle East and north Africa.

Cycle lanes would help, but there are few in the region. Drivers and roadside sellers oppose them. Even where the lanes exist, they are often ignored. Shortly after Egypt introduced cycle lanes in Cairo in 2015, drivers began using them as parking spots. In Damascus, Syria's capital, there are 10km of cycle lanes, says Mohamad Al Hawarii of Yalla, Let's Bike, a local cycling group. "But there is no commitment to them...most drivers do not know that these spaces are designated for bicycles."

Tunisia also has some cycle lanes. One nearing completion on the capital's lakeside will allow riders to enjoy a scenic day out. But it is good for little else. "The problem is that disaggregated cycle routes often exist in isolation, meaning cyclists have a few kilometres of riding before they have to dismount and re-enter the traffic," says Janene Tuniz of UN-Habitat, a UN agency that deals with urban development. "You couldn't comfortably commute that way." Most countries in the region also lack racks or shelters for storing bikes, or bike-sharing schemes.

Until recently, Arabs had little reason to give up their cars. In Beirut, for example, most trips are within a reasonable cycling distance, but Lebanese could get cheap loans to buy cars and fuel was heavily subsidised. This is changing. Mired in an economic crisis, the Lebanese now face long queues at petrol stations, which are often short of supply. The government, like many in the region, has cut fuel subsidies. Cycling, all of sudden, seems like a less hasslesome alternative.

It has influential champions. Muhammad bin Zayed, the de facto ruler of the United Arab Emirates (UAE), has taken an interest; Hamdan bin Muhammad al-Maktoum, the young crown prince of Dubai, posts pictures of himself cycling on Instagram. The UAE, which hosts professional races, has many kilometres of cycling track. Egypt does not, but President Abdel-Fattah al-Sisi has called on his people to take up cycling. One reason: studies by the World Bank and others have found that traffic congestion costs Egypt a significant chunk of GDP each year.

There are other reasons, too. Healthcare costs are rising across the Arab world, where obesity and its associated ailments, such as diabetes, are a costly problem. Cars are a big source of greenhouse-gas emissions and air pollution. Ditching four wheels for two would improve all of this. Covid-related lockdowns gave Arabs a sense of what more cyclist-friendly streets would be like. Many enjoyed it. ■

## Ethiopia

# Happy Christmas, war is over?

NAIROBI

**The government's peaceful message is undercut by its actions**

**T**HE MOOD at the international airport in Addis Ababa, Ethiopia's capital, is strikingly upbeat. In recent weeks arriving passengers have been met by smiling dancers and patriotic music. Garlands of flowers and bright yellow carpets adorn the arrivals hall. Banners proclaim the "Great Ethiopian Homecoming", a state-sponsored effort to convince Ethiopians living abroad to come home for the holidays (Ethiopians celebrated Christmas on January 7th). Echoing John Lennon, the state's Christmas greetings come with an implied message: war is over.

Ethiopia's civil war has certainly cooled down. In late 2021 rebels from the northern region of Tigray were on the brink of storming the capital and toppling the government of Abiy Ahmed, the prime minister. Abiy declared a state of emergency and called on residents to fight. Embassies evacuated staff and urged their citizens to leave. But in a matter of weeks the Ethiopian army pushed the rebels into retreat. Tigray's ruling party, the Tigrayan People's Liberation Front (TPLF), asked for a ceasefire. Though fighting continues on several fronts, Abiy has declared victory.

Before the war Abiy was known as a peacemaker. He won a Nobel prize in 2019 for ending hostilities with neighbouring Eritrea, and was praised for helping to mediate a power-sharing deal in Sudan. Ethiopia's year-long civil war, during which the army and its allies have committed war

crimes, has damaged that reputation. Now Abiy is hoping to mend it. First his government announced that the army would not seek to reoccupy Tigray. Instead he urged Tigrayans to fight the TPLF. Then, on Ethiopian Christmas, he freed several opposition leaders from prison, including Jawar Mohammed, his chief rival from the Oromo ethnic group, and six TPLF officials.

The prime minister described the move as an act of victor's mercy, saying that it was necessary for Ethiopia to break the cycle of war. The government wants freed opposition leaders to take part in a so-called "national dialogue", which is to weigh matters such as the country's controversial system of ethnically based federalism.

But they are unlikely to do so just yet. "As it is, the intended national dialogue can be neither inclusive nor impartial," says Jawar's ally, Merera Gudina. Other powerful Oromo opposition figures, such as Dawud Ibsa, leader of the Oromo Liberation Front (OLF), remain in custody. The OLF's armed wing is deemed a terrorist group by the government and is therefore excluded from talks, too.

An even bigger challenge is the TPLF, which the government also calls a terrorist group. Officially it will not be invited to the dialogue. But it is possible that the government may want to start separate peace talks with it. An internal document prepared by the ruling party and seen by *The Economist* did not rule this out. "There was a clear suggestion that we should be talking to them," says a senior ruling party official who attended the meeting at which the paper was discussed.

It would be a controversial move. The release of TPLF officials from prison sparked an uproar, especially among Abiy's allies in Amhara, the second most populous region and the focus of fighting in recent months. The National Movement of Amhara, an opposition party, called the release a "historic mistake". Negotiation with the TPLF would probably provoke even more anger. "How can we talk with people who are still waging war?" asks an Amhara ruling-party parliamentarian. Many would prefer the government to lay siege to Tigray until its leaders surrender.

That still looks like the plan. No aid of any kind has entered Tigray since mid-December and almost no medicine has been allowed in since June. "Our hospital is out of supplies," says a doctor at Tigray's largest one. After more than a year of war some 400,000 people are starving and millions more are running out of food. Drones and fighter jets, meanwhile, pound Tigrayans from the air. On January 8th at least 56 people were reportedly killed in an air strike on a camp for internally displaced people, prompting aid agencies to suspend their work. If Abiy is serious about giving peace a chance, he should first stop fighting. ■



What future without peace?

## Russia and Africa

## Wagner, worse than it sounds

DAKAR AND MOSCOW

## How mercenaries are extending Russia's reach in Africa

AS HE HANDED over a large wooden key on December 14th, a French colonel symbolically passed control of a military base in Timbuktu to his Malian counterpart. The *tricolore*, which had flown over the camp in northern Mali since France sent troops there in 2013 to counter jihadists and separatists, was replaced by a Malian flag. The ceremony marked a milestone in a French plan to cut by almost half its 5,100-strong counter-terrorism force in the region, as it refocuses on training and supporting local troops in their battle against the extremists who have overrun swathes of Mali, Niger and Burkina Faso. Yet soon after the French had left, a contingent of Russians moved in.

They are but one element of a Russian force that is perhaps 450-strong, says a French military official, who adds that most are mercenaries from Wagner Group. This is a company founded by Yevgeny Prigozhin, a crony of President Vladimir Putin. It is reportedly being paid \$10m a month in Mali, much of it under a goons-for-gold deal. Mali's government insists it has no hired guns fighting for it and that the Russians are there as trainers officially sent by their government. Yet armed Russians have been seen in several parts of the country. Jihadists may have recently killed one and wounded two more.

Mr Putin has no interest in helping Africa become more peaceful or democratic. A key aim is to stick it to the West, says Oleg Ignatov, who is based in Moscow for International Crisis Group, a think-tank. And Mr Putin appears to be doing so with canny opportunism, deploying small numbers of fighters to prop up wobbly authoritarians or governments that are annoyed by the West. The French official reckons that Russia's aim is to drive France and its allies out of Mali, leaving Russia "alone to exploit and deploy their influence". How to respond? That, he says, is a "major question".

Part of the difficulty is that Mali is a perfect target for Russian influence. Colonel Assimi Goïta, who runs the country, toppled Mali's elected president in mid-2020. He then installed himself as president with a second coup last year. His junta, some of whose members were trained in Russia, had promised to hold elections in February. But then it said it would postpone them, perhaps until December 2025.

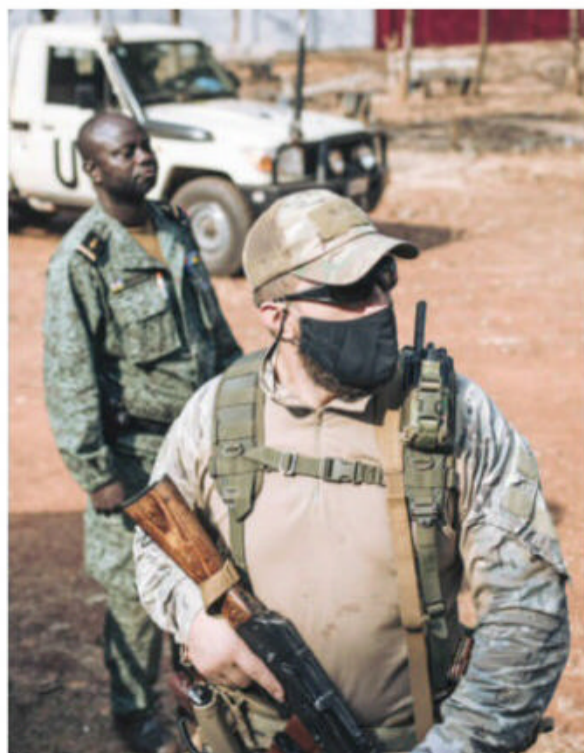
That was a step too far for Mali's neighbours. On January 9th members of the Eco-



nomic Community of West African States (ECOWAS), a regional bloc, closed their borders with Mali and imposed tough financial sanctions on it, supported by France, Britain and America. Russia backed the junta and blocked a UN Security Council resolution supporting sanctions.

Russia's strategy in Mali draws on the game plan it used in the Central African Republic, a failed state that might have descended into genocide in 2013 had France not sent in peacekeepers. After handing over to the UN's blue helmets, France brought most of its troops home in 2016.

That opened the door to Mr Putin. Having previously blocked efforts by France to arm government forces, Russia changed



Sticking it to the West

tack and offered to arm them itself. Mercenaries from Wagner soon showed up and a Wagner-linked company won concessions to mine gold and diamonds. Though the UN has accused the Russian mercenaries of murdering, torturing and raping people, that has not dimmed the host regime's ardour. In November it made the Russian language a compulsory subject for students at the university in Bangui, the capital—the first time since the cold war that learning Russian has been obligatory outside the former Soviet Union.

Russia, which is already the biggest arms supplier to sub-Saharan Africa, is widening its security ties. Last year it signed military co-operation deals with Ethiopia and Nigeria, Africa's two most populous countries. Ethiopia's government is angered by Western criticism of atrocities in its civil war; Nigeria's leaders are grumpy that America paused an arms sale over human-rights abuses by Nigerian forces. In Sudan, Russia took advantage of political turmoil to strike a deal for a naval base, though it has yet to materialise.

Next on Russia's list may well be Burkina Faso, where on January 11th the government said it had thwarted a coup plot. Already a buyer of Russian helicopters and weapons, Burkina Faso has also been bombarded by pro-Russian propaganda on social media. In November a French army convoy was repeatedly blocked by protesters—some waving Russian flags—chanting "down with France".

Yet Russia's mercenaries will probably find it no easier to battle jihadists than do the Western forces they hope to supplant. Their record is certainly uninspiring. In 2019 Wagner sent men to fight jihadists in northern Mozambique. It pulled out after about ten of them were killed, including some who were beheaded. In Libya roughly 1,200 Wagner men fought on the side of a rebel general, Khalifa Haftar, against the UN-recognised government. Yet the rebel push to topple the government failed and Wagner's troops were accused of war crimes, including murdering prisoners and civilians.

Even if the Russians cannot beat the jihadists, Mr Goïta may still want them to coup-proof his regime. (He narrowly survived a knife attack last July.) Yet in propping him up, or even simply in failing to beat the extremists, Wagner risks having the population turn against it—and Russia. In 2013 François Hollande, then France's president, was mobbed by cheering crowds in Timbuktu after his forces liberated the city. Today its deputy mayor, Bocar Touré, complains that the French failed to improve security. "The Russians can help more than the French did," he says. But, perhaps foreshadowing the next wave of anger, he adds: "I would prefer not to have any foreign forces in Timbuktu." ■



**SPECIAL  
REPORT:**

***Business and the state***

→ January 15th 2022

3 The state bounces back

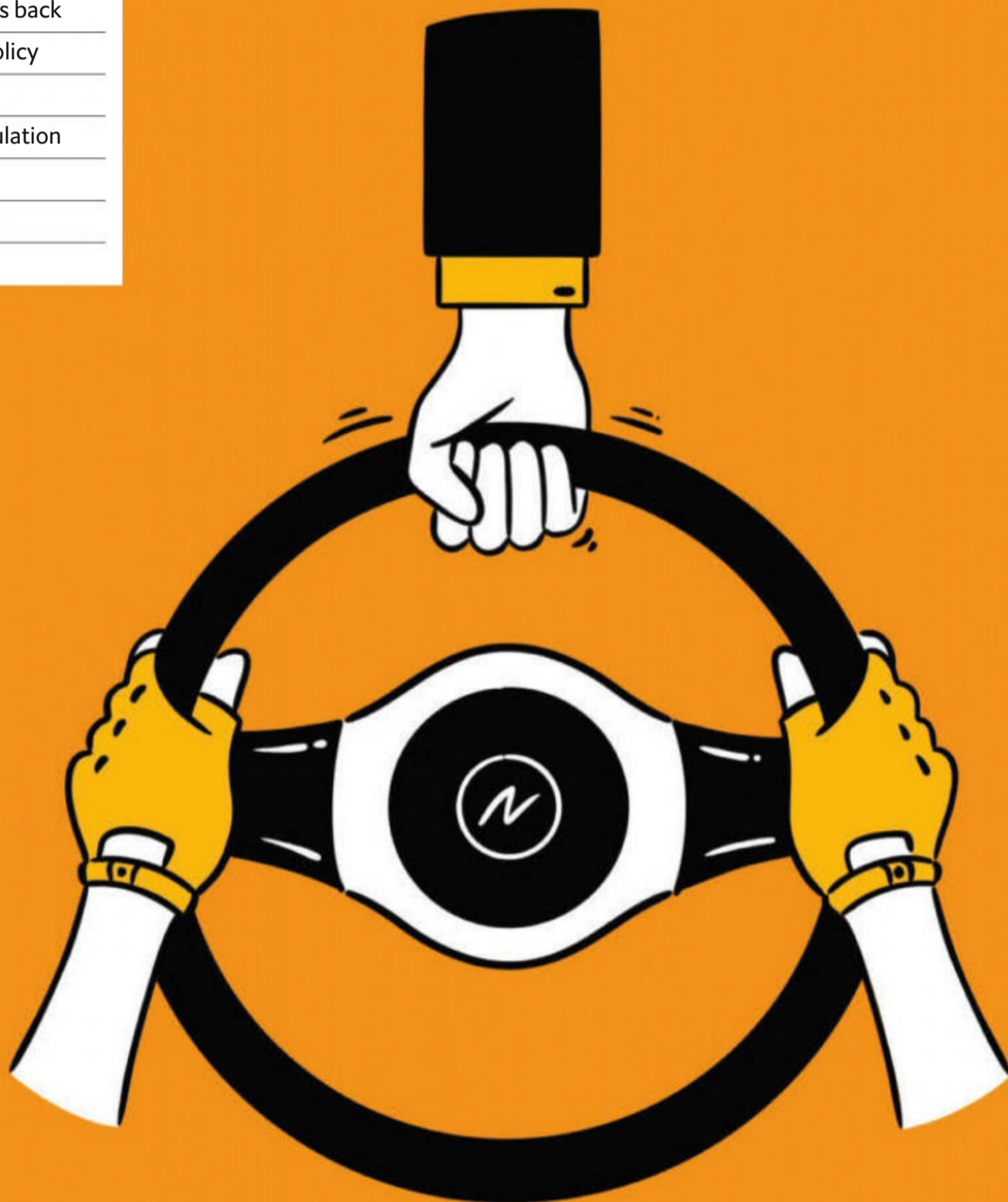
4 New industrial policy

7 Antitrust revival

9 Government regulation

11 Corporate taxes

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# The new interventionism

**ECONOMIST  
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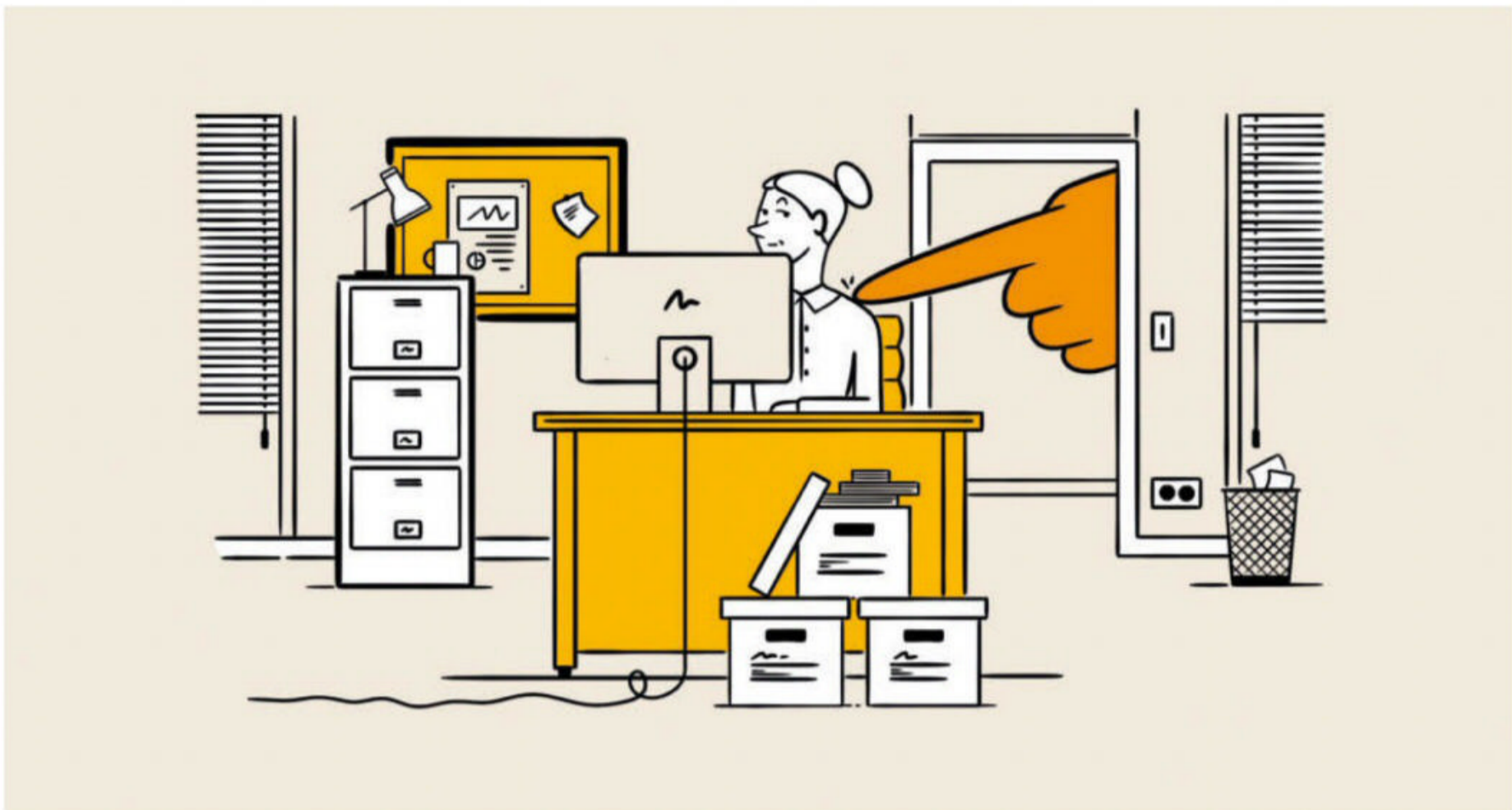


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## The new interventionism

After a long liberalising era, the state has bounced back. That is not a good thing, argues Jan Piotrowski

AS WITH ALL history, capitalism's may not repeat but it does rhyme. Periods of freer enterprise give way to ones with a more meddlesome state. When change comes, it is after crisis, occasionally exogenous (war, pandemic), at other times provoked by excesses (financial crash, depression, stagflation). Yet the metre is irregular in time and space, differing from decade to decade and country to country.

After 1945 Americans realised that, as Alan Brinkley, a historian, put it, "State power could be used not only to assist but to deny." Western Europe's mixed economies embraced elements of central planning—partly as a hangover from the war, partly to stave off communism. Even as Margaret Thatcher battled unions and privatised state-owned companies in Britain in the 1980s, in France François Mitterrand was vowing to "break with capitalism" and nationalising banks and big firms. In Beijing Deng Xiaoping was dismantling Chinese collectivism just as, in Tokyo, a supposedly free-market government was using the Ministry of International Trade and Industry to foster national champions.

It is no easier to predict the timing of capitalism's swings today. But as globalisation has knitted together world markets, governments have moved in a more synchronised fashion. In the 1990s, after the collapse of Soviet communism exposed the bankruptcy of its command-and-control model, they largely retreated from business. Now the state is again resurgent. Public spending is rising as the welfare state expands. Government is becoming bossier, especially to business. And the bossiness is manifesting itself in new as well as old ways.

The first ripples of this wave appeared a decade ago. The financial crisis of 2007-09 persuaded many that leaving markets to

their own devices could lead to ruin. Stagnant real wages in large parts of the free world encouraged the perception that the market was not delivering for ordinary people, instead leading to more inequality, especially of wealth. In 2016 Brexit and the election of Donald Trump offered proof that too many people felt left behind by globalisation. Growing worries about markets' unwillingness or inability to avert climate change fuelled demands for more state involvement in promoting greener energy. Similar concerns motivated China's president, Xi Jinping, in his campaign for greater self-reliance and "common prosperity".

The resurfacing of geopolitical rivalry, pitting liberal democracies against Chinese authoritarianism, has also prompted governments to try to align business interests with national strategic ones. And this was before covid-19 made meddling in corporate affairs—from lockdowns and bail-outs to vaccine and mask mandates—look more justified than ever to voters and their political representatives. The world is entering "a political cycle where government has to be responsive to an increasingly fickle and opinionated electorate", says one asset manager. Public opinion has, in general, turned against business.

Part sincerely, part no doubt smelling the wind, bosses and big investors acknowledge the need to refurbish the capitalist model. Jamie Dimon, chief executive of JPMorgan Chase, America's biggest bank, has expressed worries about the "fraying" of the American dream. Ray Dalio, founder of Bridgewater, the world's largest hedge fund, calls for "a reformation of capitalism" to avert over-indebtedness, flagging productivity and voter polarisation. Doug McMillon, boss of Walmart, a supermarket behemoth, says "it's time to reinvent" capitalism. Paul Polman, former head of Uni-▶

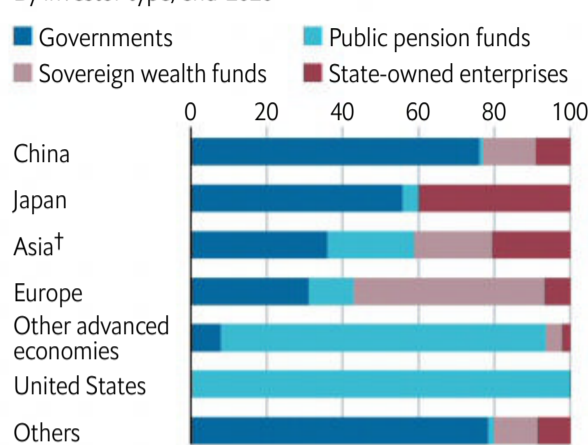
## Proprietors' profits

Share of state-owned enterprise assets among the world's largest non-financial firms\*, %



Public-sector holdings at market value

By investor type, end-2020



Market value of holdings, end-2020

Public-sector stake	Number of companies	Investment, \$trn
Less than 10%	11,652	2.28
10-29%	1,191	0.98
30-49%	584	1.08
50% and over	1,076	6.39

Sources: IMF; OECD; FactSet; Thomson Reuters; Bloomberg

\*2,000 largest firms by market capitalisation †Excluding China and Japan

▶ lever, the Anglo-Dutch soap-to-soup group, wants to “save” it.

Yet seen from one vantage point, capitalism seems hale and hearty. In contrast to their Marx-curious 20th-century forebears, today's governments mostly eschew common ownership of the means of production. From 1990 to 2016 states around the world sold assets worth some \$3.6trn. A database compiled by Katarzyna Szarzec, Akos Dombi and Piotr Matuszak, three economists, lists 1,160 privatisations in 30 European countries between 2007 and 2016, and only 61 nationalisations. According to the OECD club of mostly rich countries, the public sector owned \$11trn-worth of shares in listed companies at the end of 2020, equivalent to 10% of total market capitalisation. That is down from 14% in 2017.

Roughly two-fifths of state holdings by value represent minority stakes in some 13,400 businesses. In 12,000 of these the holding is below 10%. The 1,000 or so majority-owned firms are bigger on average but they are often professionally run by experienced managers to maximise returns, not by bureaucrats eager to boost employment or national pride. A fifth of the public sector's listed assets are held by sovereign wealth funds and another 13% by pension funds. Saudi Aramco, the kingdom's oil colossus, is one of the world's most profitable companies. The world's four biggest banks by assets are fully or part-owned by the government in Beijing. Plenty of other Chinese state-run firms are at least modestly profitable—how else would 82 have entered the Fortune Global 500 list of the world's biggest companies between 2000 and 2019?

### Not ownership, but influence

On the surface, then, the state appears to be more hands-off. Yet direct ownership is not the only way to influence businesses. Rather than own the means of production, governments increasingly use other levers of control. This special report will explore the four most important old tools that are being dusted off and repurposed for the 21st century.

First is a renewed enthusiasm for industrial policy, defined as state support for favoured industries, technologies or specific

firms, and guided by a desire to promote jobs or secure inputs needed for national security (computer chips) or the energy transition (batteries). Next is the expanding ambition of trustbusters that, tentatively in America, slowly in Europe and almost overnight in China, are moving from a focus on prices to a broader assault on corporate power to defend anything from small businesses to government itself.

Third is the growth of regulation, particularly over the environment, labour standards and corporate governance, which cut across sectors and affect all large firms. And fourth is an inflection point in what had seemed an irreversible trend to lower business taxes, as politicians have followed voters in seeing unloved big business as a convenient source of revenue.

This report concludes by arguing that greater state involvement in business is unlikely to lead to better outcomes than in the old days, when similarly interventionist tools were deployed. They may well be worse. Earlier episodes of post-war meddling were at least tempered by a near-universal consensus in favour of freer trade. The new interventionism, by contrast, coincides with barriers to international trade going up not down and a pervasive sense

that globalisation and fragile supply chains must be reined in, for both economic and national-security reasons.

A strong reminder is in order that the four vintage tools—industrial policy, trustbusting, regulation and taxes—were gathering dust for a reason. And it is not just politicians and bureaucrats who should pay attention. So, too, should business leaders licking their fingers at the prospect of more state support—especially at the carrot of subsidies. ■

### The new industrial policy

## Return to picking winners

### A previously discredited approach has found new believers

AS NATIONAL ECONOMIES and international trade were liberalised after the stagflation of the late 1970s, governments increasingly decided to allow corporate behaviour to follow commercial logic. Multinationals set up shop where it made most sense, allocating resources, outsourcing labour and automating factories to minimise costs and maximise profits. The reforms lifted hundreds of millions out of poverty even as they delivered fat returns for shareholders.

But the less-state-is-better consensus is fraying. The crash of 2008, the loss of middle-class jobs to foreigners or robots and the climate crisis have led many to believe that markets cannot be trusted. Economists like Mariana Mazzucato, of University College London, believe that firms are losing the ability to innovate, weighing on future prosperity. National-security hawks on both sides of the Sino-Western divide fret about reliance on adversaries ▶▶

► for critical resources, from semiconductors to pharmaceuticals. And Western bosses complain about “unfair competition” from China’s state-backed behemoths.

“We have been destroying our national champions while China has been nurturing its own,” laments Michael Pillsbury, who helped craft Donald Trump’s hawkish China policy. Siemens and Alstom cited the threat from CRRC, a Chinese trainmaker, to defend the planned merger of their rail divisions, which the European Commission blocked because it would hurt competition in the EU. “Before the ink was dry [on the commission’s decision] CRRC was signing contracts [with European railways],” fumes a former Siemens executive. “Do you have the right [these days] to avoid picking winners?” asks a Brussels lobbyist.

“Markets are good at allocating resources efficiently on a narrow understanding of efficient...What delivers highest returns to an individual investor is not necessarily in the economic interest of a nation,” says Oren Cass of American Compass, a right-leaning think-tank in Washington. Like Ms Mazzucato, who leans left, Mr Cass blames the innovation drought on governments abandoning their role as midwife to technological breakthroughs, as they were for the internet and biotechnology.

### Remembering Apollo

In China, the answer to such concerns is simple: more state. Liu He, the vice-premier, has said that the country is moving into a new phase that prioritises social fairness and national security, not the growth-at-all-costs mentality of the past 30 years. Elsewhere, the model is often China. Some Western analysts point approvingly to its ability to set strategic missions and co-ordinate the public and private sectors. There is a sense that China has learned what America has forgotten since the Apollo programme.

Since the covid-19 pandemic, many countries have tried to emulate elements of the Chinese playbook. In Japan 57 Japanese companies will get around \$500m in subsidies to invest at home. The country’s newish prime minister, Kishida Fumio, has created the job of economic-security minister, with a mandate to intervene in matters ranging from cybersecurity to chipmaking.

The EU has doubled down on a consortium to make batteries, earmarked some €160bn (\$180bn) of its covid-19 recovery fund for digital innovations, especially chips, and, inspired by Ms Mazzucato, launched five “missions” (they include such diverse goals as to improve the lives of more than 3m people at risk of cancer, restore “our ocean and waters” and achieve 100 climate-neutral smart cities by 2030). Thierry Breton, the single-market commissioner and a former French finance minister, is dirigiste at heart. In October President Emmanuel Macron unveiled the “France 2030” programme, which will spend €30bn over five years on ten areas from the specific (small nuclear reactors, medicines) to the vague (cultural and creative content production).

In the same month Rishi Sunak, Britain’s Conservative chancellor, proposed to funnel billions to the private sector. Tax relief for research and development, nearly half of which firms claimed for work done outside Britain in 2019, will be “refocus[ed]...towards innovation in the UK”. One former senior official describes Boris Johnson’s Tory party as “neo-Gaullist, if anything”. One bank boss thinks “Britain is closest to Chinese thinking.”

In Washington the words “industrial policy”, once taboo lest the speaker seem a European socialist, reverberate in the White House, Congress, think-tanks and among K Street lobbyists. In one of his first acts as president, Joe Biden issued an executive order instructing government agencies to review supply chains, stretched to breaking point by the pandemic, to make them more “resilient”—which is to say more American. His signature \$2trn Build Back Better climate and social-spending bill, which passed the House of Representatives only to be blocked in the Senate by



the opposition of Joe Manchin, a Democratic senator from West Virginia, was peppered with business incentives.

You might expect Republicans, historically sceptical of government, to recoil. In the case of Build Back Better, they have done. Yet elsewhere a reinvigoration of American industry is one of the few areas where Democrats and Republicans agree. When a \$25bn handout for semiconductor firms to make more advanced chips in America came up for a vote in the Senate in July 2020, 96 of the chamber’s 100 members voted in favour.

The chip provision has since grown into \$52bn and been folded into the \$250bn Innovation and Competition Act, which includes \$80bn for research on artificial intelligence (AI), robotics and biotechnology, \$23bn on space exploration and \$10bn for tech hubs outside Silicon Valley. The Senate approved it by 68 votes to 32—a huge level of support by today’s standards (the House will now pick it up). Conservative senators like Josh Hawley, Marco Rubio, Tom Cotton and Ted Cruz talk of a manufacturing renaissance. “The right of centre is learning a new vocabulary,” observes Mr Cass. It sounds remarkably, well, French.

Western leaders justify this revived industrial policy in two ways. One is to do with preserving countries’ rightful place in the global pecking order. The second is about domestic economic development. Politicians often trot out both at once. Presenting his “France 2030” vision, Mr Macron spoke of “a fight that is both civilisational and a value creator”. No speech by Mr Johnson seems complete without a nod to “global Britain” or “levelling up”, a nebulous idea to improve the lot of new Tory voters in the Midlands and north. After Mr Biden signed the \$1.2trn infrastructure bill, studded with goodies for American business, Nancy Pelosi, the House speaker, said: “These investments in working families are critical to delivering economic growth at home while ensuring our ability to outcompete China now and in the years ahead.”

On national-defence grounds, a dose of self-reliance may make sense. Advanced microchips are as critical to today’s warfighting as missiles. A large chunk of the world’s cutting-edge chips are ►►

▶ manufactured in Taiwan, which is both an American ally (which troubles Beijing) and claimed by China (which worries Washington). Adversaries understandably covet at least some independent chipmaking capacity, just in case.

Like all insurance, this is expensive. For a narrow selection of critical resources the price is worth paying. But politicians tend to inflate the word “strategic” to cover cases where it is not. Mr Rubio thinks sugar counts. Mr Macron apparently believes cinema does.

The costs rise because, as a British business grandee notes, “Everyone has the same list of sexy stuff.” Peruse government plans and most feature AI, biotech, clean energy, semiconductors and quantum computing. “It is not efficient for everyone to have a wind industry,” jokes Jason Furman, Barack Obama’s former chief economist, now at Harvard. In the short run extra demand risks bidding up the cost of inputs. In the long term it could mean a supply glut. The “industrial-policy arms race” may turbocharge the boom-and-bust cycles that characterise capital-intensive industries, notably chipmaking, warns Scott Kennedy of the Centre for Strategic and International Studies, a think-tank.

Some public money will also bankroll projects that the private sector would have developed on its own. Carmakers already prefer to make or procure bulky electric-car batteries near their factories, given how costly they are to ship. Technology firms have every reason to keep on perfecting AI because of its moneymaking potential.

China also shows that, as ever, much government cash can simply go down the drain. Some of its most innovative companies, including tech giants such as Alibaba and Tencent, have thrived at arm’s length from the state. Where the government has been actively involved, by contrast, the results look “varied and often unimpressive”, says Felix Oberholzer-Gee of Harvard Business School. The Chinese state has poured more than \$70bn into developing a rival to Boeing and Airbus with only limited success so far. Its biggest chipmaker, SMIC, was years behind the cutting edge even before Mr Trump’s sanctions deprived it of the latest chipmaking technology. And for all the Western handwringing over superior Chinese AI skills, these are mostly confined to unsophisticated tasks such as image labelling.

To be fair, academic proponents of the “venture-capitalist state”, like Ms Mazzucato and Mr Cass, are not fans of wasteful pork-barrel spending. They would like governments to back genuinely out-there ideas ignored by the private sector, to set clear performance yardsticks and, critically, to be as ruthless as Silicon Valley at pulling the plug on failures. “You don’t need the ability to pick winners. You need the ability to let losers go,” says Dani Rodrik of Harvard, whose paper in 2004, “Industrial Policy for the 21st Century”, helped to seed new interest in the notion.

In practice, political incentives make governments, even China’s, worse at withdrawing support from duds than at identifying the next big thing. The Apollo model may be ill-suited to today’s complex challenges. Ms Mazzucato herself concedes that sending the man to the Moon was primarily a technical problem. Decarbonising Europe or vaccinating America involve an awful lot of tricky social engineering, as well as the physical kind.

Even some proponents of industrial policy doubt that the goals of boosting innovation and creating lots of well-paying jobs complement each other. If your goal is to cure cancer, you should invest in an existing biotech hub like Boston not a provincial town, says Mr Furman. And if it is to shore up the middle class, there are better ways to do it. “Technological change means that promotion of manufacturing is not going to do much for employment and in-

clusion,” says Mr Rodrik. He points to South Korea and Japan, where the share of manufacturing in GDP has risen at constant prices even as the share of manufacturing employment has kept falling, owing to automation. According to Ro Khanna, a Democratic congressman, the goals of fostering inclusion and jobs on one hand and national assets on the other “won’t be harmoniously aligned. That would be wishful thinking.” That he helped to craft the innovation-hub provisions in the \$250bn Senate innovation bill shows how politically attractive bundling them together is.

### Winners and losers

Companies are following the industrial-policy debate with a mix of zeal and alarm. Less favoured firms or sectors grumble about being left out. A Brussels lobbyist criticises the EU battery consortium for “going much too radically in one direction” by focusing on lithium-ion technology, which is useful in some areas like passenger electric cars but less so in others. What about fuel cells, which may be better suited for heavy transport, or more efficient combustion engines as a bridge to a cleaner future, he asks. Britain’s creative industry looks longingly at Mr Macron’s pampering of French filmmakers. Some British airlines, which unlike their European peers were left out of pandemic relief support, feel “buggered”, says the business grandee.

Neil Bradley, at the US Chamber of Commerce, has no qualms about industrial policy that backs basic research or improves security and diversity of supply chains. But he is wary of “using government policy to manipulate the market”. “You can see hints of it in discussions of onshoring and reshoring,” he says. “The middle-class foreign-policy or worker-centric trade policy is basically protectionism,” says Hank Paulson, a former Goldman Sachs boss and treasury secretary under George W. Bush and founder of the Paulson Institute for Sino-American business relations. Both Republicans and Democrats “want to tell business what to do”, he sighs.

Companies which may benefit from government largesse are naturally more enthusiastic. Pat Gelsinger, boss of Intel, welcomed the news of impending semiconductor splurges with congratulatory tweets. The American giant is one of the first in line to receive a handout at home as well as in Europe, which lacks advanced chipmakers of its own. The 500 or so corporate members of the European battery consortium are hardly complaining about too much EU cash.

Even beneficiaries air gripes, however. A well-connected lobbyist in Washington reports that carmaking clients are furious about the union-labour and local-content requirements for EV subsidies in the infrastructure package. Wind-power developers have lashed out at “Buy American” provisions attached to tax credits. Elon Musk, boss of Tesla, has also panned Mr Biden’s EV subsidies. An American chip entrepreneur, T.J. Rodgers, has argued against subsidies to his sector, noting that in 1987 the Sematech consortium began spending \$500m in government funds “that did zero for the industry”. “‘Free government money’ induces horribly inefficient spending and undeserved payouts to executives and shareholders,” he writes. Mr Gelsinger dislikes the flipside of being part of a sensitive industry—being barred by his government from selling products to China. “If Chinese customers want more chips from the US, we should say yes,” he suggests.

A consultant close to Mr Johnson reports that some British bosses are wondering how becoming wards of one government will go down in other capitals. Becoming too cosy with the state can leave you nobbled elsewhere. More chief executives face this dilemma today than in the heyday of industrial policy 40 years ago, when companies were less multinational and multinationals less global. The ultimate choice will differ from boardroom to boardroom. But one consultant has a warning to those business leaders who lap up the largesse: “Be careful what you wish for.” ■

**Companies are following the industrial-policy debate with a mix of zeal and alarm**

## Competition policy

## Antitrust redux

### Greater concentration of market power is leading to a trustbusting revival

OBSERVERS OF CHINA'S rise have grown used to seeing old edifices bulldozed to make way for the new. As with bricks and mortar, so with intellectual constructs. In just 12 months President Xi Jinping has replaced a "cautious and tolerant" approach to the private sector with something much less so. Nowhere has the shift towards tougher rules and enforcement been more striking than in competition policy.

A year ago the Communist Party's body for political and legal affairs vowed to take trustbusting more seriously. Within months China revised its antitrust law of 2008, increasing sanctions and agencies' discretion. The State Administration for Market Regulation (SAMR), the antitrust watchdog, has blocked mergers and, says Angela Zhang of Hong Kong University, levied fines totalling \$3.7bn on tech giants for sins ranging from price discrimination to merchant abuse. The agency's antitrust bureau is more than doubling in size, from 40 to 100 officials, and it plans to expand to 150.

Chinese bureaucrats have used state media to arouse outrage against firms' abuse of market power, enough to clobber a miscreant's sales and share price. Despite having no overt antitrust role, the People's Bank of China uses financial regulation and its bully pulpit to cow payments firms. Tencent and Alibaba, two tech titans with a payments duopoly, are being forced to drop the model in which shopping and payments are exclusive to one platform. In moves ostensibly aimed at curbing big tech, the National Press and Publication Administration has prohibited children from playing more than three hours of video games a week most of the year. Another agency barred Didi Global from Chinese app stores for data violations, days after the ride-hailing firm went public in New York before later shifting to Hong Kong.

Such actions mark a departure from the antitrust philosophy that has dominated regulatory thinking and judicial decisions in the past half-century. Associated with Robert Bork, an American judge from the late 1970s, it held that consumer welfare and the protection of competition, rather than of particular competitors, should be the only goals of antitrust law. Business practices were deemed fine so long as they did not result in harm to consumers from excessive prices. Most mergers were either competitively neutral or enhanced efficiency, even if they led to oligopoly; only those creating a dominant firm or monopoly were likely to be bad for consumers.

Bork's work was itself a reaction to an earlier approach linked to Louis Brandeis, a former US Supreme Court justice. Brandeis believed that size was nefarious in itself. Curbing market power was a tool to fight other ills, such as mistreatment of workers, the stiffing of suppliers or even threats to democracy. This may have led to some perverse outcomes. In one notorious example in 1966, the Supreme Court blocked a merger between two grocers in Los Angeles with a combined market share of 8%.

Chinese trustbusters are now the most enthusiastic in disavowing the price-centricity of Bork's "consumer-welfare standard". But it has fallen out of favour everywhere, gradually in Europe and now, tentatively, in America. One reason is a global trend towards greater corporate concentration, from medicines to manufacturing. According to *The Economist's* calculations, two-thirds of 900-odd sectors covered by America's economic census

became more concentrated between 1997 and 2012. In half of these concentration has edged up further in the subsequent five years. In the two decades to 2017 the weighted average market share of the top four firms in each industry increased from 26% to 32%. The four biggest British firms accounted for a larger share of revenue in 2018 than a decade earlier in 58% of 600-odd subsectors. Concentration in the EU has been going in the same direction, albeit more slowly.

Another good reason to bin Bork was technological change. The world's biggest tech giants charge consumers either nothing (Alphabet, Google's parent company, and Meta, formerly Facebook) or as little as possible (Amazon). Critics say this does not stop them abusing their dominance. Amazon is attacked for its treatment of workers, suppliers and third-party sellers. Google and Apple are accused of monopolistic practices against developers in their app stores. Facebook is taken to task for "killer acquisitions" aimed at neutralising innovative challengers such as Instagram and WhatsApp. (All four companies deny all these claims.)

### Choice and quality

"We need to push for a broader notion of consumer harm," declares Margrethe Vestager, the EU's competition commissioner. It is no excuse that "the econometrics of price may be more straightforward than the econometrics of quality and choice", she adds. Britain's Competition and Markets Authority (CMA) has made similar noises. Like China's SAMR, it is staffing up fast, going from around 650 officials to 850 in the past five years, catching up with Ms Vestager's directorate-general.

Antitrust voices in America go further, arguing that the consumer-welfare standard was never as scientific as its advocates claimed and that Brandeis's vision deserves a second look. Mr Biden has installed "neo-Brandeisians" in senior trustbusting roles. Lina Khan, a 32-year-old academic, chairs the Federal Trade Commission (FTC). Jonathan Kanter, a long-time Google-basher, heads the Department of Justice (DOJ)'s antitrust division. Tim Wu, a law professor whose books include "The Curse of Bigness", is the ▶▶



► White House adviser on technology and competition. “The speed of the takeover by the neo-Brandeisians of the regulatory apparatus has been extraordinary,” says one big asset manager.

This new competition doctrine remains a work in progress. But its contours are becoming sharper. It expands the goals of anti-trust policy in two main areas: merger control and business-model regulation. For most mergers and acquisitions (M&A), regulators used to restrict scrutiny to a small number of “horizontal” deals between firms active in the same market that, if combined, could reduce competition and allow incumbents to raise prices. Today all these tenets are going out of the window.

Trustbusters now investigate “vertical” integrations between companies with separate lines of business, as well as horizontal ones with combined revenues that would not historically have warranted attention. A new procedure allows EU regulators to ask national authorities to submit deals that are potential killer acquisitions, particularly in the digital, pharma and biotech industries. They have used this to investigate Meta’s \$1bn acquisition of Kustomer, an American business-software firm with low European sales, and the purchase by Illumina, a gene-sequencing giant, of Grail, a developer of diagnostic tests that does no business in the EU. Germany’s competition authority has been pushing cases like Illumina “to test its jurisdiction”, says an EU official. Britain’s CMA has demanded that Meta undo its recent takeover of Giphy, a database of animated GIF files.

In America the FTC and DOJ are making merger guidelines more stringent. M&A lawyers say the agencies are asking more questions, including about the impact of deals on the labour market. They already look beyond direct pecuniary harm to consumers. The FTC is backing a suit that seeks to break up Meta into Facebook, Instagram and WhatsApp, even though earlier regulators waved these takeovers through. Justifying its challenge to a merger between Simon & Schuster and Penguin Random House, the DOJ said it would give the new entity “outsized influence over who and what is published, and how much authors are paid for their work”. Ms Khan is expected to oppose Amazon’s \$8.5bn purchase of MGM Studios, arguing that it would further strengthen the e-empire’s online hegemony. The fact that the entertainment market is fragmented and Amazon lets Prime-subscription customers binge-watch its videos for a fixed fee is, on this expansive view of anti-trust, beside the point.

The second avenue of antitrust expansion—dictating what dominant businesses can and can’t do—is more inchoate than tougher merger control. But it could prove more consequential. Especially for America’s trillion-dollar tech giants it would be the first serious constraints on their activities since the internet made them the world’s most valuable companies.

Some edicts come from regulatory agencies. White House staff look on antitrust as a “Swiss-army knife”: a tool to fix lots of different problems, including such ills as inflation. It is early in Mr Biden’s term and they are still revving up, says one lobbyist. But “once they start going, they will be pretty muscular.” Last July Mr Biden issued an executive order, written by Mr Wu, instructing more than a dozen agencies vigorously to curb anticompetitive behaviour across the economy. It encourages agencies to create rules from weeding out “unfair methods of competition on internet marketplaces” to requiring railway owners “to provide rights of way to passenger rail”. In a memo outlining her priorities, Ms Khan declared that she would look into whether private-equity firms contribute to extractive business models in which companies raise prices or muscle out rivals.

**White House staff look on antitrust as a “Swiss-army knife”: a tool to fix lots of different problems**

The 107-year-old FTC Act grants Ms Khan wide latitude, so long as her rules are designed to forestall “conduct that is unfair or deceptive”. Congress may grant her even more power. Several proposals would outlaw practices deemed anticompetitive. One would treat Amazon’s marketplace or Google’s search engine as essential to commerce, rather like a dominant railway operator, prohibiting them from favouring their own products over others. Another would force Apple and Google to open up their app stores to alternative in-app payment methods and search results. A third would shift the burden of proof from regulators to dominant companies, which would need to show that any merger or acquisition does not hurt competition, rather than the other way around. All three have Democratic and Republican co-sponsors.

Other places are further along the regulatory route. The EU is preparing to adopt two laws, the Digital Markets Act and the Digital Services Act. South Korea has enacted one that eliminates app stores’ monopoly on payments. Britain is considering new rules, including on self-preferencing by large platform companies.

### If in doubt, litigate

Unlike their Chinese counterparts, Western businesses will not take this lying down, let alone vow “comprehensive self-examination and rectification”, as Meituan, a food-delivery giant, did after being fined \$530m by SAMR in October. America’s tech giants are deploying high-powered lobbyists to scupper or water down rules before they see the light of day. In November the US Chamber of Commerce sent three strongly worded letters to the FTC accusing Ms Khan of overstepping her brief and dismantling procedural safeguards at the agency. It will be “active in litigating”, vows Mr Bradley, its policy chief.

Meta, Illumina and Penguin Random House are fighting regulators in court. Judges used to the consumer-welfare standard may resist attempts to redefine it. Corporate lawyers will remind them that, by prioritising outcomes other than price, the neo-Brandeisians “want people to pay for [their] policy preferences”, as the chief counsel at a big tech firm puts it.

Big firms argue that, as they expand into adjacent markets, they increasingly compete with one another. This is especially true of big tech, whose rise has fuelled the Brandeisian revival. Amazon is the third-biggest online advertiser behind Alphabet and Meta. Apple is building a search engine to challenge Google. Google’s cloud-computing division is taking on Amazon Web Services and Microsoft’s Azure. Meta is getting into e-commerce. The research papers cited in Mr Biden’s executive order date back half a decade. Concentration in America may since have plateaued.

This resistance ensures that the competition authorities’ multipronged assault on big business will take time to play out. The new trustbusting zeal also rubs up against a rekindled affection for national champions, which are by definition big and powerful. European bosses urge Ms Vestager to take into account how competitive global markets are, not just the EU’s, when deciding on mergers. The single-market commissioner, Mr Breton, is receptive to such ideas. Even Ms Vestager, who ignored Franco-German calls to permit the creation of the Alstom-Siemens rail champion, now speaks warmly of the battery consortium.

That may be why, for all the antitrust commotion, M&A activity remains strong in Europe and America, as companies take advantage of cheap capital and a surfeit of pandemic-distressed targets. Chinese tech titans have shed a collective \$1.4trn in stockmarket value since China started turning the screws on them in earnest last February. America’s five biggest tech firms have added \$2.1trn in the same period. The neo-Brandeisians may have “achieved political success prematurely”, suggests Mr Furman from Harvard.

Yet bosses, lobbyists and corporate lawyers acknowledge that a chill has descended as regulators test their powers. The dealmak- ►►



ing frenzy may partly reflect a desire to get in under the wire. Without clear rules, companies no longer know when to notify regulators about a deal and must think about competition from the outset. One lobbyist claims that clients with deals pending at the FTC are not getting answers. They may face an investigation halfway through a deal or even after it closes—and in a growing number of jurisdictions. Just one hold-out can put paid to a merger. In March 2021 Applied Materials, an American semiconductor company, scrapped its acquisition of a Japanese rival, which had been approved in America, Europe and Japan, but not in China. Boeing got clearance to merge parts of its business with Embraer, a Brazilian planemaker, everywhere except Europe.

The uncertainty over mergers and rules that might curtail certain practices adds hassle, risk and cost to potential deals. Some business decisions that might once have been made will now never be considered. Value not created as a result is impossible to quantify, but it is surely there. ■

### Government regulation

## Rules just keep on growing

### Red tape continues to spread inexorably

A COROLLARY OF Leviathan's growth is rising bureaucracy. Once a regulator is created, it is never defunded. As the state becomes more involved in citizens' lives and agencies expand, so do rulebooks. And a lot of their dos and don'ts apply to business.

Patrick McLaughlin of the Mercatus Centre at George Mason University has tracked the number of prescriptive words such as "shall" and "must" in America's federal code and its equivalents in Australia, Britain and Canada. They have become more pervasive. In another example, the number of similar prescriptions in America has swelled from 400,000 in the 1970s to 1.1m today. Many may be out of date: an analysis by Deloitte, a consultancy, found in 2017 that 67% of sections in the US code had not been edited since they were drafted.

Purported bureaucracy slayers, such as Mr Trump, who promised to axe two rules for every one introduced, or conservative Australian prime ministers, have left more regulations than they inherited. Mr McLaughlin does not know of similar studies of the EU or Japan, let alone China. But it is a fair bet they are on a similar trend, he says. And that is without state, regional or local rules.

The pace may even be speeding up. Governments are regulating in new areas such as the climate or data protection. They are telling businesses how to treat workers, women, ethnic and racial minorities, and even shareholders. Rules are multiplying about what information companies must disclose, how to allow investors to challenge management and who should sit on boards. And as the rift between the West and China deepens, both are constraining firms' choices of business partners. Asked whether all this presents risks for companies and investors, one big asset manager responds: "Yes, absolutely."

One sign is the arrival of big laws. The federal code ballooned after the passage in 2010 of the Dodd-Frank act to regulate the financial industry. In the past two years Congress has passed two huge covid-19 stimulus bills (335 and 243 pages) and the \$1.2trn infrastructure plan (1,039 pages). Mr Biden's Build Back Better extravaganza ran to 2,468 pages in the House-approved version.

The EU's Digital Services and Digital Markets acts will, once

adopted, take on lives of their own as they are translated into national law. Although their toughest provisions target the tech giants (few of which are European), any big organisations that peddle data can expect to be caught up in red tape. That happened with the EU's General Data Protection Regulation in 2016.

The scope of regulatory agencies can broaden even without new statutes, if regulators reinterpret old ones. That appears to be happening at the FTC. Mr Biden's federal vaccine mandate, requiring companies that employ 100 or more to ensure that workers are jabbed or regularly tested, is based on powers of the Occupational Safety and Health Administration. The Consumer Financial Protection Bureau, created by Dodd-Frank, could in 20 years be as large as the Environmental Protection Agency is now, predicts Mr McLaughlin. Many new instructions come not as formal rules but in ancillary guidance, which Wayne Crews of the Competitive Enterprise Institute, a think-tank, terms "regulatory dark matter".

In environmental, social and governance (ESG) practice, companies and rulemakers are moving in the same direction. Indeed, business may be ahead. Many firms have embraced diversity and inclusion. Corporate carbon-cutting goals often exceed national ones. Partly this is a response to demands from consumers and potential hires. Partly it is a cynical effort to show that soft self-regulation obviates the need for government rules.

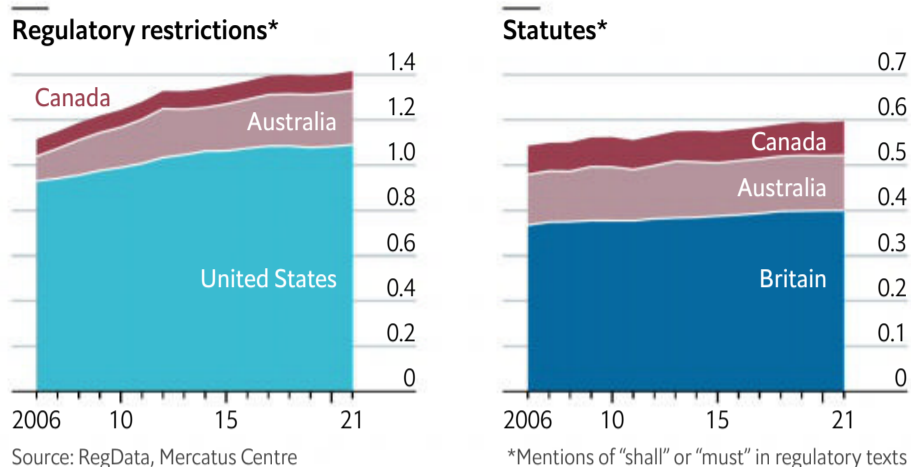
Regulators are catching up. "Tenets of ESG are becoming hard law," says Mr Rodrik of Harvard. A draft EU directive would require firms to monitor, identify, prevent and remedy risks to human rights, the environment and governance in their operations and business relations. France's "Duty of Vigilance Act" of 2017 already requires French companies with over 5,000 employees in France or over 10,000 worldwide to monitor their firms, contractors and suppliers for potential abuses. By mid-2023 a Dutch law aimed at stopping child labour will take effect, after a three-year grace period. A similar supply-chain act has been passed in Germany.

America's Build Back Better bill is dotted with requirements for companies to employ unionised workers. The House of Representatives has passed a bill that would reverse many constraints on union power, some dating from 1947. It will stall in the Senate because of opposition from Republicans and centrist Democrats. But it is a statement of intent. Companies are braced for executive actions. A group chaired by Vice-president Kamala Harris has instructed every department and many agencies to come up with plans to push unionisation without congressional action. Some 400 ideas have been submitted. ▶▶



## Lengthening red tape

Laws, cumulative, m



▶ Governments everywhere seem suddenly to have become much keener on labour protection. Mr Biden's bid to raise the federal minimum wage was foiled by moderates but the idea is far from dead. The European Commission wants common rules on minimum pay and “platform workers” who ferry passengers for Uber or meals for Deliveroo. Meituan, the food-delivery giant, is in hot water with Chinese authorities for mistreating drivers. Labour standards are being slotted into trade deals, including the United States-Mexico-Canada Agreement that replaced NAFTA.

### Fighting for workers—and investors

Financial regulators are also becoming more intrusive. The Bank of England is conducting climate-risk stress tests. The European Central Bank is considering requiring firms to disclose exposure to climate-related risks, including assets that may become stranded by tougher climate legislation. A vocal American champion of this idea, Lael Brainard, has been made vice-chair of the Federal Reserve. In October the Securities and Exchange Commission (SEC) said it was working on requirements for firms to include such disclosures in public filings.

The SEC is also making it easier for investors to hold management to account. In November it simplified rules for elections to corporate boards. Dissident shareholders seeking to appoint directors will no longer need to go through the hassle and expense of sending out rival ballots. A new “universal proxy”, which will come into force later this year ensures that board candidates appear on all ballots at annual general meetings, giving shareholders the choice. Another new rule makes it harder for companies to block shareholder resolutions on climate change and human rights. Both changes will empower activists. The senior lawyer at one big tech firm reports that 2021 was the first year when activists tried to ram through appointments and resolutions without seeking compromise with managers.

A final set of rules encumbering business reflects strained Sino-Western relations. In Tokyo Takayuki Koyabashi, the economic-security minister, has hinted that his mandate might extend to decisions under the Foreign Exchange and Foreign Trade Act, revised in 2019 to tighten rules on foreign investment in Japanese companies, which it ranked in three tiers of security-related sensitivity. The EU is getting more assertive. The European Commission is working on an instrument to let Brussels impose economic pain—from trade and investment restrictions to sanctions on intellectual-property rights—on any country that tries economic blackmail. The EU is often inadvertently snarled by American sanctions applying to products made with American technology.

The blacklist of Chinese firms with restricted access to Ameri-

can technology now contains over 1,600 “entities”, including affiliates of such large multinationals as Huawei and SMIC. Another 27 were added in November, in aerospace, chips and quantum computing, including two affiliates in Singapore and Japan. Deals involving Chinese companies are routinely screened by the Committee on Foreign Investment in the United States. The Holding Foreign Companies Accountable Act of 2020 requires firms traded on American exchanges to submit to audits (which Chinese ones are barred from doing by Beijing on national-security grounds) or face delisting within three years.

Things could get rockier. The international chief of a big American asset manager says Wall Street sees China as “essentially uninvestable”. He puts the probability of it becoming impossible for American finance to operate in China at 30%. That is alarmingly high and could even mean the Western, dollar-centric, financial system is severed from the world's second-biggest economy.

China's response has not been to bar firms from doing business with the West—they are too reliant on Western consumers, technology and capital markets. Instead, it wants to reduce this dependence. The “dual-circulation” strategy in its latest five-year plan aims to keep China open to the world (the “great international circulation”) but bolster its own market (the “great domestic circulation”). As China has closed borders to suppress covid-19, domestic circulation has gained in prominence.

The Communist Party is bossing companies around with a zeal not seen since Mao: witness a crackdown on tech and anticompetitive practices and a ban on profitmaking by online tutors. Beijing has made it harder for Chinese firms to float shares on American exchanges by cracking down on the convoluted legal vehicles they used to circumvent Chinese limits on foreign shareholders. In November it forced Didi Global, the ride-hailing giant, to delist from New York and move to Hong Kong. Chinese initial public offerings in America have all but dried up.

The economic toll of continued Sino-Western decoupling may be counted in the trillions of dollars. Nasdaq's Golden Dragon China Index, which tracks Chinese firms listed in New York, fell by 43% in 2021. The unseen costs of unconsummated business relations are incalculable. “At a stroke of a regulator's pen, 60-70% of your investment can be eroded,” says an executive at a big investment fund.

Complying with domestic regulations is less costly but harder to escape. Some economists reckon it may shave several points off GDP in America. In one British survey, fewer than one business in three thought regulation enabled innovative products and services to be brought to market efficiently. In another, 69% of firms felt that regulators did not work closely enough with each other. Governments' management of new and existing regulations is still far from optimal. “Little information exists on whether they actually work in practice,” observes Christiane Arndt-Basclé, who monitors regulatory regimes at the OECD.

Comments to regulators about proposed rules are published 85% of the time but sent to decision-makers in just 41% of cases in OECD member countries. Less than a fifth of OECD members sys-

tematically reflect international dimensions in domestic rule-making. Both the British and the American governments lack senior officials with extensive private-sector experience. A consultant close to Downing Street sees “very few, if any, established lines of communication between the government and business”. This means that new rules tend to be more onerous. And it comes on top of another business cost that is about to rise after decades of decline: corporate taxes. ■

**Governments everywhere seem suddenly to have become much keener on labour protection**

## Corporate taxes

## To tax or not to tax

After falling for decades, taxes on companies are rising again

FOR WORLD peace, the League of Nations was an abject failure. For companies, it has proved a great success. In the 1920s it set a basis for corporate taxation that has endured ever since. Recognising that taxing profits in different places can hurt trade and growth, rights to tax were allocated first where profits are generated and only second where a company sites its headquarters.

This principle has now been enshrined in bilateral tax treaties—with unintended consequences. Governments have realised they can lure investment with lower tax rates. Between 1985 and 2018 the average corporate-tax rate fell from 49% to 24%. Many tax havens charge zero. The idea has grown that collecting taxes from rapidly growing, efficient firms is “whipping the fast ox”.

Companies have also learned to pay less tax by shifting reported earnings, which is easier with the rise of intangible assets such as brands. Although only 5% of American multinationals’ foreign staff work in tax havens, they book nearly two-thirds of foreign profits there, twice as much as in 2000. In 2016 around \$1trn of global profits were booked in “investment hubs” such as the Cayman Islands, Ireland and Singapore, whose average effective tax rate on profits is 5%. According to an OECD study in 2015, this robbed public coffers of \$100bn-240bn a year, equivalent to 4-10% of global corporate-tax revenues.

Some action to improve and simplify corporate taxation was long overdue. But with business fast going from sacred ox to whipping boy, governments have become less concerned with creating a better system and more with just getting firms to pay more tax. Britain has decided to raise its corporate-tax rate from 19% to 25%, becoming only the second OECD country to do so since 2000 (the first, Chile, has reversed its decision). In America moderate Democrats stopped Joe Biden undoing his predecessor’s tax reform, which cut the corporate-tax rate from 35% to 21%. But his Build Back Better bill floated a tax on share buybacks and an excise tax of 95% on sales of drugs for which drug firms refused to negotiate prices with the Medicare system.

The bill would also have raised the minimum rate that American multinationals pay on global profits from 10.5% to 15%. This could have raised an extra \$30bn a year. It would also have aligned America with a new tax pact negotiated through the OECD. Fully 136 countries have signed up to a 15% global minimum rate, and allocated more taxing rights from where companies book profits to where they make sales. The OECD hopes to get this deal into force in 2023. Mr Furman, the former economic adviser to Barack Obama, calls it “a real sea change” in how companies are taxed. Others throw around terms like “once in a century” and “revolution”.

The reallocation of taxing rights will apply only to companies with global turnover above €20bn (\$24bn), and only on pre-tax profits exceeding 10% of revenues. It is likely to raise a “modest amount”, thinks Michael Devereux of Oxford Univer-

sity’s Said Business School. Some estimates put it at a trifling \$5bn-12bn a year worldwide. Mr Devereux reckons the global minimum may raise an extra 4-5% on top of what companies already pay, or around \$100bn annually.

Yet this underplays the significance of the shift. The reallocation affects some 110 multinational groups says David Bradbury of the OECD. Most are American. They probably include the usual suspects such as Apple and Amazon, which have perfected the art of tax optimisation. These firms face a costly and tedious unwinding of their tax arrangements—and a higher overall bill. As for the global minimum, Mr Bradbury expects countries and companies to alter their behaviour. Switzerland, which supports the pact, is murmuring about new tax incentives to remain attractive. “It will be messy,” sums up an executive at one American multinational.

Companies might once have kicked up a fuss over the OECD deal. They have thought better of it, given intensifying anti-business sentiment. Some have even praised the harmonisation effort. In private, though, executives grumble that the OECD plan is “a convenient vehicle” to raise taxes at home. That, says one tech boss, is what Mr Biden is doing. Neil Bradley of the US Chamber of Commerce warns of moving from a race to the bottom to “a race to the top”. If tax authorities believe they will avoid leakage, he says, they may conclude “We can tax as much as we want.” Mr Devereux would not be surprised if corporate taxes creep up.

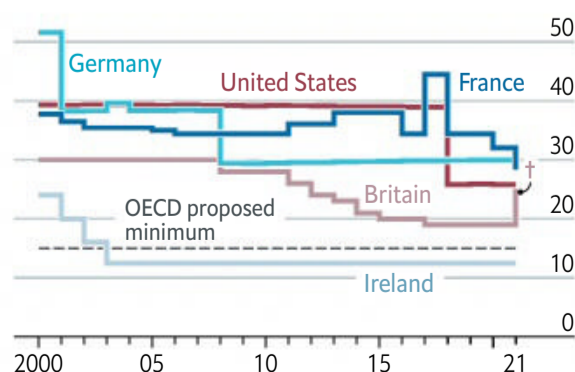
There may be more unintended consequences. One mysterious feature of the 40-year slide in corporate-tax rates has been that companies’ contribution to public coffers has remained flat in rich countries, at about one-tenth of the tax take, or 2-3% of GDP. In poorer ones the figures are slightly higher but equally steady. Analysts put this down to more firms paying tax, corporate profits growing and wealthy individuals using companies to reclassify highly taxed personal income as lower-taxed corporate income.

The base of payers looks unlikely to dwindle. Once known to taxmen, firms rarely extricate themselves from their grasp. How the changes affect profits is harder to judge. Experts do not expect the overhaul to dampen pre-tax profits, though that could happen if higher rates discouraged investment. Some signatories to the deal may retain their edge with offsetting sweeteners such as lower taxes on individuals or property.

There are also unknown unknowns which may become clearer only once firms have adjusted. Two things can be predicted. A bonanza awaits tax lawyers and accountants. And the new equilibrium will be less favourable to companies. One boss of a big multinational company suggests that the tax system is the ultimate test of what countries care about. The implication is that they care less than before about keeping business happy. ■

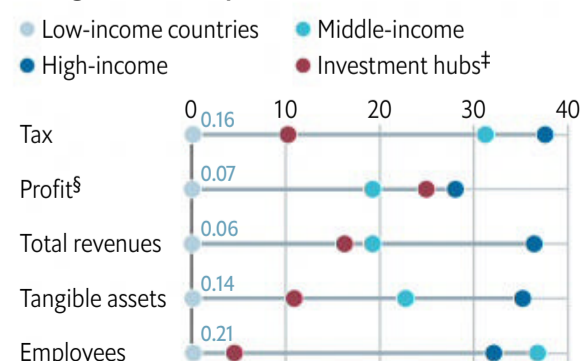
## Inflection point

Statutory corporate-tax rate\*, %



Source: OECD

Share of multinational enterprises’ foreign activities by location, 2016, %



\*Includes central and sub-central rates <sup>†</sup>Proposed for 2023 <sup>‡</sup>Countries with inward investment exceeding 150% of annual GDP <sup>§</sup>Profits could double-count intracompany dividends

## The future

## The liberal fightback

### It is time to reassert the case for less state intrusion

ON THE SURFACE business has seldom had it so good. Profits and share prices are near record levels. Pandemic-relief packages have involved little arm-twisting by governments, and lots of corporate welfare. Megadeals are at an all-time high in America and plentiful elsewhere. What's not to like?

As this special report has argued, quite a bit. Today may turn out to be a high-water mark for business. Almost everywhere people are becoming more mistrustful of it. So are their political representatives. The upshot is that the state wants a greater say over what firms do, where they operate and how they are run. The anti-corporate sentiment makes it harder for businesses to defy calls for new rules or higher taxes.

Some of these are reasonable enough. Profit-seeking enterprises cannot be expected to volunteer to pay more tax or to deal by themselves with such huge challenges as climate change and income inequality, still less geopolitical squabbles. Milton Friedman is reputed to have said that the business of business is business. Companies may need incentives to do the right thing.

But the incentives must spurn favouritism, spur dynamism and maintain openness. And many now being bandied about or enacted do not. Having buried the age of big government under Bill Clinton, Democrats are enthusiastically exhuming it, with even some Republicans cheering them on. Britain's ruling Conservatives have lost their Thatcherite moorings. The EU, a project with a strong interventionist reflex from its inception, is giving in to it. China has moved decisively away from liberalising its economy into a new era of overt state guidance and control of business.

Political leaders again believe they can pick winners, and some bosses are only too happy to be chosen. Regulators are introducing ever more rules, and using those designed for one goal (promoting competition or good corporate governance) to achieve others (data privacy or workforce diversity). Governments see friendless corporations as a handy piggy-bank. And countries are turning inward, giving international trade the cold shoulder.

### Dangerous shifts

These changes carry two dangers. As the state becomes more involved in business, however well-meaning its motives, companies' focus tends to shift from satisfying consumers towards currying favour with political leaders. Preferred firms grow flabbier and less innovative. Regulations dampen animal spirits. Cronyism rears its head. A chosen few win big. Everybody else loses.

The second danger is subtler. As some firms and governments become chummier, others may conclude that they have no choice but to do the same—especially if cosiness seems to work. This could lead to a soft, self-imposed decoupling, even as traditional trade barriers also go up. “You are seeing flows of people, technology, capital all being curtailed,” observes Hank Paulson, America's former treasury secretary. One European industrialist predicts, “The era of shortage will drive more egotism.”

The world has been here before. Post-war state meddling, inspired by the belief that only governments could rebuild societies after 1945 and by the apparent success of central planning, led to flagging dynamism and, by the late 1970s, out-of-control prices and stagnant living standards. It was only in the 1980s, after eco-



nomic failings in the West and the bankruptcy of the Soviet system both became undeniable, that liberal remedies or freer markets, lower taxes and greater openness proved more attractive.

China is not doomed to failure as the Soviet Union was. Its economy is more sophisticated and, in pockets, genuinely innovative: look at Alibaba and Tencent, its digital titans. Yet its model is not a superior form of capitalism. For all its progress, China is poor by Western standards, leaving room for state-directed catch-up growth. The most impressive Chinese businesses, including in big tech, have thrived in markets that the state until recently kept mostly at arm's length. In focusing attention on China's top-down policymaking rather than its bottom-up entrepreneurial effervescence, some in the West draw the wrong lessons.

China's course seems set for the foreseeable future. But a swing away from today's interventionist mood remains possible in the West. The Tories may rekindle their inner Thatcher. As a club governed by consensus, the EU may listen more to Nordic liberals when they say “strategic autonomy” is little more than a cloak for protectionism. Clintonian small government may seem a lost cause among Democrats, but Republicans' pro-market memory may kick in if they can only disavow Trumpian populism.

The broad liberal principles rediscovered in the 1980s remain as powerful as they were 40 years ago. For that reason alone, political and business leaders mess with them at their peril. The precepts are also valuable in themselves, as expressions of freedom: for entrepreneurs to invent, consumers to choose and citizens to live as they see fit. That is why it is essential to defend them against attacks from populists, opportunistic cronies in the private sector and those who have lost faith in free markets. For all its imperfections, liberal capitalism remains a vital force for good. ■

**ACKNOWLEDGMENTS** A list of acknowledgments and sources is included in the online version of this special report

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## Russia and the West

# Teetering at the summit

### A crucial week of diplomacy yields no progress on Ukraine

AS RUSSIAN TANKS poured west, heading from Vladivostok on the Pacific coast to the border with Ukraine, American diplomats headed east. Not since the Balkan wars of the 1990s has Europe seen a week of such crucial security summitry. On January 10th American diplomats met Russian ones in Geneva. Two days later the NATO-Russia Council convened in Brussels. On January 13th the diplomats headed to Vienna for a gathering of the Organisation for Security and Co-operation in Europe (OSCE), a group of 57 countries.

The purpose of this frenetic diplomacy was to prevent a war. Russia's government has demanded, among other things, that NATO stop expanding and pull back from places that used to be part of the Soviet Union. It wants NATO members to stop co-operating with Ukraine, and a legal guarantee that Ukraine and Georgia will never join the alliance (something those countries have previously been promised). America

and its European allies have agreed to discuss the Kremlin's stated grievances, while beefing up their defences and threatening sanctions should Vladimir Putin, Russia's president, attack Ukraine again.

On the face of it, the summitry took some heat out of the crisis. Sergei Ryabkov, Russia's deputy foreign minister, said that his meeting with Wendy Sherman, America's deputy secretary of state, was "very professional" and "deep". Ms Sherman, who proposed ideas about how America and Russia could limit missile deployments and the size and transparency of their exercises, noted that Mr Ryabkov had even discussed "things that are not Russian priorities".

Yet Mr Ryabkov was keen that this not be misunderstood. Deals on missiles and exercises were nice, but a sideshow. "For us, it's absolutely mandatory to make sure that Ukraine never, never, ever becomes a member of NATO," he said, clarifying in

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English: "We need ironclad, waterproof, bulletproof, legally binding guarantees."

These were not forthcoming when Russia met the 29 other members of NATO in Brussels on January 12th for four hours of talks. "It is only Ukraine and 30 allies that can decide when Ukraine can become a NATO member," said Jens Stoltenberg, the secretary-general of the alliance, after the meeting. "No one else can."

This was no surprise for Moscow, which had expected its demands to be spurned. Less clear was whether the Kremlin's aim was to elicit a pretext to attack Ukraine, or simply to generate material for propaganda. Some people familiar with Mr Putin say that he has long lost interest in the day-to-day business of running Russia, but is excited by geopolitical theatre; in recent months, Russian officials have drawn grandiose parallels with the Cuban missile crisis. Mr Putin is well aware that ordinary Russians have little appetite for a big war. Yet he hopes to keep them in a state of fear, to distract from the many grumbles they have about his regime.

Western officials are keen to keep talks going as long as possible in the hope that the crisis may dissipate. Russian officials have repeatedly warned that they will not be drawn into what Mr Putin has called the "swamp" of drawn-out discussions, not least because an invasion of Ukraine would ▶▶

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# AVAXHOME-

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▶ become harder once the ground in the country's east thaws in spring. Mr Stoltenberg said that Russia had been open to the idea of more dialogue, but declined to agree to a schedule of further meetings. Mr Putin will make the final call, but his emissaries showed little satisfaction. Russian proposals were not "a loaf from which you can peck out some...sultanas", complained Alexander Grushko, the head of the country's delegation to Brussels. If diplomacy failed, he thundered, the threat from NATO would be "countered by military means".

If Russia does indeed attack Ukraine, American officials have promised "massive" economic sanctions, far in excess of those imposed after its previous assaults in 2014, when it annexed Crimea. They hint at disconnecting Russia from the SWIFT network, which connects banks to one another, and banning it from receiving goods with American electronics in them. The measures would be "like none he's ever seen", warned Joe Biden, America's president, after a conversation with Mr Putin on December 7th.

Europeans have also explored sanctions on banks and individuals close to the Kremlin, says Sabine Fischer of SWP, a think-tank in Berlin, but they are more nervous. There are "serious concerns" over kicking Russia out of SWIFT, which has its headquarters in Belgium, she says, because it would hurt ordinary Russians and EU sanctions are supposed to be targeted.

There is also uncertainty over the fate of Nord Stream 2, a controversial gas pipeline from Russia to Germany. American officials claim that Germany has agreed to suspend the pipeline in the event of war. Germany's coalition government remains divided over the issue, and some officials are wary of restricting gas supplies just as Europe faces a looming energy crisis.

Ukraine itself, the focal point of the crisis, has sat largely on the sidelines of this diplomacy. On January 2nd Mr Biden spoke to Volodymyr Zelensky, Ukraine's president, for the second time in a month and on January 10th Mr Stoltenberg welcomed

the country's deputy prime minister to Brussels to show solidarity. Yet Ukraine has been given just one opportunity to participate in the talks, at the OSCE meeting, which is widely viewed as a sideshow.

Meanwhile, Russia has shown no sign of stepping back (see map). Its buildup remains slow and is not yet large enough for a "serious" offensive, says a European intelligence official. Russia has deployed mostly equipment, rather than fully manned units; personnel would need to be flown in later. But the fact that the country has begun sending forces from its eastern military district, over 6,000km from Ukraine, is a "horrible sign", warns Konrad Muzyka of Rochan Consulting, who tracks Russian military movements. "My prediction is these negotiations will end with no success within several months," says Ruslan Pukhov, the director of CAST, a think-tank in Moscow. "The risk of war with Ukraine is very big." ■

### France's election

## Unfashionably gauche

PARIS

### Disaster looms for the left in the presidential race

ON THE ANNIVERSARY OF François Mitterrand's death on January 8th Anne Hidalgo, the mayor of Paris, went in the driving rain to lay flowers at his grave. She was seeking "inspiration" from the late Socialist president, but it looked more like a requiem for the party's current candidacy. Polls show Ms Hidalgo, the Socialists' nominee, winning just 4% in the first round of the French presidential election in April. A result that bad would not only disqualify her from the run-off but fail to meet the 5% threshold for taxpayers to reimburse half of her campaign spending.

What has happened to the once mighty French left? Under the Fifth Republic, the grand old Socialist Party has provided two presidents (Mitterrand and François Hollande) and landmark social legislation, including the abolition of the death penalty in 1981 and the legalisation of gay marriage in 2013. A decade ago it controlled the presidency, both houses of parliament, and most regions and big cities. In Ms Hidalgo, it has an internationally respected mayor, praised for turning over swathes of central Paris to cyclists and joggers. The French Green party, with which the Socialists often govern, also has a presentable nominee, Yannick Jadot. Its big issue, climate change, is constantly in the news.

Yet neither Ms Hidalgo, nor Mr Jadot, nor any of the candidates further to the

left—including Jean-Luc Mélenchon, a 70-year-old left-wing firebrand, and a clutch of other anti-capitalists and communists—currently stands any chance of reaching the final run-off.

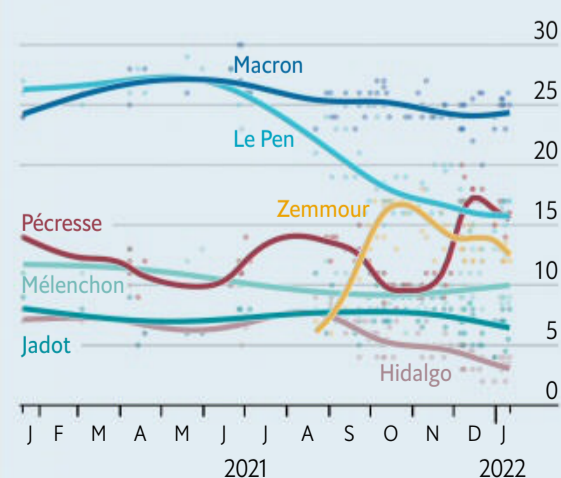
The trouble for the French left is threefold. First, too many candidates have fragmented the vote. None seems to have the clout or the charisma needed to rally the others behind a single nominee. Ms Hidalgo had backed the idea of a "citizens' primary" as a way to do this. Due to take place on January 27th-30th, this is a non-binding online vote proposed by 130,000 grassroots supporters as a way to measure support for the different candidates, whether they like it or not. But Mr Jadot argues, reasonably enough, that he has already won his own party's primary, and has no intention of heeding the result. Mr Mélenchon says all this is not his problem.

Second, the mainstream French left has lost the working class. Its base is now made up largely of city-dwellers and public-sector employees. This is too narrow to win national elections easily. In the past, Mitterrand deftly linked the Socialists to the French Communist Party to secure the blue-collar vote. Now the biggest slice of that vote goes to the nationalist Marine Le Pen: 33% of blue-collar workers back her for president, next to 3% for Ms Hidalgo. Such voters want a harder line on law and order. Cycling, one of Ms Hidalgo's signature issues, may be popular in central Paris and Green-run cities such as Bordeaux. Elsewhere, voters depend on their cars and resent being made to feel guilty for it.

Third, France has shifted to the right. Today 37% of voters say they are on the right, up four points since 2017, next to 20% who say they are on the left, down five points in the same period. As a former economy minister in a Socialist government, Emmanuel Macron in 2017 drew from the moderate left to build his new centrist party when he ran for the presidency. Many such voters were subsequent-

### Nobody left

France, voting intention in first round of presidential election, main candidates, %



Source: National polls



ly disillusioned by his tax cuts for the rich, but since the pandemic they have grown less hostile, says Chloé Morin, a former Socialist adviser now at the Fondation Jean-Jaurès, a think-tank: “The weakness of the left means that voters on the centre-left are thinking that they might as well vote Macron to keep out the right and the far right.”

“I’m not giving up,” insists Ms Hidalgo, who argues that polls understate support on the left. She blames Mr Macron for destabilising the party system. But some even within the Socialist Party think that the solution to their troubles lies with yet another potential candidate: Christiane Taubira, a popular former justice minister from French Guiana who is something of

an icon on the left. She says she will run for the presidency if she wins the “citizens’ primary”. Unless some of the others then step aside, however, Ms Taubira’s candidacy will only fragment the vote further.

As candidates squabble over how to run for office, they are failing to tell the public what they would do if they win it. Yet France needs to grapple with big policy issues. These include how to integrate minorities, curb inequality and protect the poor from the burdens of the green transition, at a time when public spending has reached an exceptional 62% of GDP, the highest level in the EU. If the left has a future in France, this year’s candidates are doing a good job of disguising it. ■

## The Netherlands

# Unclogging Europe

AMSTERDAM

## A Dutch government that can say yes

ORDINARILY, WHEN the EU favours a flood of collective spending, the Dutch put their collective finger in the dyke. In 2020 the Netherlands rallied a group of small, rich countries (the “frugal four”) to oppose the EU’s covid recovery fund. They eventually gave in, but not before Wopke Hoekstra, the then finance minister, insulted southern Europeans for lacking budget discipline. This week a new Dutch government took office. It comprises the same parties as the previous one, yet its stance on the EU is far more relaxed.

Mark Rutte, the Liberal prime minister, is back for a fourth term, but has turned boosterish on Europe. Just as important is the new finance minister, Sigrid Kaag of the centre-left, pro-EU D66 party. Finance is the most powerful ministry, and has largely run the Netherlands’ EU policy since the euro crisis of 2010-12. Mr Hoekstra, a Christian Democrat, has been shunted to foreign minister. This may seem an odd fit, but Mr Hoekstra incarnates an old adage about the country’s diplomacy: “I am Dutch, so I may be blunt.”

Finance ministers are often popular in the Netherlands. Winning the post is testament to Ms Kaag’s bargaining skills, honed as a UN diplomat in the Middle East. The coalition negotiations lasted nine excruciating months. Striking a deal required the parties to trade favours, leading to some rather un-Dutch plans for big spending. They include a climate fund of €35bn (\$40bn) through 2030 and reimbursing 95% of child-care costs up to the age of 12. Government debt will rise past the EU’s notional limit of 60% of GDP.

Dutch flexibility would be welcome in Brussels, where France and Italy want to loosen the budget rules permanently. The new government may go along, with conditions. It also backs letting the EU raise more of its own taxes, including a carbon tariff on imports. Instead of clubbing with small thrifty states, it will work with the EU’s powerhouses, France and Germany.

The Netherlands’ tone has changed, but its interests have not. As a country that trades a lot and has a big financial sector, it felt closer to Britain than to France until Brexit. It remains less statist than most EU members. “We will continue to be a liberal outpost in Europe,” says Hans Vijlbrief, a D66 minister who has worked at the finance ministry and in Brussels. But they may be less blunt about it. ■

## Christmas in Ukraine

# Swimming with the Yuletide

KYIV

## The geopolitics of December 25th

AFTER RUSSIAN soldiers invaded their country in 2014, many Ukrainians began favouring Western holidays over ones associated with Russia. Women’s Day, an originally socialist holiday that took hold in Soviet times, has faded, while the American-made Mother’s Day is in vogue. As the snow piled up in Christmas markets in December, so did the evidence that Santa Claus was displacing the Soviet-era *Ded Moroz* (“Father Frost”) as the country’s pre-eminent bearded gift-bearer. Weightiest of all is the debate over when to celebrate Christmas itself. Epiphanius I, the head of Ukraine’s Orthodox Church, says he expects his congregants will favour switching from January 7th to December 25th within a decade.

Why is there an issue with the date of Ukrainian Orthodox Christmas? It began with Russian Orthodoxy’s attachment to the 2,000-year-old Julian calendar, which observes too many leap years. The Russian church never adopted the calendar devised in 1582 by Pope Gregory XIII, which skips three leap years every four centuries. When the Soviet state went Gregorian in 1918, the Russian church did not. The Julian calendar now runs 13 days behind, so Christmas falls on January 7th—through 2099; in 2100, when the world next omits a leap year, it will move to January 8th. But in 2019 Ukraine’s Orthodox Church sealed its autonomy from the Moscow Patriarchate. It can now decide when to jingle its bells.

Old Calendarists argue that switching would muck up the formula for calculating Easter, violating canonical texts. But it can be done, as shown by Orthodox churches in Greece, Romania and Alba-



Advent of a new calendar

nia, which use the Latin Christmas date. The Ukrainian state declared December 25th a public holiday in 2017, ostensibly for the sake of the country’s Catholics. But pushing too fast risks dividing Ukrainian society, splitting the church or pushing old-fashioned believers back towards Moscow.

In secular terms the idea has a cold logic. Since 2014 Ukraine has unravelled its economy from Russia’s to knit it together with the EU’s. It makes sense for countries to align their rhythms of work and rest with their closest foreign trading partners. That is what Saudi Arabia did in 2013 when it became the last Islamic country to ditch Thursday-Friday weekends. Religions do not need to be logical. But if Ukraine does break with its cherished habit, marking Christmas on a different day would emphasise that its divorce from Russia is truly final.

## Charlemagne | Gas nightmares

*A protracted energy crisis will trigger Europe's neuroses*



IN GEORGE ORWELL'S "1984", Room 101 is where prisoners are confronted with their worst fear. Finding Europeans' prevailing phobia is trickier: what spooks voters in one bit of the continent (asylum-seekers! deficits! Russia!) may be of scant concern to those on the other end. Covid-19 is one contender, as it has made life dull from Dublin to Dubrovnik and beyond. Another is the continent's ongoing energy crisis. Surging natural-gas prices are sending heating bills soaring, soaking up the cash Europeans have saved while moping around at home for two years. It is a crisis so all-encompassing that all parts of the EU will have to face up to their deepest apprehensions.

As with most nightmares, the origins of the power crunch are partly clear and partly mysterious. Europe went into the winter season with low stocks of natural gas, which is used for heating homes and generating electricity. Shrinking domestic energy production in places like the Netherlands, wimpy breezes that failed to spin wind turbines as much as hoped, booming Asian demand sucking gas eastwards, and maintenance trouble at French nuclear plants have coalesced into a shortage few saw coming. When Russia, whence gas pipelines tend to depart, did not rush to help with additional supply, prices spiked. The average European household faces electricity and gas bills of €1,850 (\$2,100) in 2022, up from €1,200 in 2020, according to Bank of America. Fears of winter power cuts have been forestalled by a bout of unseasonably warm weather—for now.

But the horror goes beyond the pocketbook: for many countries, it evokes their worst insecurities. Take proud France, which currently holds the rotating presidency of the Council of the EU. The crisis makes a mockery of the bloc attaining "strategic autonomy", President Emmanuel Macron's latest big idea. That Europe should be shielded from being bossed around by foreign powers sounds laudable, but seems more distant than ever. What autonomy can Europe claim when it requires Russian largesse to keep its homes warm? This is an awkward question at a time when Vladimir Putin is threatening to invade Ukraine. If America responds with sanctions against Russia, as it has threatened, it is Europe that will suffer the worst of the Kremlin's retribution. No wonder the EU can scarcely find a seat at the negotiating table.

Worse, some countries seem sanguine at the existing state of affairs. Germany is in the final stages of signing off on Nord Stream 2, a pipeline that will make Europe even more reliant on Russian gas. The EU's biggest economy will have to confront angst of its own. The energy-price surge will be disastrous for its industry. It has also triggered a jump in inflation, the economic indicator Germans fear most. And the new coalition government, which is divided over Nord Stream 2, has just overseen the closure of three nuclear-power plants that might have come in handy in keeping the continent's lights on. The country that thinks of itself as providing solutions for Europe is now part of the problem.

Twin dreads keep northern Europeans awake through their long winter nights. One is that the EU will fail to act against climate change, which greatly concerns voters in the Netherlands and Scandinavia. The other is that "their" money will go to subsidise spendthrift southerners. The deal struck in 2020 for a European covid recovery fund neatly set these two fears against each other: frugal northerners agreed to underwrite a big aid package, on the condition it fund long-term investments (notably green ones). The gas crisis undermines that set-up. Governments in places like Italy and Spain are doling out billions to help households handle higher utility bills, while Polish miners work overtime to dig up filthy coal.

Southern Europe's biggest fear is of a sputtering recovery. Greece, Italy and others could use a good run after two crises in barely more than a decade. Big jumps in energy bills hurt poorer countries more. That applies to eastern Europeans too. But their Room 101 is dominated by Mr Putin, who keeps his hand on the gas tap while demanding that former Warsaw Pact countries stop hosting NATO troops. If winter temperatures don't have Baltic countries shivering, the prospect of a hockey-masked Mr Putin picking them off like terrified teens surely will.

### Pump scare

The gas-price horror movie is most terrifying for Eurocrats. The causes of the current energy snafu are hard to distil down to a single factor, says Georg Zachmann of Bruegel, a think-tank in Brussels. That leaves plenty of room to designate a scapegoat, and one candidate comes to mind. The European Commission regulates EU energy markets (mostly quite sensibly) and has made carbon neutrality a central plank of the bloc's future (also sensible). Sound as its policy decisions may be, they have aggravated the current crisis. For example, shifting to coal to keep prices down is less of an option, since it would require buying expensive EU carbon-emissions credits.

Had Britain still been in the EU, the likes of Nigel Farage would no doubt have spent the past few months blaming Brussels for rising energy costs. Others might seize his demagogic mantle. France, home of the *gilets jaunes*, has recent experience of grassroots grumpiness linked to energy prices, and is gearing up for an election featuring some raucous eurobashers. Viktor Orban will also be looking for some element of the EU machine to pummel as he prepares to face Hungarian voters in April.

European officials know the spotlight of blame might swing to them, and are not looking forward to it. Yet anxiety can be healthy when the fear is of being held accountable. Having voters fume at the EU's approach to problems is a sign that it is devising policies some people disagree with, and might want overturned. That looks an awful lot like a functional democracy at a pan-European level. Scary, isn't it? Boo! ■



**Boris Johnson**

## Breaking bad

**A career of breaking rules, large and small, runs into crisis**

**H**OLLOW-EYED AND with his shoulders hunched, Boris Johnson offered the sort of apology he has made to many people, many times. In May 2020, with Britain in strict lockdown, Downing Street officials had held a drinks party in the prime minister's walled garden. He attended for 25 minutes, he admitted to the House of Commons on January 12th. And he understood the "rage" Britons felt at that, after enduring private miseries that spring.

He also set out his defence, which will be central to an inquiry by Sue Gray, a senior civil servant: that he was an unwitting participant, since the garden was being used as an office, and that he believed "implicitly" that it was a work event. It looked bad, but "could be said technically to fall within the guidance". Sir Keir Starmer, Labour's leader, said that was ridiculous and demanded that he resign.

He almost certainly won't. The mood of Tory MPs is bleak, and donors who funded his election campaign are incensed. "I just feel a bit disgusted," says a financier, who

is considering turning off the taps. A handful of senior figures, among them Douglas Ross, the leader of the Scottish Conservatives, and William Wragg, a select-committee chair, have called for him to go.

But his party is unlikely to force him out in short order. That would require 54 MPs to sign a letter of no confidence, and then 180, or half the parliamentary party, to vote to eject him. The Conservatives' reputation for ruthless regicide has been undeserved since the days of Margaret Thatcher. It has since had a high tolerance for low performance: the hapless Theresa May was got rid of only in 2019, two years after she lost the party its majority. Some backbenchers are happy with a crippled prime minister, since it makes him biddable on coronavirus policy and Brexit.

For most of his career, Mr Johnson's political appeal has lain in his rule-breaking. As mayor of London he would break the small rules of politics, which forbid lies and affairs, thumbing his nose at po-faced rivals. Voters who were tired of slickness

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liked him, just as small boys like slapstick.

As prime minister he promised to break the big rules that framed political reality. A "people's government" would offer whatever whetted the public's appetite, in particular things that had been ruled out of bounds because they were uneconomic or impractical. Britain could leave the European Union, radically curtail immigration and lavish funds on pet projects, from bridges to royal yachts, no matter what Treasury bean-counters might say. If Parliament was obstructive, it could be suspended. His would be a good-times administration, and he a merry Charles II to Mrs May's mirthless Oliver Cromwell.

But after weeks of revelations about lockdown parties and irregular donations, the breaking of small rules has lost its charm. Mr Johnson is now badly damaged inside his party, and unpopular in the country. According to Ipsos MORI, a pollster, his net approval rating has slumped to -36, close to Jeremy Corbyn's shortly before his election defeat of 2019. Sir Keir, a former public prosecutor, will make probity in public office central to his campaign to be prime minister.

Meanwhile the big rules of politics are reasserting themselves. The government faces a gruelling spring, preparing for local elections while household incomes are being squeezed and public services are coming under severe strain. The campaign will be led by a diminished prime minister who ▶▶

▶ will be unable to conjure the easy answers and ready fixes that are his style.

Before the parties, it was inflation that was keeping Conservative MPs awake at night. Consumer prices rose by 5.1% in November compared with a year earlier, the biggest annual increase since September 2011. Over the next few months, increases should beat anything seen since the early 1990s. Pay is unlikely to keep pace with the prices of cars, clothes and cigarettes. State pensioners, a big chunk of the Tories' electoral coalition, and people on state benefits will be squeezed particularly hard.

A large part of the problem is caused by high global prices for oil and gas, compounded by Britain's poorly designed regulatory framework (see next story). In April the government will raise its cap on retail-energy prices. The average household's annual bill is expected to rise by 50%. The Labour Party is feasting on Tory discomfort: it has proposed a temporary cut to VAT on domestic energy bills.

This is artful politicking, designed to irritate Tory backbenchers. The measure was promised by Mr Johnson's Brexit campaign as a potential dividend from leaving the EU, though was not enacted. But such is the scale of the problem, notes Robert Joyce of the Institute for Fiscal Studies, that even if it were, it would offset less than a fifth of the average increase in energy bills. All this is reminiscent of the early 2010s, when Ed Miliband successfully exploited what he termed a "cost-of-living crisis" to torment David Cameron's government.

Also coming in April is a rise of 2.5 percentage points in national insurance, a payroll tax, half each from employees and employers. Senior Tories are unhappy, including Jacob Rees-Mogg, the leader of the House of Commons. The extra money is supposed to support the National Health Service for three years, before being diverted to fund a new social-care regime.

But the NHS is in the midst of a waiting-times crisis, the result of doctors halting routine work during the pandemic. The national-insurance rise will barely make a dent. Some 6m people are already waiting for a procedure; by 2024, when the next general election is due, that could be 13m, or one Briton in five. Everyone will know someone on a waiting list; Labour will be able to pick and choose between heart-rending stories for its campaign ads. After his apology in the Commons, the first question the prime minister faced came from James Davies, a Tory, who raised his constituent's eight-week wait at a breast-screening clinic.

It is not in Number 10's garden, but in supermarkets, petrol forecourts and doctors' waiting-rooms that Mr Johnson's fate will be decided. The past week has been the most miserable of his career. The coming year will be worse. ■

## Energy and inflation

# It's not cheap being green

Rows about the cost of energy are here to stay

AT NOON ON January 7th the twin nuclear reactors at Hunterston B power station, on the Firth of Clyde on Scotland's west coast, were shut down for the final time. The plant was once the future. Part of a fleet of high-tech British reactors designed—unsuccessfully—for export, it was connected to the grid in 1976, just after the great oil-price shock of 1973.

Its closure is another small tightening of the screw for a country facing a different kind of fossil-fuel shock. Just before its closure Hunterston B was supplying a steady 1 gigawatt (GW) of electricity to the grid, about 2% of demand on a typical winter's day. Most of the slack will be taken up by power stations burning natural gas, the price of which has roughly trebled over the past year. Britain is unusually reliant on gas, which—on average, over a year—accounts for about 40% of its electricity generation, and heats 85% of its (mostly old and poorly insulated) houses.

Its soaring price has therefore helped drive inflation above 5%, the highest rate in a decade. That has already pushed more than two dozen energy companies into bankruptcy, and piled pain on businesses suffering from covid-related lockdowns and staff absences. In April a government-imposed cap on the price suppliers can charge households is due for revision. Energy UK, a trade body, reckons prices could rise by 50% or more, taking the average bill to over £2,000 (\$2,700) a year.

Worried ministers are pondering several ideas to take the edge off the pain. One is to scrap value-added tax on energy bills, though the rate is just 5%. Others include increasing handouts for poor households,

loans to surviving suppliers to spread the cost of absorbing customers of defunct firms, and shifting subsidies for renewable energy from bills to general taxation. The opposition Labour party wants a windfall tax on oil-and-gas producers in the North Sea, which have seen their fortunes rise along with prices.

All those policies involve unpleasant trade-offs. Most imply higher taxes, which are unlikely to prove much more popular than higher bills. In any case, says Dieter Helm, an energy economist at the University of Oxford, none does more than tinker around the edges of an energy system that is likely to remain heavily reliant on gas, and to get pricier, too.

The chief reason is the government's drive to decarbonise electricity generation. The share of wind and solar on the grid has risen sharply over the past decade, displacing dirty coal-fired generation (see chart). The government wants that to continue: it hopes for a 25% rise in offshore wind power by 2030. But renewable energy is unreliable. The past few months have been some of the stillest for decades, reducing the amount of power generated by Britain's wind turbines. The more renewables are added to the grid, says Mr Helm, the more backup must be built as well, even if much of it sits idle much of the time. With coal too polluting, and grid-scale batteries still in their infancy, gas-fired electricity is a likely candidate.

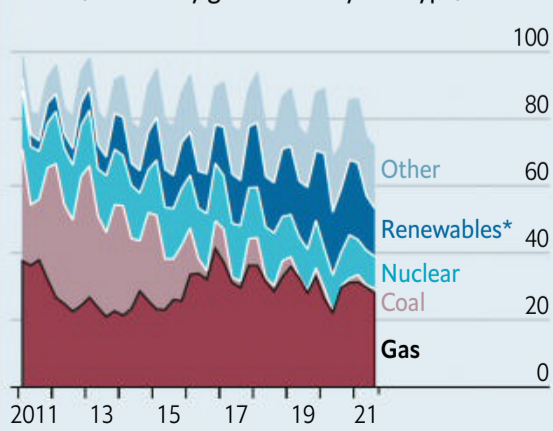
At the same time nuclear power, which is both low-carbon and reliable, and which provided around 16% of Britain's electricity last year, is shrinking, leaving an even bigger gap to fill. Three of Britain's six remaining stations are due to close by 2024; by 2028 just one will be left. Ministers had been keen on building more, but so far only one, in Somerset, is actually under construction. It is due to be ready by 2026, but is already late and over budget.

Even when global gas prices fall back, the green transition will bake in higher costs. The more renewables on the system, the bigger—and more expensive—their backup has to be. (Mr Helm thinks that, taking intermittency into account, wind power may be even pricier than the nuclear sort.) The government has set a strikingly ambitious target to decarbonise electricity generation completely by 2035. That means gas plants will have to be fitted with carbon-capture technology, in which emissions are buried underground. That has not been done at scale anywhere in the world. But if ministers are serious, it will push prices up even further.

One way or another the public will pay, whether through higher bills, higher taxes or a combination of both. Whatever the government does about the immediate problem, arguments about the cost of energy will continue. ■

### Rocky ride

Britain, electricity generation by fuel type, TWh



Source: Department for Business, Energy & Industrial Strategy

\*Wind and solar

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## Bagehot | What did you expect?

*The prime minister, in his own way, is Britain's most honest politician*



**B**ORIS JOHNSON lies often and easily. It is the hallmark of his career. He was fired from his first job, at the *Times*, for fabricating a quote. As a condition of becoming editor of the *Spectator* he promised not to stand as an MP, and then promptly did just that. As a shadow minister, he was fired by Michael Howard for lying about an affair. (He later divorced after a few more.) While mayor of London, he said numerous times that he would not stand in the 2015 election, only to turn up as a candidate in Uxbridge.

Lying about attending a garden party at Downing Street in May 2020, at the height of lockdown, is just the latest in a very long list. When public anger grew, MPs protested with all the sincerity of Captain Renault entering a gambling den in Casablanca. Douglas Ross, a Scottish MP who voted for the prime minister in the Conservative leadership election, labelled the prime minister's position "untenable" and demanded he quit. Why did such defenders of truth once back a man they knew to be an enthusiastic liar? Because Mr Johnson is, in his own way, a man of his word.

When he was drumming up support for his bid for party leader, his pitch was simple: back me, keep your seat, defeat Jeremy Corbyn and do Brexit. And it all came true. Mr Corbyn was crushed and the biggest Conservative majority in three decades followed. In that election Mr Johnson promised two big things and did both. The NHS would be showered with cash, which it has been. And he would do a deal with the EU, which he did.

It was not a good deal, but it was quick and it was clear. Coming after a negotiation with the EU that lacked both speed and simplicity, it is little surprise that voters jumped at it. Mr Johnson's predecessor, Theresa May, had obfuscated, attempting legalistic contortions to avoid Brexit's brutal simplicities. Labour's Brexit position was, in the words of one shadow cabinet minister, "bollocks". Mr Johnson's deal hobbles British business for little or no gain, beyond a point of principle. But it is, no more and no less, what he said he would do.

Political lying was not invented by Mr Johnson in the Brexit campaign, comforting though that idea might be. Indeed, the misleading claims of the Leave campaign sometimes revealed awkward truths. When it pointed out that Turkey was in the long process of joining the EU, for example, Remainers cried foul because

other countries were likely to block its accession. Yet Mr Cameron could have promised to veto Turkish membership of the EU, and did not. Turkey joining the club was a long-standing British policy.

In politics, integrity is almost inevitably followed by hypocrisy. Politicians with firm moral centres can crack. Gordon Brown was feted as a son of the manse while hurling handsets at people's heads. Tony Blair runs an institute dedicated to openness while accepting money from despots. Sir Keir Starmer stood for Labour leader by pitching himself as Mr Corbyn in a suit, and then ditched the leftiest proposals once he had won. Mr Johnson, by contrast, does not even pretend to be a family man, despite having a few of them. He has not pretended to be anything but a power-hungry cynic either. A lack of integrity becomes a form of integrity.

A competent administrator never lurked beneath that mop of thinning hair. Occasionally, a journalist has claimed otherwise in a breathless profile; Mr Johnson has not. Those who work closely with him cannot say they were fooled into thinking he was a loyal boss. His time as prime minister has been marked by the defenestration of aides. When trouble strikes Mr Johnson, deputy heads roll. Being a civil servant rather than a political appointee offers no protection. Those who help him out, for example by chipping in for new curtains in Number 10 to keep his new wife happy, end up enmeshed in scandal.

No one can claim they were not warned about Mr Johnson. He is in no sense a mystery. He is the subject of several biographies and for the past three decades has shared his views about the world in newspaper columns and articles. If he is ever silenced by ministerial responsibility, a high-profile relative can fill the gap with more Johnson trivia. Throughout his career he has left a trail of giggling journalistic colleagues with a cherished Boris story to be whipped out on special occasions, no matter how long ago or dull. The content of his character was known and yet people still saw fit to put him in power.

If voters are souring on Mr Johnson, they only have themselves to blame. The prime minister is not a monarch. In 2019 he won 43.6% of the vote, the biggest share since Margaret Thatcher. Mr Johnson is in Downing Street because just under half the country ticked a box next to a Conservative's name. Voters are adults. They knew what they were voting for, and they voted for what they got.

It is common to blame the rise of Mr Johnson on "Have I Got News For You", a BBC1 news quiz on which he was a frequent guest. Ian Hislop, one of the team captains, has a tart reply: "If we ask someone on and people like them, that is up to people." Mr Johnson is not a boil that can be lanced, at which point Britain's body politic will recover. British politics, its systems and culture, deteriorated to the point where an honest liar proved attractive. Mr Johnson benefited from chaos created by others.

### Small lies, big truths

Those MPs who helped put Mr Johnson in power must now decide whether to sack him for sins he has never hidden. Their choice will be made by calculating whether their voters still want him. Popularity was all that he promised, and he delivered it—until now. If his rise is depressing, his potential fall offers a glimmer of hope. British voters have, at last, begun to grow tired of Mr Johnson's record of honest lies. A less cynical politics may prosper and populism become unpopular. But optimism should be tempered. MPs would not hesitate to keep Mr Johnson if he, in turn, helped them keep their seats. If those who put the prime minister in power bring him down, they do so to absolve themselves. ■



## Microeconomics

## The point of tipping

**Does it make for better service? The evidence is mixed—and attitudes vary widely across the world**

DAVID FRANK started working for tips when he was 11 years old, delighting restaurant diners in New York with his magic tricks. As a teenager he would make an average of \$60-70 in an evening—not bad, but he wanted more. So he started reading research on tipping, and found a study showing that servers who left a sweet at the end of the meal could up their pay. He tried handing punters a playing card at the end of his act, hoping that the memento would persuade them to part with more cash. It worked.

Mr Frank's findings confirmed the notion of the tip as a sort of reward for outstanding service. That may sound straightforward, but a follow-up study with Michael Lynn of Cornell University, where Mr Frank now happens to be a student, found an opportunity for some sleight of hand. They discovered that performing a magic trick at a table also increased the tips for the waiters and waitresses serving there, even though they had done absolutely nothing more than usual. Though tipping may seem like a simple economic transaction, by incentivising people to perform

extra well, it turns out to be anything but.

For a start, economists are puzzled by the fact that so many people give tips, voluntarily handing out cash for a routine service, when it is assumed that customers generally want to pay as little as possible for what they buy. But fuzzier factors also seem to matter, like the feelings of gratitude that Mr Frank inspired. A survey in 2010 by Ofer Azar of Israel's Ben-Gurion University of the Negev found that 85% of American tippers claimed to be following a social norm, while 60% said they tipped to avoid guilt (see chart on next page).

During the pandemic these fuzzy factors appear to have intensified. Mr Lynn observed that people have been tipping more generously even while ordering take-away food, while Sarah Conlisk of the Federal Reserve Board has found that people travelling in richer areas have been tipping their taxi drivers more than before. This, it is reckoned, was in effect doling out danger money, as tipping rates rose along with covid-19 hospitalisation rates; in Trump-voting areas they rose less fast, as perceptions of risk may have been lower.

The presence of a pandemic or of a magician performing at one's table are just two of an array of factors that may affect the size of a tip. A tipper may simply be touched by the server. If a waiter squats down beside you at the table as he or she takes your order, that often elicits a higher tip. Good weather may spur generosity too. Race can be an uglier factor. A study of tips for cab drivers found that black drivers were tipped on average at a rate of 13%, while white drivers got 20%. Another study found that female Uber drivers were tipped 10-12% more than male ones, but not if they were over 65.

Tipping habits vary vastly across the world. In America, where tips added to restaurant meals are around 20% of the tab, some suspect that a history of racial inequality has bolstered the practice. In 1902 John Speed, a journalist, wrote: "Negroes take tips, of course; one expects that of them—it is a token of their inferiority. But to give money to a white man was embarrassing to me."

In many European countries a service charge is included in the bill and customers are not expected to pay much extra but they often round the figure up, leaving a few coins or a modest note on the table, amounting to an extra percentage or two. In some Asian countries, tipping is positively frowned upon. In Japan, for instance, it is viewed as an insulting insinuation that the recipient is akin to a beggar desperate for a handout. A similar attitude prevails in South Korea. In Hong Kong res- ▶▶

▶ Restaurant tips are generally not expected.

In India and Africa, where the gap between the prosperous middle class and the poor is often huge, tips are most certainly expected. Some academics have tried to see whether a stronger tipping culture correlates to measurable psychological traits in different cultural settings. One study across 30 countries suggested that tipping was more common in societies where inequality was rife and where the guilty feelings of the well-off are more acute. In some settings the onus is plainly on the customers to be more generous, thanks to an online ratings system whereby they are judged by the server. For instance in Doha, the Qatari capital, users of ride-hailing apps fear that without providing a cash tip their customer rating will fall, making it harder for them to catch a cab in future.

The most obvious economic justification for tipping is that it encourages the server to perform better. But the logic of the tip as an incentive is far from solid. Most customers in restaurants are not regulars. A one-time customer will not benefit in future by leaving a tip at the end of a meal. But even repeat customers do not seem to use tip rates to reward or to punish the server. Mr Azar says that if they did, their tips would more closely rise or fall according to the quality of service than with more casual diners. But he could find no such evidence. More strikingly, service quality in countries such as Japan and South Korea, where tipping is exceedingly rare, is not noticeably inferior to service in America or Europe.

If tips operated as incentives, one might expect them to be more common in professions where the customer repeatedly interacts with the provider. But that does not seem to be the case either, since a wealth of professions, such as dental hygienists, car mechanics or vets, entirely lack a culture of tipping. In Mr Azar's survey, only 14% of Americans said they tipped to avoid poor service in future.

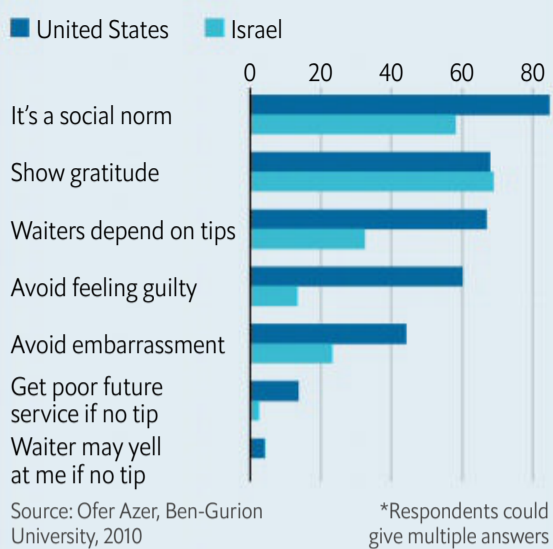
One study finds that quality of service explains a variation of no more than 5% in the size of the tip. In a study of rides using Uber, where only 15% of trips are tipped, the passenger's characteristics proved three times more relevant than those of the driver when explaining the size of the tip.

### A boss's scam?

Tipping quite often benefits the restaurateur or business as much as—sometimes even more than—the recipient of the tip. Having enticed a customer with low upfront prices, a tip is then extracted later—and sometimes doesn't even go entirely to the supposed recipient. Recently online platforms like Twitter, Facebook and YouTube have sought to keep the best talent on their own platforms by letting their star “creators” accept tips, with the company

### Why tip?

Reasons given for largesse, % responding\*



sometimes keeping a slice for itself. Order a coffee or a bagel to take away in Washington or New York, and nowadays the server is quite likely to swivel their tablet around, asking on-screen if you would like to leave a tip. Many find it awkward to refuse.

Tipping also passes a chunk of risk from managers to servers, especially when between 20% and 60% of a waiter's income may be in tips, as is often the case in America. If business is booming, both management and the servers benefit, because tips are more plentiful. When business is slack, servers' incomes fall along with overall revenue. The degree of risk-sharing varies by country. In Britain and Germany, for example, tips do not count towards the minimum wage. But in France and parts of America that have a “tipped minimum wage”, employees in effect lose the first tips they earn to their employer, who can count them as part of the minimum. Another argument in favour of tipping is that customers are better at observing the quality of service than managers are, so they know who should get an extra reward.

Tipping is also a way to avoid tax—to the benefit of both bosses and servers. In Britain the standard “optional” service

charge escapes the 20% value-added tax applied to the rest of the meal. Tips in cash are pretty easy to hide from the taxman. In 2018 America's Internal Revenue Service estimated that around 10% of personal income-tax underreporting was because employees did not report income in tips, though this has become harder as tips are more often put onto credit cards.

So who really benefits? Perception often matters more than reality. As long as servers think their tips will dip if their performance is poor, the management will reckon they have the desired effect. A survey of 1,189 servers found that half said that the quality of their service had a large or very large effect on the size of their tips. Attempts to replace tipping with other ways of pricing can worsen customer ratings. This happened after Carnival Cruise Line, based in Florida, scrapped tipping on their voyages in the early 2000s in favour of a service charge. A study by Mr Lynn and Zachary Brewster of Wayne State University found the same effect in restaurants, particularly in cheaper establishments. They suggested that better wages or better training were more likely to improve service, especially in fancier restaurants.

### Hard to crack

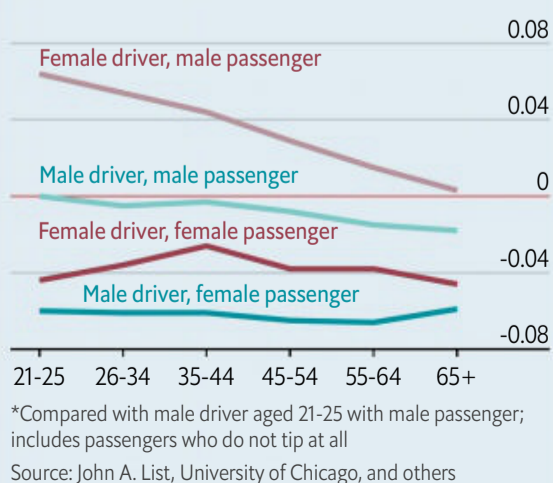
Not that the practice is universally loved. In effect, tipping reserves 20% of a restaurant's revenue for servers who interact with customers. This can frustrate posh restaurateurs in places like Washington and New York, where it is illegal for tips to be shared with kitchen staff, thereby diverting rewards away from them. In 2015 Danny Meyer, chief executive of Union Square Hospitality Group, tried to ditch tipping in his restaurants on these grounds. But after a painful increase in staff turnover, he decided to bring back tipping. Without it he reckoned he could not set attractive prices and keep competitive wages for his waiters. He struggled to manage a system whereby customers felt obliged to say “thank you” merely by voice—but not with their wallets.

Critics say tipping is an unfair practice that leaves workers fawning for favours, confuses customers about the real price they can expect to pay, and encourages tax evasion. Its champions say it is an efficient way to align incentives between bosses and workers, and a healthy way for the customer to express gratitude.

For all its drawbacks, Americans are keenest to retain the practice: in a survey 60% of them said they preferred tipping to a modest service charge. Customers may not be right that tipping improves service. Perhaps they like to feel, as they step out for a meal, that they are in control. And it may comfort servers to think, however erroneously, that if they perform better they will be more handsomely rewarded. ■

### Ride and prejudice

Change in expected tip\* for Uber drivers 2017, by age of driver and sex, \$







### The business of medicine

## Move fast and heal things

As health care turns into a consumer product, a multi-trillion-dollar industry is being disrupted

TECH AND health care have a fraught relationship. On January 3rd Elizabeth Holmes, founder of Theranos, a startup that once epitomised the promise of combining Silicon Valley's dynamism with a stodgy health-care market, was convicted of lying to investors about the capabilities of her firm's blood-testing technology. Yet look beyond Theranos, which began to implode back in 2015, and a much healthier story becomes apparent. This week a horde of entrepreneurs and investors gathered virtually at the annual JPMorgan Chase health-care jamboree. Top of mind was artificial intelligence (AI), digital diagnostics and tele-health—and of a new wave of capital flooding into a vast industry.

Clunky, costly, highly regulated health systems, often dominated by rent-seeking middlemen, are being shaken up by firms that target patients directly, meet them where they are—which is increasingly online—and give them more control over how to access care. Scientific advances in fields such as gene sequencing and AI make new modes of care possible. E-pharmacies fulfil prescriptions, wearable devices monitor wearers' health in real time,

tele-medicine platforms connect patients with physicians, and home tests enable self-diagnosis.

The prize is gigantic. Health care consumes 18% of GDP in America, equivalent to \$3.6trn a year. In other rich countries the share is lower, around 10%, but rising as populations age. The pandemic has made people more comfortable with online services, including digitally mediated care. Venture capitalists detect a sector that is uniquely ripe for disruption. CB Insights, a data provider, estimates that investments in digital-health startups nearly doubled in 2021, to \$57bn (see chart 1 on next page). Unlisted health-care startups valued at \$1bn or more now number 90, four times the figure five years ago. Such "unicorns" are competing with incumbent health-

care companies and technology giants to make people better and prevent them from getting ill in the first place. In the process, they are turning patients into consumers.

Consumer health care has long been synonymous with over-the-counter painkillers, cough syrup, face creams or Band-Aids peddled by big drugmakers. In a recognition that their uninnovative consumer divisions have become a drag, Johnson & Johnson, America's (and the world's) most-valuable pharmaceutical company, and GlaxoSmithKline, a giant British rival, are spinning them off. The hope is that without the cross-subsidy from the more lucrative prescription-drug arms, the rump consumer businesses will spruce up and become more inventive.

Some more adventurous incumbents are already experimenting with digitisation and consumerisation. Teva, an Israeli drug company which dates back to 1901, has developed a digitally enabled inhaler equipped with app-connected sensors that tell users if they are employing it properly.

The second group of companies with new consumer-health ambitions is big tech. After a series of abortive attempts to tiptoe into the health business—as with Google's short-lived platform for personal health data, scrapped in 2011—the technology giants are finally finding their feet. According to CB Insights, Alphabet, Amazon, Apple, Meta (Facebook's new parent company) and Microsoft collectively poured some \$3.6bn into health-related deals last year. They are particularly active in two areas: devices and data.

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Deloitte, a consultancy, reckons that 320m consumer medical wearables will ship globally in 2022 (see chart 2). In 2020 Amazon unveiled its \$100 Halo band. Last year Google acquired Fitbit, which makes a fancier fitness tracker, for \$2.1bn. The latest Apple watch already offers an electrocardiogram (ECG) function and the iPhone-maker plans to throw in blood-oxygen sensors and a thermometer to help women track ovulation. The latest smartwatch from Samsung, Apple's South Korean rival, sports ECG and blood-pressure monitors.

The technology giants are also injecting health-related services into their cloud-based data-crunching offerings. To that end Microsoft paid \$20bn last year for Nuance, an AI firm. Amazon Web Services, the e-emporium's cloud division, has also launched a health-care offering. Oracle, an increasingly cloud-based business-software firm, is finalising an acquisition of Cerner, a health-IT group, for \$28bn.

Then there are the upstarts, which offer products and services of varying degrees of complexity. Some are simple online pharmacies. Truepill, a six-year-old American company valued at \$1.6bn, now fulfils 20,000 prescriptions a day and runs last-mile logistics for a range of consumer-facing health brands. One is Hims & Hers Health, a big American e-pharmacy that went public a year ago via a reverse merger with a special-purpose acquisition company. Another is Nurx, which provides pre-exposure prophylactics for people at risk of HIV. PharmEasy, an Indian online pharmacy, raised \$500m in capital last year.

Telemedicine firms, which offer a wider range of services, have thrived as covid-19 has strained clinics' capacity and put patients off in-person visits. China's WeDoctor, a privately held operator of what it calls "internet hospitals", was last valued at nearly \$7bn. Teladoc, a listed American firm with a market value of \$13bn, reported revenues of \$520m in the third quarter of 2021, up by 80% year on year.

Another, more sophisticated area experiencing rapid growth is at-home diagnos-

tics. The Theranos scandal gave consumer diagnostics a bad name. Now better technology and greater realism about what it can achieve are rehabilitating the field, just as the pandemic has accustomed people to the idea of home testing.

This includes devices to analyse everything from blood sugar to stool samples. Levels Health, a two-year-old American startup, sells app-synced continuous glucose monitors directly to consumers, after seamlessly connecting patients via the internet with prescribing doctors. Its founder, Josh Clemente, was inspired by having to ask a friend to smuggle such a monitor for him from Australia to confirm his hunch that he was, like one-third of Americans, pre-diabetic—in America the devices were available only on prescription to people with uncontrolled diabetes. The startup's waiting list now stretches to 145,000 people. Digbi Health, another American firm, uses faecal matter to analyse its customers' gut microbiome to promote gastrointestinal health. Skin+Me, a British one, saves people a trip to the dermatologist by providing prescription-grade skin care on the basis of selfies. Thriva, also from Britain, analyses blood from finger pricks to shed light on conditions such as high cholesterol and anaemia.

#### Doctors on demand

A big reason why it has taken so long for consumer technology to disrupt health care is that the highly regulated sector does not lend itself to Silicon Valley's "move fast and break things" credo. But recent years have shown that disruption is possible even in rule-bound industries. Hamish Grierson founded Thriva after witnessing a digital shake-up in his old job in payments. Levels Health's Mr Clemente, helped keep astronauts fighting fit at SpaceX, which has prised open the once government-dominated spacefaring business.

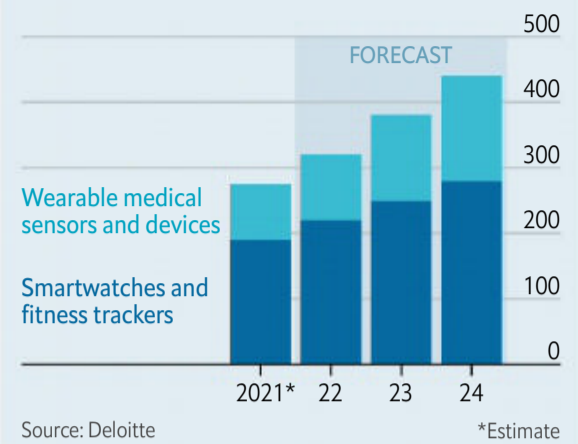
One strategy is to offer "general wellness" products, which evade rigorous scrutiny, and only consult medical professionals for advisory purposes or to convince potential investors that your products are backed by science. Thriva, for example, says its blood tests offer "insights" rather than official diagnoses.

Other companies, especially those with higher-tech offerings, are trading carefully. Manny Montalvo, who oversees "Digi-haler" sales at Teva, insists it is not a consumer product. "This is still medicine and the right medicine has to be selected for the patient," he says categorically. Apple sought clearance from America's Food and Drug Administration (FDA) for its new watch's ECG function.

The regulators, for their part, are trying to move faster themselves. The newly minted FDA chief is a former adviser to Google Health, the tech giant's health ven-

#### Wearing thick

Worldwide health wearables market  
Units shipped, m



ture. The industry hopes that on his watch the agency will finally adopt long-delayed standards for digital-health software. Australia, Japan, Singapore and the EU have set out digital-health strategies in order to create similar standards for determining the quality, safety and clinical value of new health devices. More countries are adopting data-protection rules that ought to make it clearer to entrepreneurs, investors and consumers what data can be shared, with whom and how.

The consumer-health boom has hit snags. Investors who pushed the share prices of online pill-peddlers and digital hospitals up whenever covid-19 spiked have cooled on such firms now that the coronaviral threat has receded somewhat. After exceeding \$30bn at the start of 2021, Teladoc's market value is back where it was before the pandemic hit in early 2020. The prospects of Hims & Hers, whose share price has declined by three-quarters in the past year, may have been additionally dented by Amazon's launch in late 2020 of its e-pharmacy business. China's digital-health companies have been caught up in the Communist Party's broader tech crack-down. WeDoctor has shelved plans for a blockbuster initial public offering in Hong Kong. The Theranos saga offers a cautionary tale of how tricky biology is compared with much computer science.

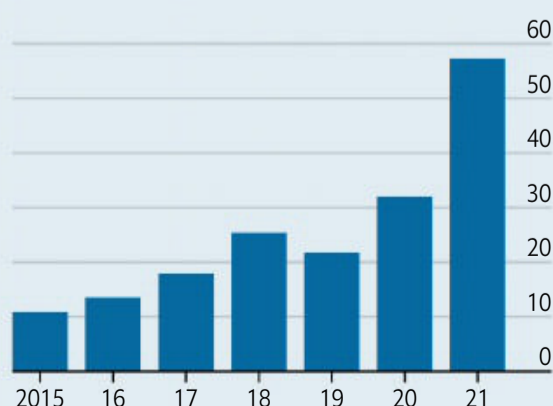
Some products will turn out to be duds, and regulators may yet disrupt the disrupters. Still, as Scott Melville of the Consumer Healthcare Products Association, a trade body, puts it, "There is no going back to the old paternalistic system where you are relying exclusively on a medical professional for your health care." Enterprising companies want to help people recover more quickly or, better yet, avoid getting ill to begin with. That is a negative prognosis for the hospital-industrial complex, which profits from the very sick. For everyone else, it is mostly a positive one. ■

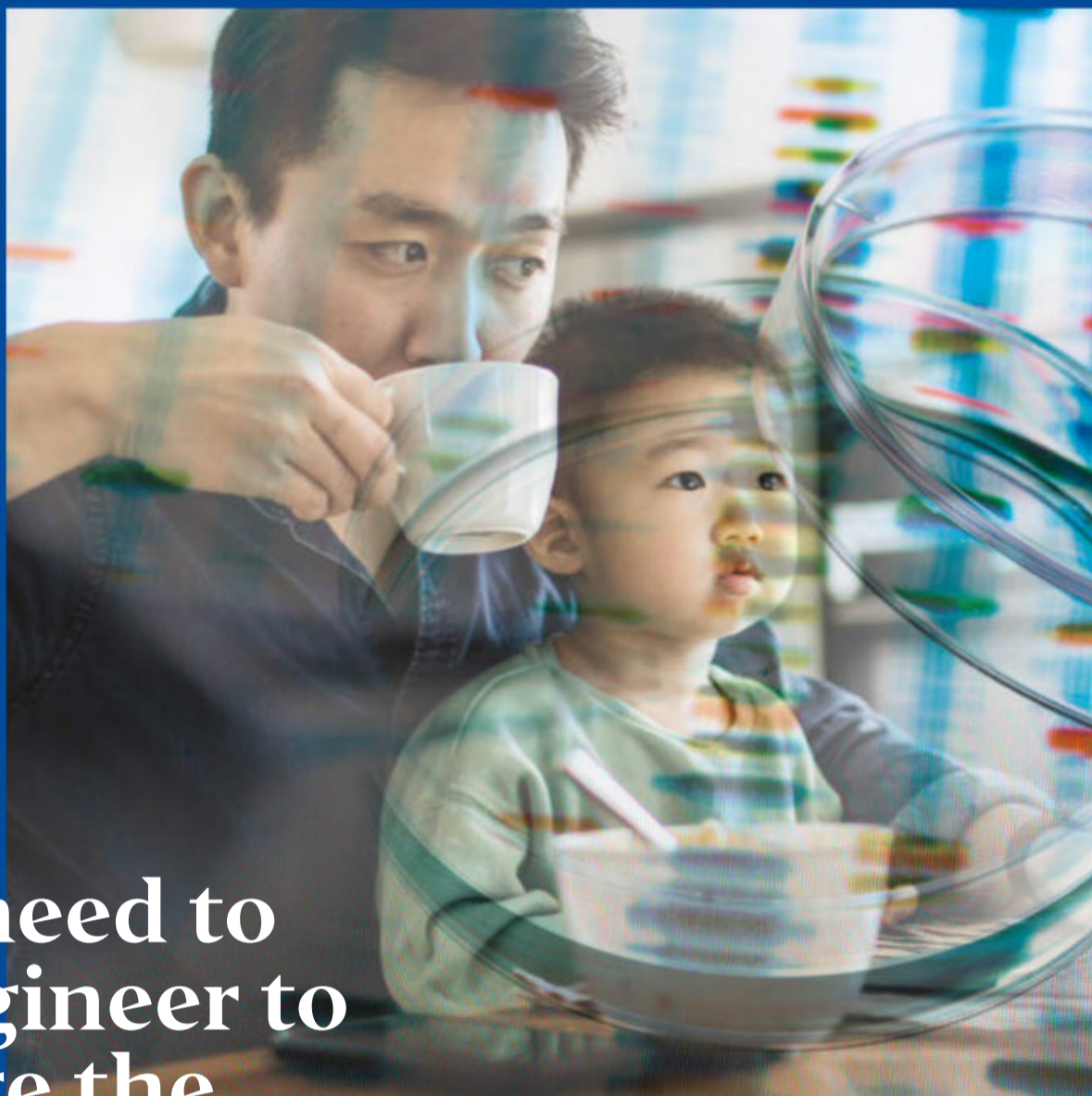


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#### In rude health

Worldwide investments in digital-health startups  
\$bn





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## Business in Germany

## What the Mittelstand wants

BERLIN

### Heartland manufacturers size up the new government

THE BOSSES of Germany's 3.6m medium-sized and small manufacturing firms would have loved to see last year's general election yield a pro-business government of the centre-right Christian Democrats and the liberal Free Democrats (FDP). What the Mittelstand got instead was a pact between the Social Democrats (SPD), the FDP and the Greens. That is still too leftie for many tastes. But it could have been worse. Plenty of chief executives feared that Olaf Scholz, the new SPD chancellor, would row back his pre-election vow not to form a business-bashing coalition that would include *Die Linke*, a hard-left party.

A disaster averted may be one reason why the Mittelstand is not despondent at the start of the new year. Another is that big chunks of the coalition treaty, which runs the length of a slim novel, "go in the right direction", says Hans-Jürgen Völz, chief economist of the BVMW, a Mittelstand trade body. Still, several gripes remain.

One is taxation. During the election campaign the SPD, the Greens and *Die Linke* mooted the idea of re-introducing a wealth tax and raising inheritance taxes. Such a move would hit the Mittelstand's family firms hard. It now appears to be off the table thanks to opposition from the FDP, whose boss, Christian Lindner, is the new finance minister. But so, too, is the prospect of a corporate-tax cut, from a headline rate of 30% to 25%, and the abolition of the personal "solidarity" tax (known as *solidi*), the proceeds from which flow to the formerly communist east.

The Mittelstand's second peeve is red tape. "Bureaucracy is costing German business around €50bn (\$57bn) a year," says Mr Völz. Over the last decade parliament has passed three legislative packages to ease the bureaucratic burden on the Mittelstand. But little real progress has been made. According to Nikolas Stihl, head of the supervisory board of Stihl, the world's leading maker of chainsaws, excessive bureaucracy helps explain why Germany is 30 years late with big infrastructure projects such as the feeder road for the 55km railway tunnel that is being dug beneath the Brenner Pass linking Austria and Italy. "We don't know any more how to implement big projects," sighs Mr Stihl.

Besides these longstanding gripes the Mittelstand has two more pressing ones. As in many countries, German firms struggle to find qualified workers—or any work-

ers. Bosses want Mr Scholz to push the EU to extend the "blue card", a work permit that helps university-educated migrants take up job offers in the bloc, to blue-collar workers. A separate *Chancenkarte* (opportunity card) promised in the coalition treaty would enable migrants to look for work in Germany provided they fulfil criteria such as a working knowledge of German.

The most burning problem for manufacturers is the soaring cost of energy. Many also fret about Germany's dependence on Russian gas. "Even worse than the 70% increase of our company's energy costs is the worry about security of supply," says Ferdinand Munk, owner and boss of Günzburger Steigtechnik, a maker of ladders and rescue kit in Bavaria. He worries that "the gas taps could be turned off at any time." So far Mr Scholz has not signalled how he plans to tackle the energy problem.

At least the Mittelstand's mood is leavened by bursting order books. As demand for goods ballooned in the pandemic, German firms in the manufacturing supply chain have thrived. "We have the highest number of orders in our nearly 100-year history," beams Andreas Möller, a spokesman for Trumpf, a maker of machine tools in the south German city of Ditzingen. A covid-era gardening boom helped lift Stihl's sales from €3.9bn in 2019 to €4.6bn in 2020—and the firm is poised to report record revenues in 2021, too.

More than half of the firms polled by the BVMW in a recent survey reported that they were in good or very good shape. Nearly 45% said they would hire more staff this year. Over 70% will maintain or increase investments. If shortages of workers or energy prevent these pocket powerhouses from fulfilling orders, Mr Scholz may lose much of the remaining goodwill that the Mittelstand still harbours. ■



If only it were so easy with red tape

## The oil industry

## The new great game

HOUSTON

### Why American oil companies are different

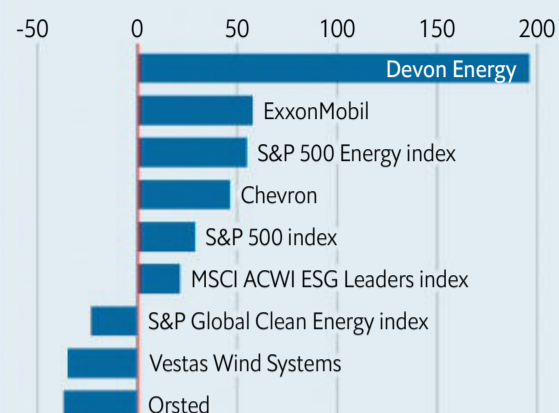
CALLS FOR the oil business to decarbonise are growing louder just about everywhere, and not merely from governments and environmentalists. Moody's, a rating agency, reckons that half of the \$1.8trn of global energy debt that it evaluates is held by asset managers and insurers that face increasing pressure on environmental, social and governance (ESG) fronts, notably the climate. An annual survey of 250 big institutional investors published on January 6th by the Boston Consulting Group (BCG) found that more than four in five think it is important for companies to establish targets for long-term emissions reductions. Nearly as many "feel increased pressure" to apply green filters to their investments.

At the same time, the International Energy Agency, a global forecaster, expects worldwide oil consumption to return to its pre-pandemic level of 100m barrels a day (b/d) in 2022. Even if it rose by no more than 1% per year after that, the natural rate of reservoir depletion means that 12m-17m b/d of new supply must be added in the next five years to meet demand, reckons Alastair Syme of Citigroup, a bank. Investors recognise this. As economies reopened last year after the worst ravages of the pandemic and the oil price recovered—this week it is flirting with a seven-year high of \$85 a barrel—energy became the best performing sector in the S&P 500 index of large American firms, ahead of technology and finance. It left environmentally friendly stock picks in the dust (see chart on next page).

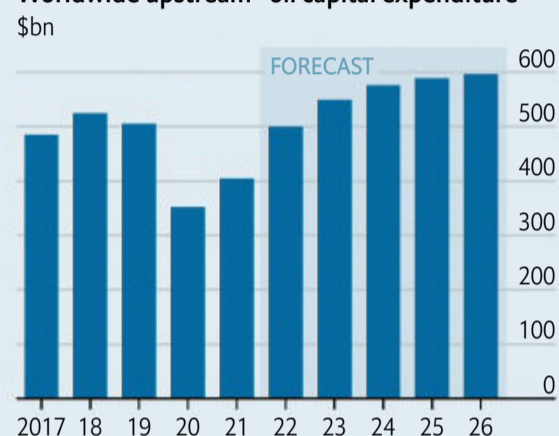
This tension was on display last month at the World Petroleum Congress in Houston, a triennial celebration of hydrocarbons attended by more than 1,000 energy ministers, oil bosses and other industry luminaries. Houston's mayor, Sylvester Turner, kicked off the proceedings by declaring that "as the energy capital of the world, we have a moral obligation to reduce carbon emissions." Shortly afterwards Amin Nasser, chief executive of Saudi Aramco, the world's oil colossus, warned of inflation and social chaos unless countries accept that "oil and gas will play an essential role during the transition." Between visits to booths where oil companies from Aramco to ExxonMobil, an American supermajor, competed to appear lower-carbon than rivals, attendees could be seen wringing their hands about falling capital spend-▶

## Price of the pump

Total returns, 2021, %, \$ terms

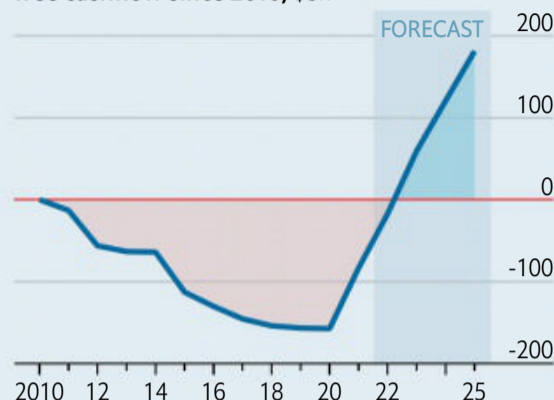


Worldwide upstream\* oil capital expenditure

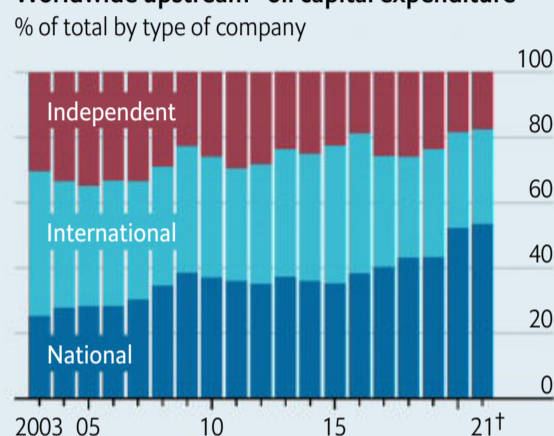


Sources: Refinitiv Datastream; IHS Markit; JPMorgan Chase

United States, shale-oil sector cumulative free cashflow since 2010, \$bn



Worldwide upstream\* oil capital expenditure



\*Exploration and production †Estimate

ing on exploration and production, which declined from around \$500bn globally in 2019 to \$350bn in 2020. Daniel Yergin, a Pulitzer-prizewinning energy wiseman at IHS Markit, a consultancy, warned that “pre-emptive underinvestment” risks hurting the world economy.

### Not in concert

Listen closely, though, and the cacophony reveals the mix of strategies that big oil is pursuing as it looks ahead to the next decade and beyond. The Europeans are increasingly going all in on greenery. The state-controlled giants such as Aramco are biding their time. And the Americans are engaged in a delicate balancing act somewhere in between.

The European firms’ approach represents the sharpest break with the past. They are divesting many oil assets, especially the dirtiest ones, and replacing them with bets on green-power generation. In December Shell, a British giant, completed a \$9.5bn sale of shale fields in America’s rich Permian basin. BP, another British major, and TotalEnergies, a French one, have sold off, respectively, some \$3bn and \$2.3bn in assets since October 2020.

Bernard Looney, BP’s boss, has defended his firm’s shift by insisting that “this isn’t charity, this isn’t altruism.” Perhaps. But nor is it as good a business as pumping oil. IHS Markit estimates that global investments in oil and gas have generated a

median annual operating return on capital of 8.3% since 2010, compared with 5% for renewables. Moreover, green energy is unfamiliar territory for the oil companies, where they face stiff competition from incumbents such as Orsted and Vestas, two European renewables giants. One analyst calls it the “low return, low regret” strategy.

By contrast, the national oil giants’ approach could be summed up as “high returns, no regrets”. The Persian Gulf behemoths, led by Aramco, have the biggest conventional oil reserves and lowest costs. In an ironic twist of geology, Saudi Arabia’s reserves are also among the least carbon-intensive to develop. Largely impervious to pressure from shareholders and environmentalists, their share of global oil investments has risen from around a third in the early 2000s to more than half. According to Bob Brackett of Bernstein, an investment firm, the dilemma for the state-controlled behemoths is how to keep oil prices high without choking off demand.

American oil companies cannot afford to be as patient as the Gulf petro-states. They also reject the European retreat from crude. Their strategy does involve a degree of decarbonisation. But its centrepiece is trying to become ever more efficient at pumping oil while resisting the urge to splurge on new capacity whenever oil prices go up.

The American firms’ decarbonisation drive is different from the European one in

two ways. They are funnelling far less of their future capital spending to low-carbon projects compared with counterparts across the Atlantic. And the lion’s share is not going on ventures that replace hydrocarbons but on limiting or offsetting the companies’ climate impact.

Most of America’s big oil companies have plans to limit leaks of methane, a powerful greenhouse gas, from their pipelines and to produce hydrogen, a promising clean fuel, from natural gas. Exxon-Mobil is spearheading a proposed \$100bn carbon-capture-and-storage consortium. Analysts observe that the shallow-water leases in the Gulf of Mexico that the firm recently acquired do not fit with its oil strategy but are suited to storing carbon dioxide. More ambitiously still, Occidental Petroleum is helping scale up the world’s largest “direct air capture” facility to suck carbon dioxide from the air, whose construction will begin this year in the Permian. “There is no more arguing...climate change is real and we have to address it,” insists Vicki Hollub, Occidental’s boss.

In time, such projects may play a role in cleaning up the climatic mess that the oil industry has had a hand in creating. For now they remain a sideshow and, in the candid words of one American oil boss, “provide cover” for investors who need to genuflect to ESG activists. Indeed, both the shareholders and managers of America’s oil companies have a clear primary objective—to milk the high oil prices without succumbing to capital indiscipline that has often followed spells of pricey crude.

Nowhere is this clearer than among the country’s shale producers. S&P Global Platts, a research firm, points to big improvements in productivity and efficiency in America’s shale patch, which contains some of the world’s cheapest remaining hydrocarbon stores. The time required to get new projects online has shortened dramatically in the past few years. Costs have fallen, too. Many shale producers now generate cash when oil trades at \$40 a barrel, down from a “breakeven” price of \$80 a barrel a decade ago.

### Doing frackin’ great

Shale firms made more money last year with oil at \$70 a barrel than they had when prices surpassed \$100 in 2014. Having burned through \$150bn in cash from 2010 to 2020, they will generate cumulative cashflow of nearly \$200bn between 2010 and 2025, reckons IHS Markit. Devon Energy, a big shale operator, has managed to cut its operating expenses in the Permian by nearly a third since 2018. That, plus roughly \$600m in annual savings from a merger with WPX, a rival, has pushed its breakeven point down to as low as \$30 a barrel, boasts its chief executive, Rick Muncrief.

Mr Muncrief attributes his firm’s spar-▶▶

▶ kling stockmarket performance last year—when its shareholder returns approached 200%—in part to its pioneering use of variable dividends, which promise investors both a traditional fixed payout and a share of free cashflow when oil prices surge. Scott Sheffield, Mr Muncrief's opposite number at Pioneer Natural Resources, a rival company, adds that the growth-at-all-costs mindset that led to several shale crashes in the past has been replaced by "a new investor contract". This puts returning cash to shareholders ahead of debt-fuelled expansion. Moody's calculates that shale

producers' ratio of debt to gross operating profit will fall to 1.8 this year, down from 4.4 in 2020.

It could all still come undone. The oil price may crash. Or the companies may revert to their old undisciplined ways. In a report published on January 11th America's Energy Information Administration forecast that shale production will hit a new record in 2023.

For now, though, the American strategy seems to be working, whether or not it is good for the climate. At the start of the year American oil firms' shares were trading at a

69% valuation premium relative to those of their European peers, according to Bernstein. Companies that focus on finding oil and pumping it from the ground have done especially well. An index of such "upstream" firms compiled by Bloomberg, a data provider, shot up by 86% last year, the biggest annual gain since its creation in 1995 and far outpacing the 55% rise in the oil price. This implies that the soaring share prices do not reflect a temporary windfall. For all their low-carbon talk, in other words, investors are not giving up on oil—and American oil bosses know it. ■

## Bartleby Of remote work and writing

*The written word will flourish in the post-pandemic workplace*

THE PANDEMIC has given a big shove to all forms of digital communication. Video-conferencing platforms have become verbs. Venture capitalists make their bets after watching virtual pitches. Products like Loom and mmhmm help workers send pre-recorded video messages to their colleagues. More than a third of Slack users each week are now "huddling"—using the product's new audio feature to talk to each other. And all this is before the metaverse turns everyone into an avatar.

A workplace dominated by time on screens may seem bound to favour newer, faster and more visual ways of transmitting information. But an old form of communication—writing—is also flourishing. And not just dashed-off emails and entries on virtual whiteboards, but slow, time-intensive writing. The strengths of the written word have not been diminished by the pandemic era. In some ways they are ideally suited to it.\*

The value of writing is a staple in management thinking. "The discipline of writing something down is the first step toward making it happen," reckoned Lee Iacocca, a quotable titan of the American car industry. Jeff Bezos banned slide decks from meetings of senior Amazon executives back in 2004, in favour of well-structured memos. "PowerPoint-style presentations somehow give permission to gloss over ideas," he wrote.

Some executives write for themselves. Andrew Bosworth, a bigwig at Meta (formerly Facebook), has a blog in which he muses interestingly on many topics, including on writing itself: "In my experience, discussion expands the space of possibilities while writing reduces it to its most essential components." Others do so to reach an audience. Shareholder letters from Larry Fink

and Warren Buffett are the corporate equivalent of a blockbuster book launch.

But the move to remote working has enhanced the value of writing to the entire organisation, not just the corner office. When tasks are being handed off to colleagues in other locations, or people are working on a project "asynchronously", meaning at a time of their choosing, comprehensive documentation is crucial. When new employees start work on something, they want the back story. When veterans depart an organisation, they should leave knowledge behind. Writing everything down sounds like an almighty pain. But so is turning up to a meeting and not having the foggiest what was decided last time out.

Software developers have already worked out the value of the written word. A research programme from Google into the ingredients of successful technology projects found that teams with high-quality documentation deliver software faster and more reliably. Gitlab, a code-hosting platform whose workforce is wholly remote, frames the secret of suc-

cessful asynchronous working thus: "How would I deliver this message, present this work, or move this project forward right now if no one else on my team (or in my company) were awake?" Gitlab's answer is "textual communication". Its gospel is a handbook that is publicly available, stretches to more than 3,000 pages and lays out all of its internal processes.

The deliberation and discipline required by writing is helpful in other contexts, too. "Brainwriting" is a brainstorming technique, used by Slack among others, in which participants are given time to put down their ideas before discussion begins. Lists of corporate values can make greeting cards seem hard-hitting. But thoughtful codification of a firm's culture makes more sense in hybrid and remote workplaces, where new joiners have less chance to meet and observe colleagues.

Purists will sniff that none of this counts as writing. But good prose and useful prose share the same essential qualities: brevity, structure, a clear theme. Cormac McCarthy, a prize-winning novelist, copy-edits scientific papers for fun. Ted Chiang says that his science-fiction short stories and his technical writing both draw on a desire to explain an idea clearly.

Writing is not always the best way to communicate in the workplace. Video is more memorable; a phone call is quicker; even PowerPoint has its place. But for the structured thought it demands, and the ease with which it can be shared and edited, the written word is made for remote work.

\* Cynical readers may question a paean to the written word in a publication that sells a fine style guide and runs courses on business writing. They are welcome to write in.



# Schumpeter | Creative seduction

*TikTok is not silly. It is a serious disrupter*



“WHEN YOU gaze into TikTok, TikTok gazes into you,” wrote Eugene Wei, a tech blogger, in 2020, explaining the almost clairvoyant nature of TikTok. What the algorithm sees as it gazes into your column, a neophyte user, is anyone’s guess: a random feed delivers tips on how to design a ball gown, someone barking at a dog, Rod Stewart with a hankie on his head, and (phew!) Maya Angelou reciting “Phenomenal Woman”.

Schumpeter is quite clear, however, about what he sees in TikTok. It is not just the busty seductiveness of many of the clips that he cannot help noticing. It is the serious money changing hands. And the unmistakable thrill of creative destruction.

About time. Just five years after its birth, TikTok claims to have exceeded 1bn monthly users, despite a ban in India. On January 12th App Annie, a data gatherer, said TikTok caught up with Facebook in 2021 and overtook WhatsApp and Instagram in time users spent on it. Notwithstanding a judge’s decision on January 11th to allow America’s Federal Trade Commission to sue Meta, the social-media trio’s parent company, on antitrust grounds, TikTok’s success appears to mock the argument that Facebook is impregnable.

TikTok derives its magic from its algorithm and the data on which it is trained. Unlike Facebook’s rolling feed, TikTok’s simple, one-video interface means that the app always knows exactly what a user is watching. Clips are short, so viewers see a lot of them, generating plenty of information. This, combined with few friends and family clogging up the feed, allows the algorithm to match users with content creators that actually entertain them. And because videos are mostly shot on a smartphone, anyone can make them. Barriers to entry are low. Virality is high.

A big question remains. Can TikTok win business as well as it woos eyeballs? Its provenance has long suggested it can. It is born out of ByteDance, a privately held Chinese powerhouse that some think generated more than \$40bn in revenues in 2021. Its sister app, Douyin, has thrived in China’s hyper-competitive social-media market, which makes Silicon Valley look staid by comparison. That gives TikTok hands-on commercial experience to draw on.

So far its revenues, though growing fast, are reportedly low (it discloses no financial information). That is unsurprising. Donald Trump’s abortive attempt in 2020 to ban it on national-security

grounds scared away advertisers. The ensuing drama—a thwarted sale, management upheaval and uncertainty over its relationship with ByteDance—caused yet more disarray. But these hurdles now appear to be behind it. In the absence of further geopolitical turmoil, TikTok could shake up the business model of social media in America, not just the user experience.

There are several ways it could do so. Start with advertising. Google and Facebook pioneered the pay-per-click approach. TikTok is transforming it further, inviting brands to work with creators to make potentially viral content, such as skateboarders swigging Ocean Spray juice to the sound of Fleetwood Mac. Sometimes a brand’s presence might only be visible via a hashtag.

Second, e-commerce. Like other American social-media platforms, TikTok now enables viewers to buy goods directly by tapping a shopping tab on a video. It has teamed up with Shopify, an e-commerce platform, to bring more merchants to the site. So-called social commerce—including via live streaming—is far bigger in China than in America. Jeremy Yang of Harvard Business School says TikTok may build on Douyin’s experience in this field to bolster its online-shopping business.

Third, the creator economy. It is not just that, according to *Forbes* magazine, TikTok’s seven highest-paid stars earned a total of \$55.5m from work on and off the platform last year, triple the sum it counted in 2020. TikTok has also recently introduced ways for users to provide gifts and tips to favoured creators, boosting the incentive to produce fresh material and providing fees to TikTok. Such practices first took off in China.

None of these innovations will amount to much if TikTok has another near-death experience. That is why it appears to be putting a final piece of its commercial strategy into place: balancing the demands of America and China. It has appointed Shou Zi Chew, a Singaporean of Chinese ethnicity, as CEO. He is based in the city-state, which serves as neutral territory. He is comfortable on both sides of the Sino-American divide, having been educated in the West and served as chief financial officer of ByteDance and Xiaomi, a Chinese smartphone-maker. It is still an open question whether he can—or even should—further disentangle TikTok from ByteDance to curb the perception that China could make nefarious use of TikTok’s data. To do so may help geopolitically. But cutting TikTok off from an army of Chinese software engineers could also jeopardise its mind-reading brilliance.

TikTok faces plenty of other challenges. It needs to invest heavily in content moderation to ensure toxic videos are removed before they go viral. Addiction is a palpable concern, not just as a meme—#tiktokaddict has more than 500m views. The app faces probes about data privacy, particularly of under-age users. Regulatory risk will rise as TikTok becomes more prominent.

One thing TikTok need not fear is being crushed by the big beasts of Silicon Valley (at least without help from Uncle Sam). Instagram has sought to mirror TikTok with “Reels”, and YouTube, owned by Google’s parent company, Alphabet, has introduced “Shorts”. Neither has damaged TikTok’s popularity.

## #LessonforChina

That is a good thing. TikTok is on the vanguard of ideas pioneered in China’s video-mad social-media landscape that have taken years to permeate America. At a time when the Chinese Communist Party is arbitrarily cracking down on the consumer-tech industry it is especially gratifying to witness Chinese free enterprise and ingenuity grab the world’s attention. ■

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## Capital flows

# Super savers

HONG KONG

**As vast private savings have built up in Asia, financiers in the region now have a global reach of \$28trn**

THE COUNTRIES of East and South-East Asia are renowned, even envied, for reshaping global supply chains. Less well appreciated is the extent to which they have redrawn the map of global capital flows. After a buying spree over the past decade or so, the region's ten biggest economies now hold nearly \$28trn in foreign financial assets, more than three times the amount in 2005 and equivalent to a fifth of global assets held by foreigners. Once-staid institutions that are little-known in the West—from obscure Japanese banks and Taiwanese insurers to South Korean pension funds—now wield heft in markets for assets ranging from collateralised-loan obligations (CLOs) in America to high-speed rail lines in Britain.

East Asia has long been recognised as a contributor to the global “saving glut”, a concept popularised by Ben Bernanke, then a governor at the Federal Reserve, in 2005. The scale of Asia's foreign holdings has only grown since, as the region has become richer and older. *The Economist* has looked at figures for the foreign financial assets of ten East and South-East Asian

economies. We define these as total gross foreign assets excluding foreign direct investment by multinationals; our measure captures investment portfolios and bank lending, among other things. The combined foreign financial assets of our ten countries rose from around \$8trn in 2005 to nearly \$28trn in 2020, increasing the region's share in global foreign-held financial assets by five percentage points (see chart 1 on next page).

The composition of Asia's savings hoard has also changed, strikingly so in some places. When Mr Bernanke conducted his analysis, foreign-exchange reserves held by governments and central banks in our set of ten economies accounted for about half of a country's foreign financial assets, on average. These had been stockpiled after the Asian financial crisis of 1997-98 as a bulwark against future currency collapse, and were held in safe, liquid assets. Now the average share of reserves has fallen to nearer a third. The rest of the stockpile is made up of portfolio and other financial flows, which have exploded as institutional investors in the region

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have hunted for yield overseas.

The shift is drawing the attention of financial watchdogs. In December the Bank for International Settlements (BIS), a club of central banks, concluded that Asian institutional investors had contributed to dollar funding stress in March 2020, as covid-19 first began to spread and markets panicked. Yet much about these financial interlinkages, and the risks associated with them, is still poorly understood.

Our sample of countries can be split into three camps. The wealthiest handful—Hong Kong, Japan and Singapore—hold significant foreign-exchange reserves, but their hoards of other financial assets are between five and eight times larger. Their holdings are now mature, and slower-growing by regional standards.

A bigger shift has taken place in South Korea and Taiwan (see chart 2 on next page). In 2005 almost half of Taiwan's foreign financial assets, and two-thirds of South Korea's, took the form of reserves. Although reserves have since more than doubled for both countries, portfolio and other assets have expanded at a far more rapid clip. South Korea and Taiwan now own \$1.5trn and \$2.1trn in foreign financial assets, respectively, less than a third of which is held in reserves. In Malaysia, too, non-reserve financial assets now outweigh reserves two-to-one. By contrast, for a third set of countries, which includes China, Indonesia, the Philippines and Thailand, reserves still retain a large share.

The growth in foreign financial hold-▶▶

**Foreign affairs**

East and South-East Asia\*, foreign financial assets†



ings has gone hand-in-hand with the transformation of conservative institutional investors into big players in distant corners of financial markets. A prime example is Norinchukin Bank, an agricultural co-operative in Japan. It holds some ¥4.8trn (\$42bn) in CLOS (securities made up of portfolios of loans) most of which are denominated in dollars. Before it slowed purchases in 2019, it was widely considered the largest buyer of CLOS in America.

**Stepping outside**

Taiwan's insurers, such as Cathay Life Insurance and Fubon Life Insurance, have become influential institutions in a number of international markets. Their total assets have nearly tripled over the past decade. And more of them are now held overseas. By the end of 2020 almost 60% of their assets comprised foreign investments, up from 30% in 2010.

Such institutional investment is now so widespread that Formosa bonds, foreign-currency bonds issued in Taiwan by a range of global firms and governments, have taken off since the securities were designated as domestic rather than foreign debt, allowing insurers to skirt regulatory limits on foreign-security ownership. By the end of 2021 the outstanding value of dollar Formosa bonds alone was \$195bn, compared with \$84bn six years earlier.

South Korea's National Pension Service has also sought more overseas exposure, announcing a flurry of global ventures.

Foreign assets made up 37% of the pension fund last year, nearly double the share in 2013, and the firm aims to increase that to 50% by 2024. The strategy is to chase returns not only abroad but also in less liquid asset classes, before the fund's benefit payouts start to increase in the early 2040s.

Malaysia's Employees Provident Fund (EPF), which manages mandatory pension investments for the country's private-sector employees, provides another illustration of Asian institutions' foreign reach. Last year it launched what it called the world's largest sharia private-equity fund, with BlackRock, HarbourVest Partners and Partners Group each managing a third of the allotted \$600m. The EPF's foreign assets have also climbed, from 29% of the total in mid-2017 to 37% in mid-2021.

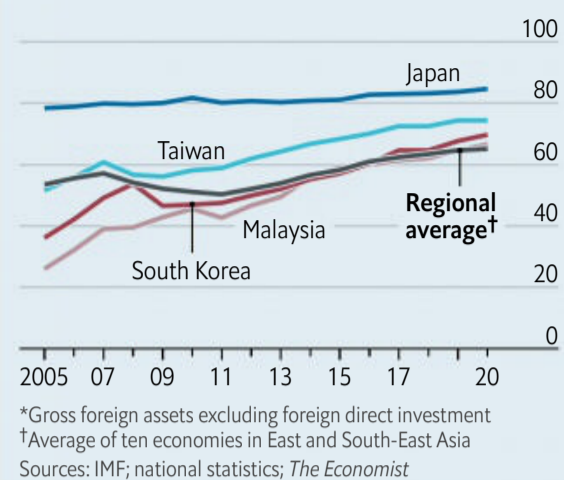
The result of all this activity is that Asian institutional investors have become enormous swing buyers in certain markets. "They're disproportionately large in Australia," says Martin Whetton of Commonwealth Bank of Australia. The country is the third-largest location of assets for Japanese life insurers, he says, and tends to make up about 10-15% of their portfolios. Mr Whetton points out that purchases of Australian dollar assets in North Asia are large enough to shift the country's cross-currency basis (the premium that traders pay to temporarily exchange other currencies for Australia's).

Some institutions have made promises of guaranteed payouts to clients and, as interest rates have sunk to rock-bottom levels, have had little option but to hunt for yield in less highly rated or more illiquid asset classes. Industry insiders note that insurers in the region have moved increasingly into emerging-market debt and higher-yielding Asian bonds. Private, illiquid assets have also become more popular. Asian investors have long been drawn to private equity and property, says Anish Butani of bfinance, an investment consultancy. Now "we're really seeing a surge of activity in infrastructure and private debt".

To observers such as the BIS and the IMF, all this signifies greater financial risks than when more holdings took the form of safe, highly liquid reserve assets. Cross-border financial flows can be volatile and flighty, transmitting stress from one part of the world to another, and posing risks both to the buyers and the markets in which they participate. Although many institutions must pay clients in their domestic currencies, few appear to hedge their entire foreign-currency exposure. Private assets are harder to sell quickly at reliable prices, potentially posing liquidity problems should investors need to pull out. Precise, coherent figures on the composition, riskiness and liquidity of holdings are still hard to get hold of, making it difficult to gauge the overall picture.

**Risk shifts**

Foreign financial assets\*, private as % of total



Understanding what's going on could become more important still, if China eventually follows the path of East Asian economies. At present its reserves of more than \$3trn dwarf its other financial holdings. A shifting composition of foreign assets is not a matter of destiny, and would require some loosening of China's capital controls. But even a marginal move towards more portfolio investment could produce huge flows of capital. "Chinese insurers have a lot of interest in investing overseas," says Rick Wei of JPMorgan Asset Management. "They want to diversify their holdings, increase returns and match their liabilities with longer-term assets." Even after more than a decade of rampant growth in Asia's private foreign holdings, more may be yet to come. ■

**Uranium****Atom and abroad****The Kazakh crisis sends a warning shot to buyers of nuclear fuel**

KAZAKHSTAN IS OFTEN called the Saudi Arabia of uranium. In fact its market share, at more than 40% of the world's nuclear fuel, is not far off the share in the oil market of the Organisation of the Petroleum Exporting Countries and Russia combined. So when unrest, followed by harsh repression, shook the country early this month, buyers of the metal shuddered. Spot uranium prices jumped by 8% on January 5th alone, to \$45 per pound, according to UXC, a data provider. With protests now quashed, the market has settled. Nevertheless, the commodity, which is often dubbed "yellowcake", seems set for a turbulent decade.

The immediate impact of the Kazakh turmoil may be limited. Although the protests happened far away from uranium-pro-▶▶

▶ ducing regions, a small drop in global output is nevertheless likely. To extract uranium, Kazakhstan uses a method that involves pumping acid into the ground to dissolve the ore, recovering the solution and then using chemicals to separate out the metal. Disruptions to the shipping of compounds and equipment, because of stranded trains or communication problems, may have slowed operations.

Any shortfall may not matter much for now. Big buyers of uranium, such as China and France, which are heavy users of nuclear fuel, have several years' worth of inventories. The most exposed utilities could borrow from foreign peers in case of immediate shortages, reckons Toktar Turbay of CRU, a consultancy. Most of them buy nuclear fuel using long-term contracts that largely insulate them from short-term jumps in the spot price. All of this creates a buffer against a squeeze.

Still, the events in Kazakhstan, which for decades was the world's most stable uranium supplier, may eventually jolt buyers into guarding against the risk of relying too much on a single source. A day may come when the Kazakh government falls or state assets come under attack (Kazatomprom, the country's sole uranium producer, is 75% owned by a sovereign fund). Some consumers are therefore looking to diversify their sources of supply. As Kazakhstan is the lowest-cost producer by far, that will mean paying a premium.

A rise in overall demand could lift prices further. From Belarus to Bangladesh, many emerging markets are going nuclear to help them decarbonise. China is planning 150 new reactors in the next 15 years. Even in the West, which has long been ambivalent towards nuclear energy, attitudes could change. The European Commission plans to class nuclear as green in its "taxonomy" for investors, which could direct funds towards new projects. NuScale, the first firm seeking to commercialise small, modular reactors to be approved by American regulators, is preparing to go public (via a merger with a special-purpose acquisition company).

Beyond the near term, supply may not be able to rise quickly enough to satisfy greater appetite for the metal, supporting prices further. New mines are planned in Africa and the Americas, but they require a price of at least \$50-60 per pound of uranium to be profitable. If a rise in demand of 2% a year between now and 2030—a conservative estimate—is to be satisfied, then all of those projects will need to be up and running, says Tim Bergin of Calderwood Capital, a hedge fund. That may not be realistic. One such mine, in Canada, is under a lake; another involves freezing the ground up to 400 metres below the surface. The price of fissile fuel may become increasingly flammable. ■



### America's consumers

## Life after stimmy

WASHINGTON, DC

### Will households' pandemic savings stash keep the economy rolling?

AMERICA'S FISCAL largesse during the pandemic has fuelled not just economic growth but also a lively hip-hop niche. Over the past two years musicians have released no fewer than 30 different songs referring to the government's stimulus cheques, known as stimmys. "Yeah, check, I need a stimmy. s-t-i-double m-y, tell 'em gimme," raps Curtis Roach in one snappy track. The video seems to confirm the worst fears about how the money was spent. Mr Roach (pictured above) fans himself with dollar bills and sprays them about at parties. But a closer listen reveals a conservative streak that would do fusty financial planners proud. "Generational wealth, that's where it's at...save a lil' bit for the rainy days on yo' back, never slack."

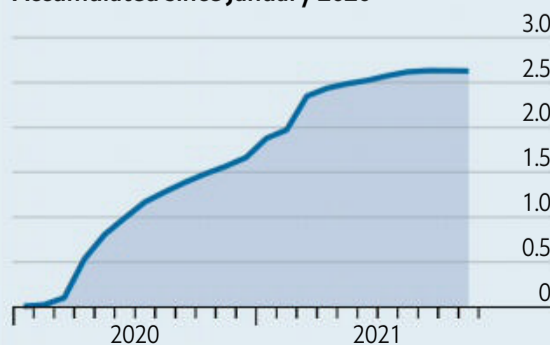
The question of how Americans spent and, crucially, saved money over the past two years looms large over the economy today. In spring 2020, when millions lost their jobs overnight, a reasonable assumption was that personal finances would suffer. Instead, government handouts, from the stimmys to more generous unemployment benefits, propped up incomes. Moreover, as people stayed home, their spending fell well below normal levels.

The result was a piggy-bank boom. Americans have accumulated some \$2.5trn in extra savings compared with the pre-covid trend (see chart 1). Higher-than-expected incomes account for two-thirds of the stockpile, while lower-than-expected expenditures explain the other third, ▶▶

### Saving grace

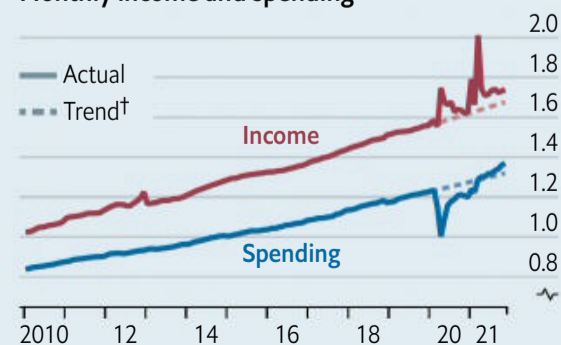
United States, excess savings\*, \$trn

Accumulated since January 2020



Sources: Bureau of Economic Analysis; Federal Reserve; *The Economist*

### Monthly income and spending



\*Gap between actual and expected savings (based on 2015-19 trend)  
†Extrapolation of average pace during 2015-19

▶ according to calculations by *The Economist*.

This stash of cash could, in theory, provide a pillar for the economy over the coming year as policymakers withdraw support. With annual consumer-price inflation running at a four-decade high—it hit 7% in December—the Federal Reserve has signalled that it intends to raise interest rates soon. Some economists expect as many as four rate increases this year. Fiscal policies are also becoming more parsimonious. Many of the benefit top-ups expired in the autumn. The Democratic Party's inability thus far to pass President Joe Biden's "Build Back Better" programme will lead to further retrenchment.

Will the extra savings blunt the impact of all this policy tightening? There are reasons to be sceptical. Were the \$2.5trn shared equally across the country, it would amount to about \$7,500 for every American—more than the combined total of the three rounds of stimulus cheques. In practice the distribution is far from equal. In the decade before covid-19 the wealthiest 1% of Americans had, in aggregate, about twice as much in cash and chequable bank deposits as the bottom 50%. The pandemic has skewed this further: the top 1% now has four times as much as the bottom half. Although the government directed its assistance towards poorer Americans, the ultra-rich reaped far greater rewards, thanks in large part to soaring asset prices.

That matters in trying to assess the potential impact of excess savings. The wealthy typically spend a low share of their incomes. The extra cash sitting in their hands is more likely to go towards investment accounts than grocery purchases.

Another dampener may be the nature of the economic recovery. In a paper last year Martin Beraja and Christian Wolf of the Massachusetts Institute of Technology showed that recoveries from recessions where falls in spending are concentrated on goods tend to be stronger than those with cuts concentrated on services. Pent-up demand for, say, smartphones can be released in a flood. By contrast, demand for

beach holidays returns more slowly: vacationers can only be in one place at a time. This suggests that as the pandemic fades, the flow of savings into services such as travel and entertainment may be sluggish.

A final concern is high inflation. That eats into both wealth and incomes. Adjusted for rising prices, wage growth in America has turned sharply negative over the past half-year. Similarly, the real value of savings looks a bit less impressive given the reduction in purchasing power.

The story does not end there, though. Surveys by the Fed's New York branch indicate that stimulus recipients saved about one-third of the cash and used another third to pay down debts. That helps explain why households' balance-sheets are healthier today than before the pandemic, regardless of their level of income (see chart 2). They thus have scope to borrow and spend more.

This may already be happening. Consumer borrowing soared in November by \$40bn, the most on record, as credit-card usage soared. Some observers saw that as a sign that households were strapped for cash. Alex Lin of Bank of America disagrees. "An increase in credit-card spending can be a function of greater re-engagement in the economy," he says. "Americans like to use their credit cards to rack up points for travel or restaurants, and that is not necessarily a sign of danger."

The damage from inflation may also prove tolerable, especially if the Fed's tightening, plus supply-chain improvements, brings prices back under control. Wage growth has been stronger for those on lower incomes, the group most vulnerable to a reduction in real spending power. In November annual nominal wage growth for the bottom quartile of earners reached 5.1%, versus 2.7% for the top quartile, according to the Atlanta Fed.

As a whole, Americans saved about 6.9% of their incomes in November, less than the 7.4% average in the five years before the pandemic. Yet this is exactly what should be seen if some people are dipping into their excess savings. It is also a key reason why most forecasters think the economy will grow by about 4% this year, a robust pace in the face of headwinds.

And that barely grapples with the changes that the extra cash enabled for many recipients. In another hip-hop track, Renéé the Entertainer sings of a woman who splurged on a buttock-augmentation procedure: "She spent the stimmy/on the booty/in Miami." Renéé, whose real name is Mariah Pizarro, in fact put her money to what is arguably a more productive use. "I used them to get a more reliable vehicle," she says. Although Ms Pizarro dreams of a music career, the car has for now facilitated a less glamorous occupation. It lets her drive to work at an Amazon warehouse. ■



Pensions in Germany

## Aversion therapy

The new government hopes to cure Germans' distaste for the stockmarket

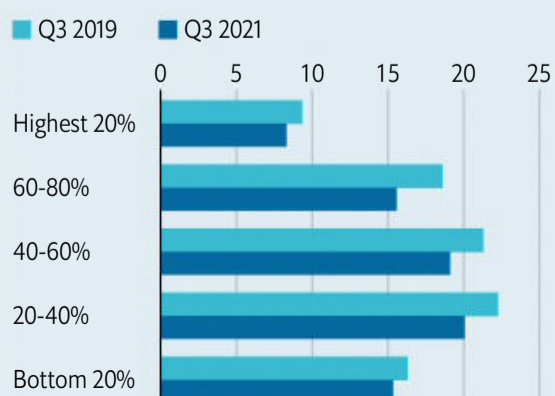
THE 177-PAGE coalition agreement between Germany's Social Democrats, Free Democrats (FDP) and the Greens contains grand plans to combat climate change and covid-19, and to speed up digitisation. Tucked away on page 73 is a more modest promise, to fund a small part of its public-pension scheme by investing in stocks. Reactions in Germany ranged from the apprehensive to the enraged. "Is our pension safe in stock?" fretted one news outlet. Another asked: "Are politicians gambling away our pension?"

As retirees live longer, Germany's pension system, which was established in 1889 by Otto von Bismarck, is buckling. Workers and bosses together pay a "pension tax" of about 18% of a worker's gross wage. This is meant to fund the roughly €300bn (\$340bn, or about 9% of GDP) paid out in pensions each year. But shortfalls have meant that the government has had to subsidise the scheme, to the tune of €100bn last year. The problem is only set to get worse as more baby-boomers retire.

In order to help fix the problem, the liberal FDP has long supported a plan to reshape the pension scheme along Swedish lines. Sweden's system consists of a standard pension, to which taxpayers contribute 16% of their gross income, and a supplemental "premium" pension, through which 2.5% of each taxpayer's income is placed into a stock fund of their choosing. Should the taxpayer decide against active investment, the money is deposited in

### Paying one's debts

United States, liabilities as % of assets  
By income group



Source: Federal Reserve

►stead in a state fund, which since 2003 has made an annual return of 9.9%.

The plan outlined in Germany's coalition deal is far more modest. The government will funnel €10bn from its annual budget into a publicly managed pension fund, which will be invested in the stockmarket, and which may generate attractive returns. The principal itself accounts for only about ten days of pension payments, says Martin Werding of the Ruhr University Bochum, who conducted a feasibility study of the FDP's proposal ahead of the election. But the party hopes it may only be

a first step towards a "stock-and-bond covered pension system".

The reaction to the government's plan tells you much about Germans' attitudes to capital markets. Studies indicate that they are "market-shy" and tend to overestimate the risks from investing. Only around a quarter of households own stocks. By contrast, more than half of all American households do so, much of it in the form of 401(k) retirement plans. This could in part reflect differences between the two countries' tax systems. Germany imposes a higher tax rate—of 25%—on long-term

capital gains, for instance.

Then there are Germany's scars from the dotcom era. In 1996 Deutsche Telekom listed on the stockmarket. Germans headed to the market in droves; about 650,000 of the buyers of the newly issued stock were first-time punters. The share price soared seven-fold before crashing spectacularly in the early 2000s. The effects still linger. Those who held Deutsche Telekom shares or who might remember the crash are less likely to hold stocks even today, as are their children, suggests research published last year by the German Institute for ►►

## Buttonwood Sexagenarians and the City

*A fictional broker on the faster metabolism of finance*

A FEW YEARS ago a stranger sidled up to me at a conference. I had been introduced as an equity salesman with over 30 years of experience. "Success or failure?" he asked impishly. I laughed. When I started in stockbroking, anyone older than 50 carried an air of defeat. If they hadn't made enough money to retire early, they were seen as losers. Well, I'm still here and I'm not the only one. There is a lot more grey hair on the sales desks these days.

That is not the only change. Trading revenue is slimmer, because of regulation and new technology. The way sell-side analysts and salespeople are paid has changed. But the biggest difference is in the kinds of conversation I have and who I have them with. Twenty years ago, I hardly spoke to the fast-money crowd. Now most of my day is taken up with them. Share prices are set at the margin. And the marginal buyer and seller is a hedge-fund manager.

Hedge funds are behind much of the recent market drama. The minutes of the Federal Reserve's rate-setting meeting last week were a trigger. The immediate prospect of tighter monetary policy spurred hedge funds to sell expensive "growth" shares, notably those of technology companies, the profits of which are expected to last long into the future. Those distant earnings must now be discounted at a higher rate. So tech shares fell. At the same time, a lot of the funds bought cheap "value" stocks.

I specialise in a sector that is seeing selling pressure. But most of my hedge-fund clients trade at a more granular level. They want to bet on the most resilient stocks on my patch and against those that will falter. What matters to such "long-short" traders is that their longs do better than their shorts. Their

investment horizon is days and weeks, not months and years. There are lots of these hedge funds trading lots of stocks. That is why beneath the surface, the stockmarket is so noisy.

Clients want to talk to me. I know my industry well. I have a good team of analysts behind me that is in regular contact with companies. And I talk to a lot of other investors. Everyone has the same hard data—the stock price, the financial statements, the consensus forecasts for earnings and the firm's "guidance" around those numbers. But the hedge funds are trying to anticipate short-term shifts. They come to me for soft data.

I get asked all sorts of questions. How confident does the finance director of firm X seem about making the numbers? How steely are the investors in the stock—are they committed holders or would they dump it on bad news? Is anyone thinking of buying burnt-out stock Y? Would firm X be open to acquiring firm Y or is it still digesting its latest purchase? No one asks about valuation anymore. When I hear a hedge-fund manager say a stock is cheap

or dear, alarm bells ring. He is usually trying to "reverse-broke" me, ie, influence the market by swaying me.

The buy-side used to reward us with fat commissions. Now the biggest brokers allow clients to use their systems to trade directly on the stock exchange at very low cost. Regulators insist that the buy-side pays directly for our advice. These clients agree to pay a fixed sum every year. My performance is measured by "interactions": the phone calls I make, the meetings I arrange and the requests I respond to. The hedge funds are especially hungry for information. So they pay well.

The buy-side was once a gentler place. Before passive investing put pressure on fees and performance, a dolt could make money in fund management. If you got the dolt drunk regularly, he would allocate you some commission. I still talk to clients whose investment horizon is five years and not five days. But the conversations are more serious. Boozy lunches have been regulated away. No one has the time for them anyway. The sell-side trader is a marker of cultural change. The old-school version was a red-faced bruiser called Fat Matt or Cardiac Kev. The new model is a triathlete.

Improved health might explain why there are more near-sexagenarians like me around. It's mainly a cohort effect, though. The City grew quickly in the 1990s. Anyone who read "Liar's Poker" figured they'd get rich in sales. But the broking of listed stocks has since lost its mystique. Finance graduates now opt for jobs in private equity—or at hedge funds. My generation has stuck around. Success or failure? I've survived several rounds of cuts. I have a job that I enjoy. I am still pretty well-paid. I think that counts as success, don't you?



► Economic Research (DIW), a think-tank in Berlin. Even by 2020 the number of Germans investing in the stockmarket was still a shade below its 2001 level.

The FDP hopes that the planned changes to the pension scheme might increase Germans' familiarity with stock investing. "The Swedes really aren't known as turbo-capitalistic stock gamblers," jokes Johannes Vogel, the party's expert on pension politics. The coalition government also aims to make it easier for people to save for retirement outside their state pension. The tax-free personal allowance on capital

gains will rise from €800 to €1,000 a year in 2023, and the coalition hopes to launch an inquiry into the creation of a Swedish-style public-investment fund.

These changes alone might do little to put the pension system on a sustainable footing and make pensioners better off. That, says Marcel Fratzscher of the DIW, would require a change to the state retirement age, as well as labour-market reforms. Nonetheless, he reckons, the plans provide a "glimmer of hope" that the government realises, at least, that the system needs reform. ■

tionalised, in order to prevent spillovers to the rest of the financial system.

Regulators have become more stringent over time. Many high-margin investment products have been banned. And investments made by the companies are closely monitored. As soon as new products prove popular and profitable, regulators often step in to make sure they become less so.

That is starting to make the job of providing insurance harder to do. Products that cover accidents, for example, were until recently a booming corner of the industry. This came to a halt when new rules required insurers either to raise their loss ratios (claims as a share of premiums earned) or lower their premiums. Vehicle and health insurance have also faced more red tape and have seen a rapid decline in premiums, too. Insurers now find it increasingly difficult to plan for the long term because "the rules of the game change almost every year," says Sam Radwan of Enhance International, a consultancy.

There have been knock-on effects. Chinese insurers rely heavily on vast armies of agents to sell products. By 2018 China Life had amassed more than 2m agents, about the same number as active personnel in the military. Cheap labour and ever-fatter premiums made the industry incredibly profitable. In 2019 the profits of Ping An, the world's largest insurer by market value, surged by about 40% in a single year.

Since then, however, agents have become hard to hire and retain. Tighter rules and shrinking premiums have made the job less lucrative for salespeople, who rely on commissions. The pandemic has discouraged in-person meetings and has made it harder to make sales. At the same time, as premiums have become compressed, big insurers have sought to sell higher-value products to wealthier people. This requires skilled agents with a knack for working with rich clients—something few companies have in great numbers, says Li Jian at Huatai Securities, a broker.

The impact has been devastating. China Life has shed more than 1m agents since the start of 2018, with nearly half the exodus taking place in 2020. About 700,000 agents left Ping An between 2019 and September 2021. Overall, about 30% of salespeople have departed from the industry over the past three years.

All this has turned a booming industry into a backwater. China Life's value of new business, a gauge of profitability, fell by 19.6% in the first nine months of 2021, compared with the same period in 2020. Net profits were about 55% lower in the third quarter of 2021 than they were a year earlier. Ping An has reported similarly gloomy results. The investigation into Mr Wang has industry executives asking who might be next. But that is probably not the only thing keeping them up at night. ■



## Insurance in China

# Taming tigers

HONG KONG

**A corruption probe is only the latest of insurers' many woes**

WANG BIN has gained the undesirable distinction of becoming China's first "tiger" of the year. The term refers to a senior official ensnared in a corruption probe (as opposed to a "fly", a lower-level cadre). Mr Wang, the chairman and Communist Party secretary of China Life, one of the world's largest insurers, is a big catch. On January 8th the Central Commission for Discipline Inspection, China's corruption watchdog, announced that he was under investigation for serious violations of law and party discipline—bywords for corruption. (China Life said in a statement that it firmly supported the probe.)

Conviction rates for high-profile, publicly announced investigations such as this are 100%. One of the biggest tigers of finance so far, Hu Huaibang, the former head of China Development Bank, is imprisoned for life. Another, Lai Xiaomin, the former chairman of a state asset manager, was put to death.

The probe into Mr Wang is only part of China's long crackdown on insurers. Much of that attention has been warranted. Not long ago the fastest-growing segment of the industry, which holds about 25trn yuan (\$3.9trn) in assets, was high-risk, high-return investment products, rather than conventional policies such as life and health insurance. Premiums on short-term policies were often used by companies to buy property and trophy assets overseas, leading to dangerous mismatches between assets and liabilities.

A whirlwind crackdown starting in 2017 at the direction of Xi Jinping, China's president, put a stop to many of the excesses. The chairman of the industry watchdog was thrown in prison, and the regulatory body was taken over by its banking counterpart. The chairman of Anbang Insurance, which had gone on a foreign-acquisition spree lasting several years, was arrested and his company was bailed out and na-

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## Free exchange | Remote prospects

*At an annual pow-wow for economists, speakers imagine a post-pandemic world*



**B**OSTON IS NOT the most popular of winter travel destinations. But many economists were nonetheless disappointed by the news that their profession's grand annual meetings, scheduled to take place in the city in early January, would again be virtual. Greater experience with remote-conferencing technologies meant that events unfolded more smoothly than they did a year ago. That seemed appropriate for a conference dominated by speculation about how covid-19 might permanently alter the economy.

Many sessions were devoted to sketching out the probable features of the post-pandemic world. New habits are sticking—and economists have gathered the data to prove it. Take remote work. Jose Maria Barrero of the Instituto Tecnológico Autónomo de México presented results from research with Nicholas Bloom of Stanford University and Steven Davis of the University of Chicago. Since May 2020 the economists have conducted a monthly survey that, among other things, asks Americans about their plans to work remotely. A year ago, the results suggested that remote work would account for 20% of full-time hours after the pandemic.

Over the past year, however, remote work has gained favour. Based on the survey results from December, the researchers reckon that 28% of hours might ultimately be worked from home. Employees who were once undecided now say they might sometimes work from home, said Mr Barrero. And respondents who had always said they would toil remotely now plan to spend more time doing so. In all, about 15% of full-time workers are expected to be fully remote in future, and just under a third to work in a “hybrid” fashion—a dramatic change from before the pandemic, when just 5% of people laboured at home.

Remote work will persist because the experience of it has been better than expected, and because workers and firms have invested time and money (together estimated by Mr Barrero to be worth about 0.7% of America's GDP) in improving it further. But new arrangements will also be driven by employees' preferences. Though many workers look forward to returning to the office, a sizeable chunk—about 15%—say they would definitely or probably leave employers who do not offer remote options. This has created an opportunity for young firms to attract talent by hiring remotely, said Adam Ozimek of Upwork, a freelance-work platform.

As the opportunities to toil remotely have grown, people have become happier to move away from big, expensive cities. Mr Ozimek noted that research published early in the pandemic suggested that the most significant geographical impact of new working arrangements would be on the distribution of population within cities. Reductions in commuting time as a result of hybrid arrangements would produce a “doughnut effect” as people left city centres for distant suburbs. But analysis of more recent data suggests that moves between cities are increasingly significant. Places with high housing costs and a large share of workers in jobs that can be done remotely have experienced slower growth in house prices and rents than other areas. Whereas data from 2020 sent an ambiguous message about migration trends, figures for 2021 show clear outflows from high-cost places, like California.

Some parts of the world may face uncomfortable adjustments as a result, rather as deindustrialisation placed severe strains on parts of America and Europe in the 1970s and 1980s. Research presented at the conference by Conor Walsh of Columbia University noted that the economic burden of the pandemic fell hardest on less-skilled service workers in dense and expensive cities, who previously catered to the needs of skilled workers. A permanent exodus of white-collar professionals could leave some less-skilled workers trapped in places with declining job prospects.

A more remote future could yield some offsetting benefits, though. Studies of pockets of the economy suggest that pandemic-related shifts hold the potential for productivity gains. Emma Harrington of Princeton University discussed research showing that the productivity of workers at call-centres rose by 7.6% when work went remote, without a detectable decline in customer satisfaction. Dan Zeltzer of Tel Aviv University presented analysis of the shift to telemedicine in Israel, which showed that the utilisation of resources tended to rise and costs to decline, with little sign of more missed diagnoses or other negative health outcomes.

### Virtually unrecognisable

Whether such gains will translate into a stronger macroeconomy is less clear. Janice Eberly of Northwestern University credited remote work with reducing the decline in GDP in early 2020 by nearly half relative to what it might otherwise have been. Yet although remote work might boost companies' profits by lowering the costs of office space, and improve welfare by reducing commuting, she doubted that it was a fundamental enough shift to lead to enduring productivity gains. That chimed with other, more general fears about the post-pandemic economy. Catherine Mann of the Bank of England worried that business investment might prove insufficient, held back by uncertainty about growth prospects and uncompetitive markets. Though investment was strong in 2021, recent surveys show diminished appetite for capital spending, she noted, compared with share buybacks and mergers.

Larry Summers of Harvard University observed that, although central banks may struggle to control inflation in the short term, long-run growth is likely still to be restrained by the same headwinds, such as demographic change, that blew before covid-19. The upshot of the conference often seemed to be that although economies have done better during the pandemic than many people dared hope, they are likely to disappoint in its aftermath. But as participants from around the globe zoomed seamlessly from session to session, without having to visit an airport or queue up for coffee, one had to wonder whether such conclusions were not a touch too pessimistic. ■





Seismology

## And now, stay tuned for the earthquake forecast

An intriguing new approach to predicting seismic events shows promise

ONE OF THE questions most frequently asked of the United States Geological Survey is whether earthquakes can be predicted. Their answer is an unconditional “no”. The relevant page on the agency’s website states that no scientist has ever predicted a big quake, nor do they know how such a prediction might be made.

But that may soon cease to be true. Though, after decades of failed attempts and unsubstantiated claims about earthquake prediction, a certain scepticism is warranted—and Paul Johnson, a geophysicist at Los Alamos National Laboratory, is indeed playing down the predictive potential of what he is up to—it is nevertheless the case that, as part of investigations intended to understand the science of earthquakes better, he and his team have developed a tool which might make forecasting earthquakes possible.

As do so many scientific investigations these days, their approach relies on artificial intelligence in the form of machine learning. This, in turn, uses computer programs called neural networks that are

based on a simplified model of the way in which nervous systems are thought to learn things. Machine learning has boomed in recent years, scoring successes in fields ranging from turning speech into text to detecting cancer from computerised-tomography scans. Now, it is being applied to seismology.

### Slip-sliding away

The difficulty of doing this is that neural networks need vast amounts of training data to teach them what to look for—and this is something that earthquakes do not provide. With rare exceptions, big earthquakes are caused by the movement of geological faults at or near the boundaries

between Earth’s tectonic plates. That tells you where to look for your data. But the earthquake cycle on most faults involves a process called stick-slip, which takes decades. First, there is little movement on a fault as strain builds up, and there are therefore few data points to feed into a machine-learning program. Then there is a sudden, catastrophic slippage to release the accumulated strain. That certainly creates plenty of data, but nothing particularly useful for the purposes of prediction.

Dr Johnson thus reckons you need about ten cycles’ worth of earthquake data to train a system. And, seismology being a young science, that is nowhere near possible. The San Andreas fault in California (pictured), for example, generates a big earthquake every 40 years or so. But only about 20 years (in other words, half a cycle) of data sufficiently detailed to be useful are available at the moment.

In 2017, however, Dr Johnson’s team applied machine learning to a different type of seismic activity. Slow-slip events, sometimes called silent earthquakes, are also caused by the movement of plates. The difference is that, while an earthquake is usually over in a matter of seconds, a slow-slip event can take hours, days or even months. From a machine-learning point of view this is much better, for such an elongated process generates plenty of data points on which to train the neural network.

Dr Johnson’s classroom is the Cascadia subduction zone, a tectonic feature that ▶▶

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▶ stretches 1,000km along the coast of North America, from Vancouver Island in Canada to northern California. It is the boundary between the Explorer, Juan de Fuca and Gorda plates to the west, and the North American plate to the east. Steady movement of the latter plate over the former three generates a slow-slip event every 14 months or so, and geophysicists have recorded this activity in detail since the 1990s. That means there are plenty of complete cycles of data—and the machine-learning system trained on these by Dr Johnson was able to “hindcast” past slow slips based on the seismic signals which preceded them, “predicting” when they would happen to within a week or so of when they had occurred in reality.

The next test of the technique, yet to be executed, will be an actual forecast of a slow-slip event. But even without this having happened, Dr Johnson’s slow-slip project suggests that machine-learning techniques do indeed work with seismic events, and might thus be extended to include earthquakes if only there were a way to compensate for the lack of data. To provide such compensation, he and his colleagues are applying a process called transfer learning. This operates with a mixture of simulated and real-world information.

### Getting real

“Lab quakes” are miniature earthquakes generated on a laboratory bench by squeezing glass beads slowly in a press, until something suddenly gives. This has proved a useful surrogate for stick-slip movement. Dr Johnson’s team have created a numerical simulation (a computer model that captures the essential elements of a physical system) of a lab quake and trained their machine-learning system on it, to see if it can learn to predict the course of the surrogate quakes.

The result is moderately successful. But what really makes a difference is boosting the trained system with extra data from actual experiments—in other words, transfer learning. The combination of simulated data fine-tuned with a pinch of the real thing is markedly more effective at predicting when a lab quake will occur.

The next step towards earthquake forecasting will be to apply the same approach

**The Richard Casement internship.** We invite applications for the 2022 Richard Casement internship. We are looking for a would-be journalist to spend three months of the summer working on the newspaper in London (covid-19 permitting; otherwise remotely), writing about science and technology. Applicants should compose a letter introducing themselves and an article of about 600 words that they think would be suitable for publication in the Science & technology section. The successful candidate will receive a stipend of £2,000 a month. Applications must reach us by midnight on January 28th. They should be sent to: [casement2022@economist.com](mailto:casement2022@economist.com)

to a real geological fault, in this case probably the San Andreas. A machine-learning system will be trained on data from a numerical simulation of the fault, plus the half-cycle’s worth of live data available. Dr Johnson’s team will see if this is enough to hindcast events not included in the training data. He mentions the magnitude-six Parkfield earthquake in 2004—a slippage of the San Andreas that did minimal damage, but was extremely well studied—as one possible target.

At present Dr Johnson’s aspirations are limited to predicting the timing of an imminent quake. A full prediction would also need to include whereabouts along the fault it was going to happen and its magnitude. However, if timing can indeed be predicted, that will surely stimulate efforts to forecast these other criteria, as well.

He hopes for initial results in the next three to six months, but cautions that it might take longer than that. If those results are indeed promising, though, there will no doubt be a rush of other teams around the world attempting to do likewise, using historical data from other earthquake-producing faults in order to validate the technique. That, in turn, should improve the underlying model.

If it all comes to naught, nothing will have been lost, for Dr Johnson’s work will certainly provide a better understanding of the physics of big earthquakes, and that is valuable in and of itself. But, if it does not come to naught, and instead creates software capable of predicting when big quakes will happen, that really would be an earth-shaking discovery. ■

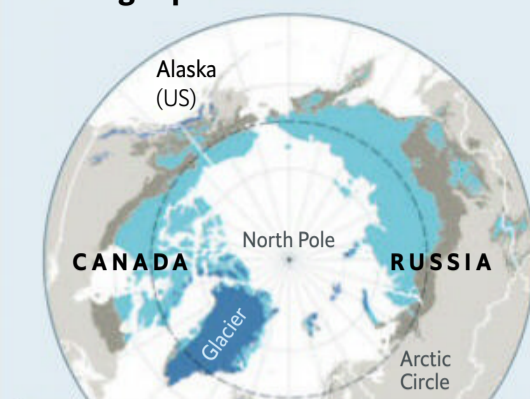
## Climate change

# Unfrozen North

### Arctic infrastructure is threatened by rising temperatures

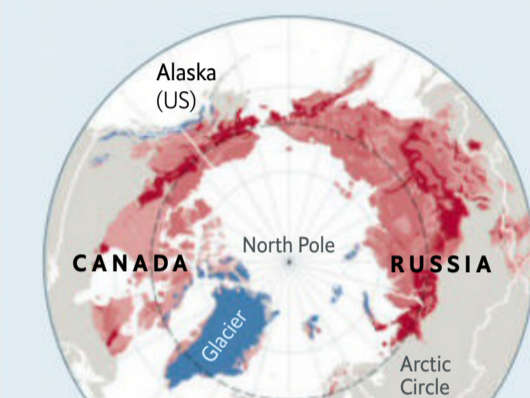
**A** QUARTER OF the northern hemisphere’s land is covered by permafrost, defined as ground that remains at or below 0°C for at least two years in succession. Most of this is above the Arctic Circle, a part of the world that is warming at a rate double the global average, with significant consequences for the rest of the planet. Arctic permafrost is thought to contain some 1.7trn tonnes of carbon, most of it in frozen organic matter. That is double the amount of the stuff currently residing in the atmosphere. Rising temperatures mean that much of this material may turn into carbon dioxide and methane as the ground thaws and micro-organisms get to work. That will drive further warming,

### Nothing is permanent



Permafrost coverage, 2050 forecast\*

■ Expected to exist ■ Thawed permafrost



Permafrost degradation risk to infrastructure†

2050 forecast\* ■ High ■ Medium ■ Low

\*Under Representative Concentration Pathway (RCP) 4.5

†Roads, railways, pipelines, ports, airports and buildings

Source: *Nature Reviews Earth and Environment*

causing a feedback loop of more melting and yet more greenhouse-gas emission.

These risks are re-emphasised in a paper just published in *Nature Reviews Earth and Environment*. It warns that warming of the top three metres of permafrost alone could result in the release of 624m tonnes of carbon a year by 2100, a figure similar to the current emissions of Canada or Saudi Arabia. But a thawing Arctic poses other, more immediate, problems. Another paper published in the same journal highlights the threat posed to circumpolar infrastructure as the ground beneath it thaws.

Thawing permafrost is a particularly unpredictable environment on which to build. As its ice content changes and the volume of liquid water increases, the soil can experience vertical movements of up to 40cm a year and its capacity to bear weight drops dramatically. This can lead to landslides, to the subsidence of individual buildings, and to the appearance of cracks and deformities in long, linear structures such as roads and pipelines.

The conclusions drawn by lead author Jan Hjort, of the University of Oulu, in Finland, are stark. Of the 120,000 buildings, 40,000km of roads and 9,500km of pipelines currently built on permafrost, up to half are expected to be at high risk by 2060. By then, he estimates, the bill for maintenance could exceed \$35bn dollars a year.

Russia is the country most threatened ▶▶

▶ by such changes. Almost 65% of Russian soil is permafrost, and it is here that 60% of the Arctic's human settlements and almost 90% of its population can be found (see maps on previous page). Russian sites are also more likely than those in other parts of the Arctic to contain heavy apartment buildings and large industrial facilities. North America's permafrost, which makes up half of Canada's territory and more than three-quarters of Alaska's, tends to be more sparsely populated than Russia's, with human impact dominated by roads, airstrips and oil pipelines. Nonetheless, degradation is still an issue. Authorities in the Northwest Territories, one of Canada's largest and most northerly regions, calculate that permafrost-induced damage amounts, even today, to \$41m a year, which is about \$900 per resident.

Dr Hjort's paper also looks at the Arctic conditions which prevail in mountainous regions at lower latitudes. Nearly half of the Tibetan plateau, for example, is covered by permafrost, and this area contains 200,000km of roads and 3,900km of railways. The cost of repairs here runs into the tens of millions of dollars a year. In the European Alps, by contrast, a combination of higher investment and more favourable conditions mean thaw damage is minimal.

Dr Hjort and his colleagues suggest three approaches to increasing resilience, some of which have already been implemented to various extents in different Arctic locations. First, enhance the extraction of heat from thawing soil near structures which need protecting. This can be done by adding porous stone layers to road beds to generate convection, which helps hot air to escape. Decreasing the angle of embankment slopes also helps, by increasing wind flow and reducing the accumulation of snow, which traps heat. Second, limit heat intake by the ground. This means insulating the embankments of roads by increasing their thickness, and also increasing the reflectivity of paved surfaces to minimise the amount of solar radiation absorbed. Third, the ground can be reinforced to create better foundations. One way to do so is to replace layers of permafrost with more stable materials. Another is to thaw the permafrost in a controlled manner, and then build on that consolidated layer.

None of this innovative construction will help, however, if there is a lackadaisical approach to maintaining what has been built. In an earlier study cited by the authors, which looked at the period from 1980 to 2000, most damage to structures in areas of Russia where permafrost abounds was found to have arisen as a result of poor maintenance. Climate change will make that worse. But if local authorities cannot even get the basics right, then large sections of the Russian Arctic may end up being abandoned altogether. ■

## Xenotransplantation

# Happy news

## Why the first successful pig-to-human transplant is a really big deal

ON JANUARY 7TH David Bennett became the first person to have a heart transplanted successfully into him from a pig. In press material issued three days after the operation, the University of Maryland confirmed Mr Bennett was doing well, and was capable of breathing on his own. While he continues to rely on artificial support to pump blood around his body, the team behind the surgery, led by Bartley Griffith, plan gradually to reduce its use.

This operation is a milestone for xenotransplantation—the transfer of organs from other species to human patients. It comes hot on the heels of another, in October, when a pig's kidney was successfully attached for three days to a brain-dead patient in a hospital in New York. On that occasion, mere surgical success was the goal. But Dr Griffith's team hope to save a life.

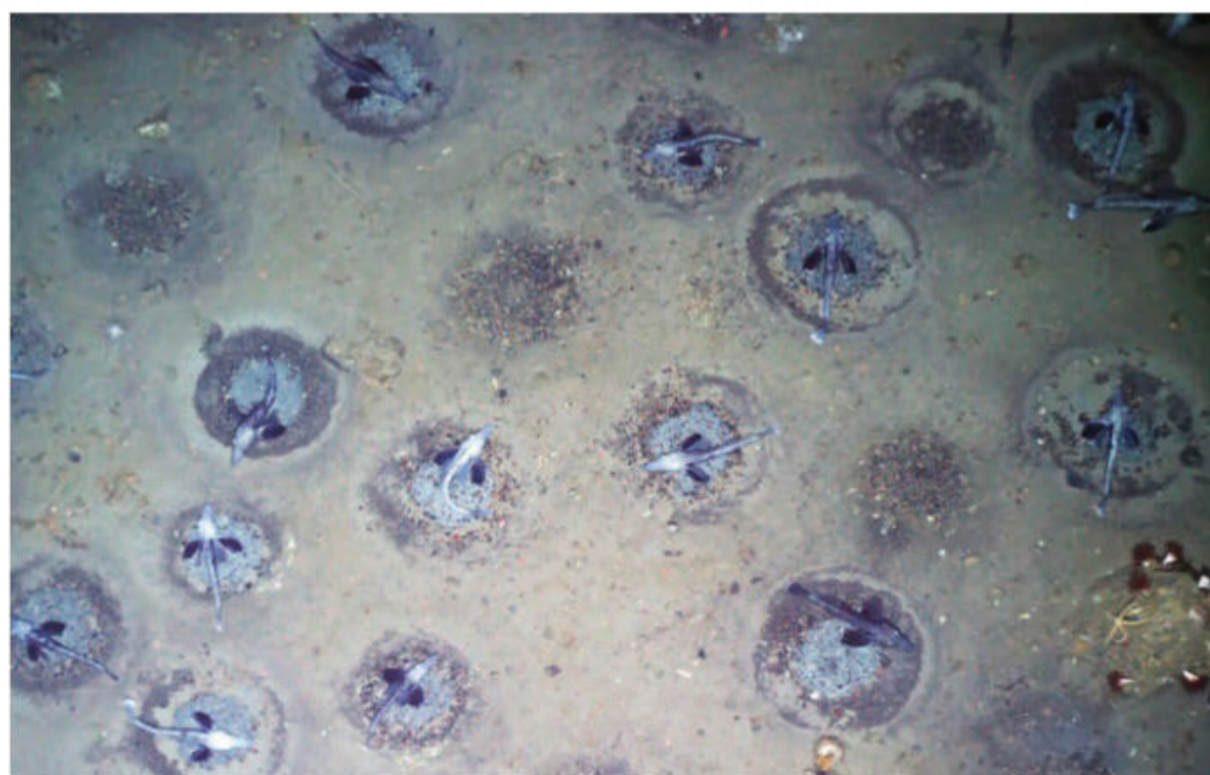
The operation itself received exceptional authorisation from America's Food and Drug Administration under a provision

which lets doctors use experimental treatments as a matter of last resort. Prior to it Mr Bennett was diagnosed with terminal heart disease, but was judged too ill to qualify for a human transplant. Having spent months in a hospital bed with no improvement to his condition, he gave his consent to the surgery.

The field's recent flowering has long-established roots. For decades, researchers have attempted to tackle xenotransplantation's fundamental problem. This is that the human body, when it recognises foreign tissue, has a tendency to turn against it. In the case of pigs, the most important marker of foreignness is a sugar molecule called galactose-alpha-1,3-galactose (alpha-Gal), which is found on the surfaces of their cells. While this molecule does not exist in humans, antibodies to suppress it do. Consequently, no transplant from a pig with alpha-Gal would last more than a couple of minutes in a human body.

In 2003 pigs were produced with a genome modified so as to suppress the enzyme responsible for making alpha-Gal. This was a step in the right direction, but other barriers popped up in its place. With each of these requiring years of work to overcome, many researchers—and much research funding—abandoned the field.

One collaboration which survived was that between the University of Maryland ▶▶



## Baby-boomers

This is a tiny part of the largest fish-breeding ground yet discovered. It occupies more than 240km<sup>2</sup> of the floor of the Weddell Sea, off Antarctica. Each nest is guarded by a notothenioid icefish, usually the father. Altogether, there are about 60m nests, housing more than 100bn eggs. The site was discovered by Autun Purser of the Helmholtz Centre for Polar and Marine Research, in Bremerhaven, and is reported in *Current Biology*. Dr Purser saw the first nests on a dive. Further dives revealed more. He and his colleagues then towed cameras over the site to discover its full extent. One reason animals live in crowds like this is to swamp predators. That can, though, backfire when the predator is a modern fishing vessel. For decades, there has been talk of making the Weddell Sea a protected area. Dr Purser has come up with yet another reason to do so.



Lifesaver

► and Revivicor, a regenerative-medicine company in Blacksburg, Virginia. It was Revivicor that provided the genetically modified pig for Friday's surgery. The animal in question had a genome modified in ten ways, to optimise the chances of success. Three genes had been removed to reduce the risk of a human antibody rejecting the donor organ. A fourth, a growth gene, had also been knocked out, to ensure the heart did not enlarge after transplantation. And six human genes had been added, to promote acceptance.

In addition to the usual risks surrounding any heart transplant, there are a number of areas of concern that Dr Griffith and his colleagues will be looking out for. One is any hitherto-unknown rejection mechanism. Another is the possibility that the organ may transfer porcine viruses to its new host. The pig in question was reared in a sterile environment to minimise the chance of that, but it remains a possibility.

Supporters of xenotransplantation think its potential to improve lives is huge. In America alone, over 100,000 people are waiting for transplants (though the vast majority need a kidney rather than a heart). In 2020 only a third of the required number of organs became available.

In theory, pigs can be bred to provide humans with any solid organ, though some will be more complex than others. A large part of the heart's function is mechanical, but other organs have chemical jobs that will be harder to replicate. Moreover, even assuming these barriers can be overcome and successful surgical procedures developed, most researchers still acknowledge that scaling up xenotransplantation to meet the world's demand for organs may take decades. After this news, however, the chances that it will happen eventually have increased. ■

### Omicron and immunity

## The start of something new?

**The latest iteration of SARS-CoV-2 really is different from those before it**

VARIANTS VARY, but how much? Since SARS-CoV-2 was first sequenced at the beginning of 2020 dozens of versions have been identified. Five have been designated “variants of concern” by the World Health Organisation (WHO). The latest is Omicron, which was given its name in November last year and looks set to become the dominant form of the virus almost everywhere.

One question occupying both scientists and politicians is whether covid vaccines would work even better if they were updated to deal with novel variants. Up to and including Delta, first identified in India, and designated a variant of concern in May 2021, the answer has been “no”. But new research, which has mapped differences between all of the important versions of SARS-CoV-2, suggests that, although administering existing vaccines is still useful, Omicron is so different from the others that the answer might now be “yes”.

Researchers in the Netherlands, co-ordinated by Rogier Sanders and Colin Russell of the University of Amsterdam and Dirk Eggink of the Dutch Public Health Institute, acquired blood samples collected from 51 unvaccinated people shortly after they had been infected with various versions of SARS-CoV-2. These included the original, ancestral, strain and the Alpha, Beta, Gamma and Delta variants. (Omicron samples were not available.) They then assessed the antibody response (“neutralising capacity”) of those samples against different antigens—in other words, different versions of the virus, again using the ancestral strain, Alpha, Beta, Gamma and Delta and, this time, Omicron.

By measuring the neutralising capacity of the serum of each participant against the various variants and applying what is known as a multidimensional scaling algorithm, Dr Sanders, Dr Russell, Dr Eggink and their colleagues were able to position both the viruses and the serum samples on an “antigenic map” (see chart). This is used to study how mutations make viruses more or less different from the ancestral strain, in a process called antigenic drift. In such maps, one unit of distance is equivalent to a two-fold change in neutralisation titre (a measure of the concentration of antibodies in the blood needed to neutralise a virus). Samples plotted closer together are more similar. Going by a measure conventionally used to group influenza viruses—a distance of three or fewer anti-

genic units—the researchers found that Omicron would count as the first of a new group of SARS-CoV-2. Whereas all widely circulating variants before it, being less than three units apart from each other, cluster as a single group, Omicron is more than five units away from all others.

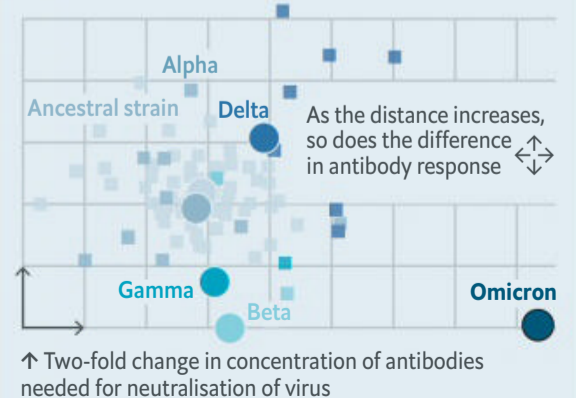
A paper describing this research was uploaded to *medRxiv*, a research portal, on January 3rd, but has not yet been peer-reviewed. The authors also caution that their methods vary slightly from those conventionally used to map influenza. Nevertheless they conclude that “the change in neutralisation between Omicron and other variants of SARS-CoV-2, including the ancestral strain, is striking”. (A separate investigation, published on the same day in *Cell*, reaches a similar conclusion.) Dr Russell cautions that the study's findings should not be interpreted to mean that existing vaccinations, designed for the ancestral strain, are ineffective. “Omicron's substantial reduction in cross-reactivity with previous variants doesn't mean that there is no reactivity. This is probably why boosting with current vaccines provides some protection,” he says.

As more people catch Omicron or are vaccinated, so more of the population will have some protection than in the past. Other studies have also shown that the response of another part of the immune system, its T-cells, seems less affected by Omicron's mutations. That is probably one reason why Omicron rarely causes severe disease and death in those who have acquired immunity through infection or vaccination. The other is that Omicron itself seems to be inherently less lethal. But, just as twice a year the WHO organises expert reviews of influenza viruses and issues recommendations on how to tweak vaccine compositions, Dr Russell proposes something similar for covid vaccines. For maximum efficacy, he suggests, vaccines should be updated as soon as possible. ■

### The same, but different

Antigenic map of differences in antibody response

● Antigens (samples of virus variant)    ■ Serum (blood sample), by variant of past infection



Source: “Mapping the antigenic diversification of SARS-CoV-2”, by Karlijn van der Straten et al. (2022, preprint)



### Art in Japan

## By the people, for the people

CHIBA

**In a bold reappraisal of what art can do—and whom it is for—festivals bring the work into the Japanese countryside**

**A** COSMONAUT SAT for most of the winter on a platform at Kazusa-Murakami station in Chiba, a rural Japanese prefecture next to Tokyo. As they waited for trains, local grandmothers would chat with the inanimate installation, the work of the Russian artist Leonid Tishkov. Visitors to an abandoned clothing factory in the nearby village of Ushiku found a multimedia labyrinth assembled by the Japanese artist Nakazaki Toru, using objects and memories retrieved from the site: old sewing machines, mannequins draped in fabric samples and recorded interviews with the family that once ran the place. These were two of over 90 pieces created for a triennial festival known as Ichihara Art x Mix, held in the Ichihara area of Chiba in late 2021.

Abroad, Japan's best-known contemporary art is the manga-inflected work of painters such as Murakami Takashi, whose colourful flowers feature on Louis Vuitton bags and in Billie Eilish's music videos. Inside the country, however, social and community-centred art, often in the form of festivals in rural areas, is the dominant trend. Kitagawa Fram, the art director

behind the Ichihara event, organises four other big ones in as many prefectures. The Echigo-Tsumari triennale draws more than half a million people, about the same as the Venice biennale; they wander across 760 square kilometres of remote villages in Niigata prefecture, in search of sculptures and installations hidden in fields, forests and old buildings. A million people flock to the remote "art islands" of Japan's Inland Sea for the Setouchi triennale.

Hundreds of other smaller art events are held each year under the banner of "regional revitalisation". This strain of art grapples with the key challenges facing Japan (and, increasingly, much of the developed world): an ageing, shrinking population; hollowed-out regions; the climate catastrophe. The works make use of the new spaces and resources that those forces have spawned, such as abandoned buildings and idle elderly residents. As Adrian Favell, a sociologist and art critic, writes: "The leading edge of the contemporary can be found in collective community works."

In Japanese, such efforts are known as *ato purojekuto* (from the English "art

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project"). "We call it a 'project' because it is not an 'artwork,'" says Tomii Reiko, an art historian. The *ato purojekuto* are by nature collaborative endeavours without a single author. Many include pieces of public art or sculpture, but the "project" is what happens around them: workshops and other initiatives that prioritise communication and engagement with communities. "The process is more important than the outcome," explains Mori Yoshitaka of Tokyo University of the Arts. In short, the artists create links not between elements of a composition, but between people.

The *ato purojekuto* have their roots in Japanese avant-garde collectives of the 1960s. They have parallels abroad in what Grant Kester, an American art historian, calls "socially engaged art". But the *ato purojekuto* are a distinct form that responds to particular socioeconomic conditions. Some operate in big cities, such as 3331 Arts Chiyoda, an art space in a former high school in north-east Tokyo that hosts everything from exhibits of experimental sound art, to disaster-prevention roundtables, to wheat-growing workshops. Many others unfold far from the bright lights.

The case of Echigo-Tsumari has been "pivotal", says Kumakura Sumiko, also of Tokyo University of the Arts. The region is a conservative enclave in the mountains of central Japan, filled with derelict homes, rice paddies and old people—objectively, a terrible place to host a contemporary-art festival. When it started in 2000, many arty observers wondered who would bother to ▶▶

go; many in the local community questioned the expense, Ms Kumakura remembers. But over time, attitudes changed. Young volunteers established lasting ties with local residents; many came to help when a big earthquake hit the region in 2004. Though some locals remain hostile to using funds on incomprehensible installations instead of roads or clinics, many have come around. This year's will be the festival's eighth edition.

For rural venues, the projects are an alternative to the infrastructure-driven regeneration initiatives the national government favours. They have come to relish their new status as tourist destinations: ordinary villages now boast attractions from world-renowned names such as James Turrell, an American light artist, and Marina Abramovic, a Serbian performance artist. But for Mr Kitagawa, changing attitudes are the true dividend.

### Young at art

With art as a catalyst, he says, the elderly have grown "more energetic", young people have begun to visit, and local administrations have become "more global in terms of their mindset". One study of Echigo-Tsumari found that some 60% of the population had worked at or attended the festival. Those who did were more trusting of strangers, and had higher levels of both social capital and life satisfaction than those who did not.

For urban Japanese, the events seem to give shape to an "unformed yearning" to escape office life, reckons Justin Jesty of the University of Washington: "They're on to something with respect to the direction of people's imaginations." Government surveys suggest nearly 40% of city-dwellers aged between 18 and 29 would like to live in a village; for many, the pandemic seems to have heightened the appeal.

The *ato purojekuto* can feel sanitised. Organisers must maintain close relationships with local governments, which tend to be dominated by the ruling Liberal Democratic Party, so there is rarely any overt political critique. Critics say that robs the art of its ability to shock and challenge viewers. The installations tend towards the abstract and visually pleasing—in contrast to many big European and American art jamborees, where, these days, politics has to be "visible and explicit, you have to raise your fist, to slap the face, metaphorically speaking", as Ms Tomii puts it.

Yet the projects are radical in their own way. By bringing art into rural regions, they pose political questions of a subtler but no less essential sort—about whom art is for and its role in an ageing society. At their best, says Mr Favell, the *ato purojekuto* highlight ways of coping with economic and demographic stagnation, and of living in "the ruins of the Anthropocene". ■

### Hollywood legends

## The defiant one

Sidney Poitier was a trailblazing hero of cinema

HE SHOWED THE world that black actors could be Hollywood heroes. In films such as "To Sir, With Love", "Guess Who's Coming to Dinner" and "In the Heat of the Night", all released in 1967, Sir Sidney Poitier was not a loyal sidekick or a servant. He was a blisteringly handsome, nuanced and charismatic leading man. His talent, elegance and class made him a superstar, and, in 1964, they made him the first ever black actor to win an Academy Award for a leading role, in "Lilies of the Field".

Many in the film industry and beyond revered him as a trailblazer who refused to play any part that might reflect badly on black people. A few critics called him bland and ingratiating. In the *New York Times* in 1967 Clifford Mason defined his benign on-screen persona as "a good guy in a totally white world...helping the white man solve the white man's problem". But no one could mistake the determination and skill it took for Sir Sidney, who died last week at the age of 94, to become Hollywood's exemplar of African-American dignity.

Born in 1927, he was the seventh child of farmers who grew tomatoes in the Bahamas. At 15 his parents sent him to live in Miami; the following year he moved to New York, where he worked on his diction by listening to radio announcers, and improved his literacy by poring over newspapers with a kind Jewish waiter at the restaurant where he washed dishes. He joined the American

Negro Theatre, and by the time he was cast in his first film, "No Way Out" (1950), he was as authoritative as any actor of any background, with a fiery glare, an imposing physical presence, exquisite poise and a penetrating voice. It was hard for any viewer to look away from him, or down on him.

Most of his films tackled racism. In the 1950s they included "Cry, the Beloved Country", the filming of which let him see South African apartheid first-hand (he later played Nelson Mandela in a made-for-television biopic); "Blackboard Jungle", a seminal rock 'n' roll high-school drama; and "Porgy and Bess", Otto Preminger's film of George Gershwin's musical. In "The Defiant Ones", his chain-gang fugitive was manacled to a southern bigot played by Tony Curtis. Both were nominated for Oscars.

Still, the criticisms hurt. Tired of being a figurehead, Sir Sidney switched to lighter comic roles in the 1970s and directed several raucous comedies; "Stir Crazy" (1980) was his biggest hit. Knighted in 1974, he took a decade-long break from acting in his 50s, returning to the screen all too rarely afterwards. But he had already achieved as much as anyone in Hollywood history. It wasn't until 2002 that a second black star, Denzel Washington, received an Oscar for his performance in a leading role. On the same evening, Mr Washington presented Sir Sidney with an honorary award for his extraordinary life's work.



Through the heat of the night

## Germany after the second world war

## Out of the abyss

**Aftermath.** By Harald Jähner. Translated by Shaun Whiteside. Knopf; 416 pages; \$30. WH Allen; £20

THE ROAD from the Third Reich to modern Germany began in a field of rubble. The second world war had left behind enough of it to form a mountain 4,000 metres high, if it were piled up on the Nazi party rally grounds in Nuremberg. When the war ended, citizens began clearing it all up. Several towns forced ex-Nazis to do the heavy lifting. Famously, “rubble women”, wearing frocks, boots and headscarves, formed bucket chains and made salty faces for Allied cameras as they worked. Some dressed elegantly, having taken only their best clothes to the air-raid shelters.

Manual labour forestalled soul-searching, writes Harald Jähner in “Aftermath”, an erudite account of the post-war decade in Germany, now published in English. “How does a nation in whose name many millions of people were murdered talk about culture and morality?” he asks. “Would it be better, for decency’s sake, to avoid talking about decency altogether?” The philosopher Hannah Arendt noticed Germans squirming to change the subject on learning she was Jewish. Instead of asking after her family, they described their own wartime suffering. Mr Jähner notes Germany’s “extraordinary feat of repression”, but wonders if “behind the wounding obduracy of [Arendt’s] German acquaintances, rather than pure heartlessness, there might not have been a degree of shame”.

Shame’s hue varied with experience. German women were recovering from a plague of sexual assaults by Soviet troops. German soldiers, starving and humiliated, came home to find unrecognisable children and emboldened wives who had assumed control of society. In a queasy stopgap measure, many of the few surviving Jews were separated again, in part for their own protection, this time in repatriation camps administered by the Allies.

Meanwhile a total of 40m people displaced in Germany had to find their way home, or start again somewhere new. Mr Jähner memorably portrays the crushed and guilty nation as a busy crossroads: “Footage from the summer of 1945 in Berlin shows everyone charging about in all directions: Russian and American soldiers, German police, gangs of youths, families dragging their belongings through streets on handcarts, scruffy homecomers, inva-



Life amid the rubble

lids on crutches, smart-suited men, cyclists in collar and tie, women with empty rucksacks, women with full rucksacks, and certainly many more women than men.”

Primitive concerns dominated German life until the late 1940s. It was a “time of wolves” that saw widespread looting and hoarding, excess and privation existing side by side. One newspaper reported several people drowning in knee-deep wine from smashed casks in a Munich cellar. Ration-cards guaranteed a mere 1,550 calories per day and led to a thriving black market, which authorities tried to combat with ever-harsher sentences. Officials in Saxony introduced capital punishment in 1947 to see off “food-supply saboteurs”.

In time anarchy gave way to order, and order to the seeds of social democracy. A key step in this process, says Mr Jähner, was currency reform, when the plummeting Reichsmark was replaced with the Deutsche Mark in June 1948. Another stabilising influence was the Marshall Plan, which lent \$1.4bn to West Germany (formally divided from the East in 1949). It was the only western European nation forced to repay the funds, “in order to preserve some sense of proportion between victory and defeat”. Culture revived, too, theatre receipts spiking from 1945 to 1948 before settling again. “With affluence came thrift,” notes Mr Jähner.

The post-war culture boom is a rare missed opportunity in “Aftermath”. Other art forms are neglected in a chapter focused on abstract painting. For example, Germany’s mid-century compromises converge revealingly in the figure of Herbert von Karajan, a classical maestro who goes unmentioned. A Nazi party member and favourite of Hitler, the Austrian rehabilitated his image and became conductor of the Berlin Philharmonic for over three decades. Like many others in Germany, he found respectability through a combina-

tion of entitlement and amnesia.

Mid-century Germans, says Mr Jähner, needed to see themselves as victims. The more they suffered during the war and its aftermath, the less they felt complicit in Nazi crimes. He puts German anguish in the essential context of a nation climbing out of an abyss that it created. As the historian Tony Judt wrote in “Postwar”, the conflict was a calamity “in which everyone lost something and many lost everything”. “Aftermath” is a reminder that the German experience will always stand apart. ■

## Dystopian fiction

## Who knows best?

**The School for Good Mothers.** By Jessamine Chan. Simon & Schuster; 336 pages; \$27. To be published in Britain by Hutchinson Heinemann in March; £12.99

ALL PARENTS make mistakes, especially when harried or exhausted. Jessamine Chan’s haunting debut novel unspools from one of them. Sleep-deprived, under pressure at work and divorced from her child’s father, Frida leaves Harriet in a baby-bouncer and heads to the office in Philadelphia to run a quick errand. But she loses track of time; two hours later the police call to say that her neighbours heard crying and the toddler is now in their care.

This lapse has devastating costs. Harriet is placed indefinitely in the custody of her father and his new partner. Frida is put under surveillance. The Child Protective Services have been given wide-ranging new powers; they scour her house as if it ▶▶

were a crime scene and install cameras in every room. In the following months Frida mostly mopes about and looks at pictures of Harriet on her phone. Yet the footage is used as evidence that she is an unfit parent. She is sent to a rehabilitation facility for a year to “demonstrate her capacity for genuine maternal feeling and attachment”.

Frida and the other negligent mums are judged in categories including “Fundamentals of Play” and “The Moral Universe”. To measure their improvement, they work with eerily lifelike androids designed to mimic their offspring, which collect infor-

mation via sensors and eyeball cameras. “They’ll gauge the mothers’ love,” an administrator explains. “The mothers’ heart rates will be monitored to judge anger.”

The novel is a brilliant satire of helicopter parenting. Frida is criticised for using “insufficiently empowering” motherese and telling bedtime stories that “lack depth”. (“You can’t just have the cow jump over the moon, Frida. You need to have the cow consider his place in society.”) The book also sounds the alarm about modern surveillance technology and the misuse of data, as qualitative conclusions are drawn

from quantitative inputs. The institution’s metrical idea of a competent parent seems impossible to attain.

Failing, however, is not an option: it means custodial rights are lost for ever. Ms Chan’s story skilfully dramatises the lengths to which loving parents go for the sake of their offspring. It joins a pantheon of dystopian novels that have parent-child relationships at their heart, including “The Handmaid’s Tale” and “The Road”. And it announces its author as an astute observer of both intrusive 21st-century authority and strained family dynamics. ■

## Johnson Loudmouths and small voices



*Dominant languages do not always rely on coercion to spread*

**N**EVER THINK the world is in decline. A recent book, “Speak Not” by James Griffiths, looks at the bad old days when it was seen as acceptable to impose a culture on others through force. The author tells the stories of Welsh and Hawaiian—languages driven to the brink of death or irrelevance before being saved by determined activists.

Americans fomented a coup in Hawaii that led to its eventual annexation. Missionaries built schools and fervently discouraged local customs like the hula, a performance in honour of ancestors that the Americans considered lascivious. Oppression of culture and of the language went hand in hand: by the late 20th century the only fluent Hawaiian-speakers were worryingly old. But activists fought to expand teaching of it, and eventually brought Hawaiian into many schools. The number of speakers is now growing. Even some of the state’s many citizens of other ethnicities find it fashionable to learn a bit.

Welsh survived centuries of union with England largely because of Wales’s relative isolation and poverty. But in the 19th century British authorities stepped up efforts to impose English; schoolchildren had to wear a token of shame (the “Welsh Not”) if they spoke their native language, the kind of tactic seen in language oppression around the world.

Again, activists fought back. In 1936 three of them set fires at an air-force training ground built despite local opposition. The perpetrators turned themselves in, then refused to speak any language but Welsh at their first trial. It ended in a mistrial; their second resulted in a conviction, but on their release nine months later the arsonists were feted as heroes. They had lit a fire under Welsh-language nationalism, which in later

decades would not only halt the decline in Welsh-speakers, but reverse it. Today the right to speak Welsh at trial (and in many other contexts) is guaranteed.

Mr Griffiths’s book ends with a sadder tale. Though Mandarin is the world’s most-spoken native language, China still has hundreds of millions of native speakers of other Chinese languages such as Cantonese (often misleadingly called “dialects”), as well as non-Han languages like those used in Inner Mongolia and Tibet. Evidently regarding this variety as unbecoming for a country on the rise, the authorities have redoubled their efforts to get everyone speaking Mandarin—for instance by cutting down Cantonese television and resettling Han Chinese in Tibet, part of a wider bid to dilute its culture. A regime indifferent to the tut-tutting of outsiders can go even further than American and British colonialists.

But English spreads by less coercive means, too. Rosemary Salomone’s new book, “The Rise of English”, tells the tale of a language that has gone from strength to strength after the demise of Britain’s

empire and perhaps also of America’s global dominance. These two forces gave English an impetus, but once momentum takes hold of a language, whether of growth or decline, it tends to continue. Everyone wants to speak a language used by lots of other influential people.

The triumph of English led to the death of many languages (notably indigenous ones in America, Canada and Australia), but elsewhere it has merely humbled them. Ms Salomone looks at the Netherlands, where English fever has led to its explosion in universities. Entire graduate and even undergraduate curriculums are in English. Students submit essays on Dutch poets in English.

Small countries naturally want to internationalise and attract overseas experts. But this has led to a shrinking space for Dutch. Not only is much scientific research done in English (Ms Salomone points out that, without this commonality, the covid-19 vaccines might not have been developed so fast); so is the teaching of clinicians, who may therefore lack Dutch terms when talking to patients. In such situations, languages can retreat to homes and friendship groups, no longer considered serious.

This poses a dilemma for liberal-minded types. Forcing people to use a language is bad. It is harder to argue for heavy-handed state action to prevent them from voluntarily adopting one. If people feel that is in their best interests, who are outsiders to say otherwise? Yet diversity is a liberal value too.

Multilingualism (both in countries and individuals) lessens the zero-sum nature of language competition. But it is costly, in both time and money. Ultimately, some societies may have to put a price on a cultural inheritance that, once lost, is nigh-impossible to recover.







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## Online programmes



## 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 \$ Jan 12th	% change on year ago			
United States	4.9	Q3	2.3	3.8	7.0	Dec	3.9	Dec	-3.7	-7.8	1.7	59.0	-			
China	4.9	Q3	0.8	5.3	1.5	Dec	2.3	Nov <sup>§</sup>	2.3	-4.7	2.6	\$\$	-38.0	6.36	1.7	
Japan	1.2	Q3	-3.6	3.2	0.6	Nov	1.3	Nov	3.1	-7.0	nil	-8.0	115	-9.3		
Britain	6.8	Q3	4.3	3.6	5.1	Nov	4.5	Sep <sup>††</sup>	-2.6	-6.7	1.2	86.0	0.73	nil		
Canada	4.0	Q3	5.4	3.5	4.7	Nov	2.8	Dec	-0.4	-7.5	1.7	90.0	1.25	2.4		
Euro area	3.9	Q3	9.1	3.9	5.0	Dec	2.6	Nov	3.1	-4.2	-0.1	42.0	0.88	-6.8		
Austria	5.7	Q3	14.6	4.1	4.3	Dec	2.4	Nov	1.8	-3.1	0.2	52.0	0.88	-6.8		
Belgium	4.9	Q3	8.4	3.3	5.7	Dec	2.2	Nov	0.6	-4.3	0.3	57.0	0.88	-6.8		
France	3.3	Q3	12.6	4.1	2.8	Dec	2.0	Nov	-1.2	-5.5	0.3	60.0	0.88	-6.8		
Germany	2.6	Q3	6.9	3.3	5.3	Dec	3.5	Nov	6.5	-2.7	-0.1	42.0	0.88	-6.8		
Greece	13.7	Q3	11.3	4.5	4.8	Nov	2.4	Nov	-4.3	-4.4	1.5	84.0	0.88	-6.8		
Italy	3.9	Q3	11.0	4.4	3.9	Dec	1.8	Nov	3.5	-5.7	1.3	70.0	0.88	-6.8		
Netherlands	5.2	Q3	8.7	2.8	5.7	Dec	3.8	Nov	9.0	-4.1	-0.2	36.0	0.88	-6.8		
Spain	3.4	Q3	10.9	5.1	6.7	Dec	2.4	Nov	1.4	-5.2	0.6	61.0	0.88	-6.8		
Czech Republic	3.0	Q3	6.4	4.3	6.6	Dec	4.6	Nov <sup>‡</sup>	2.1	-5.1	3.3	197	21.3	0.9		
Denmark	3.7	Q3	4.3	3.0	3.1	Dec	1.6	Nov	8.5	-0.2	0.1	54.0	6.51	-6.0		
Norway	5.1	Q3	16.1	3.4	5.3	Dec	3.0	Oct <sup>††</sup>	8.5	0.2	1.4	76.0	8.70	-1.9		
Poland	5.5	Q3	9.5	4.9	8.6	Dec	4.8	Dec <sup>§</sup>	0.8	-3.1	4.0	277	3.96	-6.1		
Russia	4.3	Q3	na	2.4	8.4	Dec	4.9	Nov <sup>§</sup>	6.3	0.2	8.8	243	74.8	-1.6		
Sweden	4.5	Q3	8.2	3.0	3.3	Nov	2.4	Nov <sup>§</sup>	3.7	-0.3	0.4	35.0	8.96	-7.5		
Switzerland	4.1	Q3	6.8	3.0	1.5	Dec	0.9	Dec	5.6	0.1	0.1	53.0	0.92	-3.3		
Turkey	7.4	Q3	11.3	3.7	36.1	Dec	20.7	Nov <sup>§</sup>	-1.9	-3.3	23.0	1,020	13.5	-44.7		
Australia	3.9	Q3	-7.5	3.1	3.0	Q3	2.7	Nov	1.9	-4.5	1.8	72.0	1.38	-6.5		
Hong Kong	5.4	Q3	0.5	3.0	1.9	Nov	2.0	Nov <sup>††</sup>	1.2	-1.0	1.7	81.0	7.79	-0.4		
India	8.4	Q3	54.1	7.0	5.6	Dec	4.6	Dec	-1.6	-5.9	6.6	66.0	73.9	-0.9		
Indonesia	3.5	Q3	na	5.3	1.9	Dec	3.5	Q3 <sup>§</sup>	-0.5	-4.9	6.3	10.0	14,320	-1.3		
Malaysia	-4.5	Q3	na	4.5	3.3	Nov	2.8	Nov <sup>§</sup>	3.3	-6.2	3.7	95.0	4.19	-3.1		
Pakistan	4.7	2021**	na	3.3	12.3	Dec	7.1	6.9	2019	-5.3	-6.2	11.5	†††	161	176	-9.0
Philippines	7.1	Q3	16.1	5.3	3.6	Dec	3.8	7.4	Q4 <sup>§</sup>	-2.7	-7.2	4.8	172	51.2	-6.2	
Singapore	5.9	Q4	10.7	3.8	3.9	Nov	2.2	2.6	Q3	17.6	-2.0	1.8	82.0	1.35	-1.5	
South Korea	4.0	Q3	1.3	2.8	3.7	Dec	1.9	3.5	Dec <sup>§</sup>	4.2	-2.7	2.4	71.0	1,191	-7.6	
Taiwan	3.7	Q3	1.1	3.3	2.6	Dec	2.4	3.7	Nov	14.2	-0.7	0.8	45.0	27.7	1.2	
Thailand	-0.3	Q3	-4.2	2.8	2.2	Dec	1.7	1.5	Dec <sup>§</sup>	1.8	-6.8	1.9	58.0	33.4	-9.8	
Argentina	11.9	Q3	17.3	2.3	51.2	Nov	49.7	8.2	Q3 <sup>§</sup>	1.3	-3.2	na	na	104	-17.5	
Brazil	4.0	Q3	-0.4	0.7	10.1	Dec	7.7	12.1	Oct <sup>§††</sup>	-0.7	-7.2	11.3	365	5.55	-2.0	
Chile	17.2	Q3	21.0	3.0	7.2	Dec	5.6	7.5	Nov <sup>§††</sup>	-2.2	-4.5	6.1	335	826	-12.1	
Colombia	12.9	Q3	24.9	5.0	5.6	Dec	4.2	10.8	Nov <sup>§</sup>	-4.9	-6.5	8.8	388	3,973	-12.2	
Mexico	4.5	Q3	-1.7	2.9	7.4	Dec	4.6	3.8	Nov	0.8	-3.4	7.8	242	20.4	-2.1	
Peru	11.4	Q3	15.0	3.3	6.4	Dec	4.4	8.6	Nov <sup>§</sup>	-3.0	-3.8	6.0	249	3.90	-7.4	
Egypt	9.8	Q3	na	5.0	5.9	Dec	6.3	7.5	Q3 <sup>§</sup>	-4.2	-6.9	na	na	15.7	-0.3	
Israel	4.4	Q3	2.5	4.3	2.4	Nov	2.8	4.5	Nov	4.8	-3.2	1.2	28.0	3.11	1.6	
Saudi Arabia	-4.1	2020	na	4.5	1.1	Nov	2.0	6.6	Q3	4.5	1.4	na	na	3.75	nil	
South Africa	2.9	Q3	-5.8	2.1	5.5	Nov	4.7	34.9	Q3 <sup>§</sup>	-0.3	-6.3	9.4	57.0	15.4	nil	

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 Jan 12th	% change on:	
		one week	Dec 31st 2020
United States S&P 500	4,726.4	0.5	25.8
United States NAScomp	15,188.4	0.6	17.8
China Shanghai Comp	3,597.4	0.1	3.6
China Shenzhen Comp	2,475.8	-0.3	6.3
Japan Nikkei 225	28,765.7	-1.9	4.8
Japan Topix	2,019.4	-1.0	11.9
Britain FTSE 100	7,551.7	0.5	16.9
Canada S&P TSX	21,395.0	1.7	22.7
Euro area EURO STOXX 50	4,316.4	-1.7	21.5
France CAC 40	7,237.2	-1.9	30.4
Germany DAX*	16,010.3	-1.6	16.7
Italy FTSE/MIB	27,714.3	-1.6	24.7
Netherlands AEX	790.4	-1.3	26.5
Spain IBEX 35	8,770.3	-0.2	8.6
Poland WIG	73,334.3	3.7	28.6
Russia RTS, \$ terms	1,612.8	1.7	16.2
Switzerland SMI	12,670.5	-1.8	18.4
Turkey BIST	2,064.2	2.9	39.8
Australia All Ord.	7,762.2	-1.7	13.3
Hong Kong Hang Seng	24,402.2	6.5	-10.4
India BSE	61,150.0	1.5	28.1
Indonesia IDX	6,647.1	-0.2	11.2
Malaysia KLSE	1,563.2	1.0	-3.9

	% change on:		
	index Jan 12th	one week	Dec 31st 2020
Pakistan KSE	45,916.3	1.1	4.9
Singapore STI	3,255.0	2.9	14.5
South Korea KOSPI	2,972.5	0.6	3.4
Taiwan TWI	18,375.4	-0.7	24.7
Thailand SET	1,678.5	0.1	15.8
Argentina MERV	85,100.3	1.5	66.1
Brazil BVSP	105,685.7	4.6	-11.2
Mexico IPC	53,951.1	1.7	22.4
Egypt EGX 30	12,060.0	0.1	11.2
Israel TA-125	2,138.8	1.6	36.4
Saudi Arabia Tadawul	11,957.1	4.4	37.6
South Africa JSE AS	75,884.8	1.1	27.7
World, dev'd MSCI	3,214.2	0.3	19.5
Emerging markets MSCI	1,267.3	3.6	-1.9

## US corporate bonds, spread over Treasuries

Basis points	Dec 31st 2020	
	latest	
Investment grade	119	136
High-yield	331	429

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

## Commodities

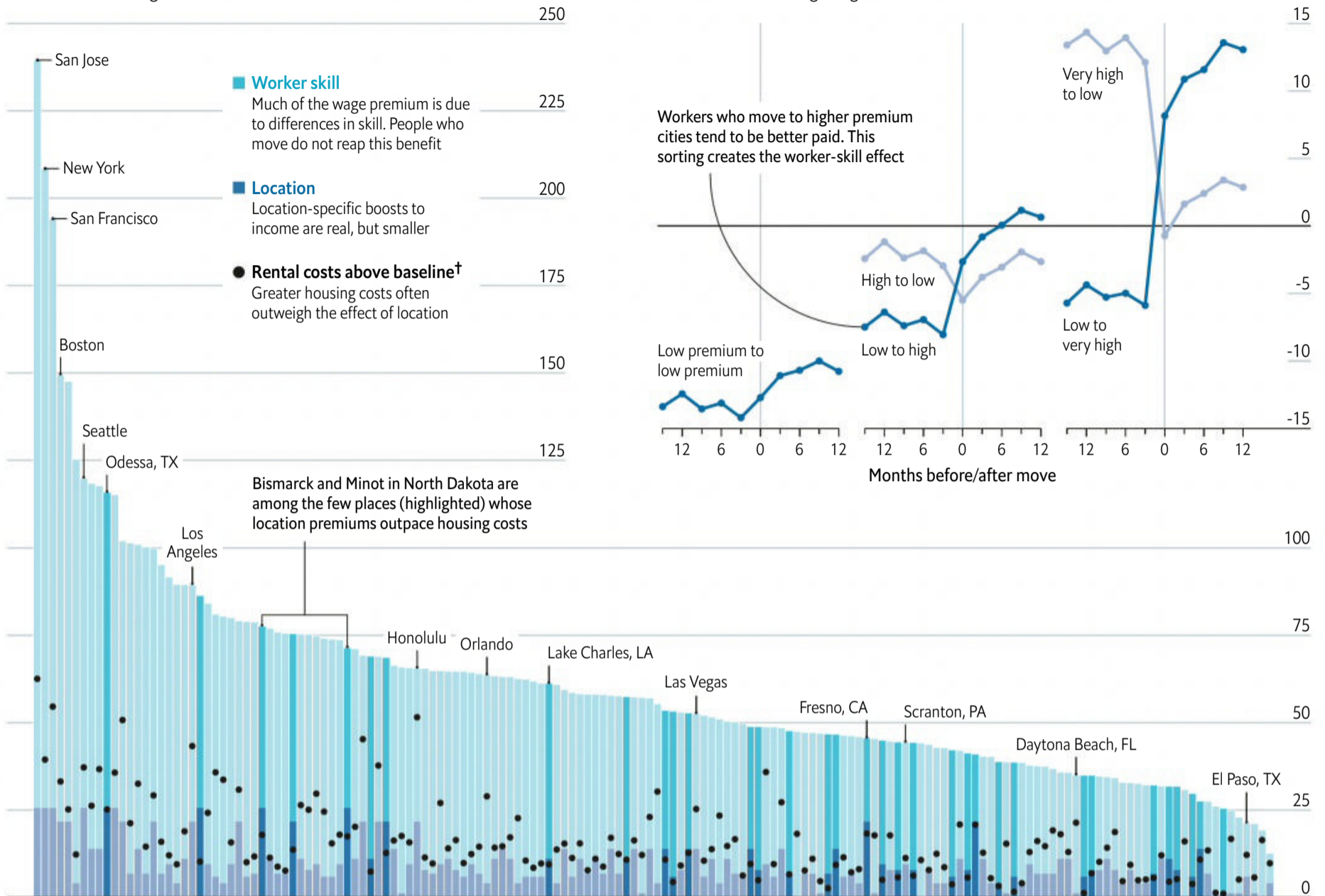
The Economist commodity-price index 2015=100	% change on			
	Jan 4th	Jan 11th*	month	year
<b>Dollar Index</b>				
All Items	163.3	166.1	6.4	3.5
Food	140.8	140.6	3.4	12.6
<b>Industrials</b>				
All	184.2	189.8	8.5	-2.0
Non-food agriculturals	164.8	168.3	5.6	31.5
Metals	190.0	196.2	9.3	-8.0
<b>Sterling Index</b>				
All items	183.9	186.3	3.5	3.6
<b>Euro Index</b>				
All items	160.1	162.4	5.8	11.0
<b>Gold</b>				
\$ per oz	1,814.0	1,813.4	2.1	-1.7
<b>Brent</b>				
\$ per barrel	80.1	83.8	13.7	47.8

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

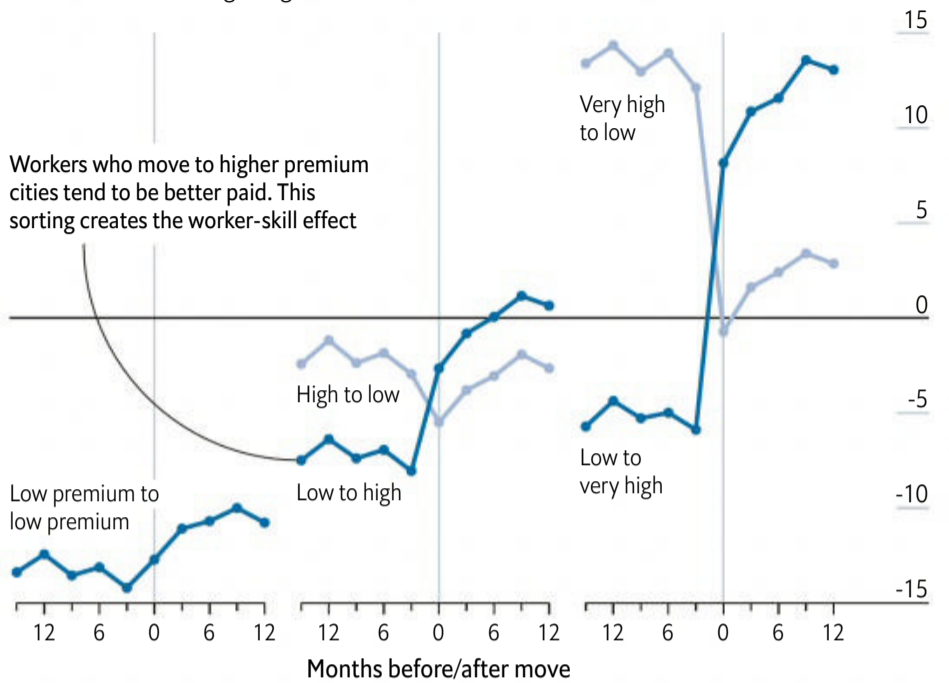
For more countries and additional data, visit [Economist.com/indicators](https://www.economist.com/indicators)

→ People matter more than place in determining a city's average earnings

Average wage, % above baseline\*  
American commuting zones, 2010-18



How moving between cities with different location premiums affects wages  
Difference from average wage, %



\*\$25,000 per year in 2015 dollars. Worker-skill and location-premiums approximated using nonile estimates †Above \$4,500 per year, as a proportion of baseline wages Source: "Location, location, location", by David Card, Jesse Rothstein and Moises Yi, 2021, working paper

## Wages and places

### Why North Dakota, not New York, may be the land of opportunity

COUNTLESS PROTAGONISTS of great literature and film make the fateful decision to move to New York City in search of prosperity. This very persistent association seems sensible. Average wages in the Big Apple are double those in the typical American city. Yet the real rags-to-riches opportunities may be in humbler places.

Inferring opportunity from high wages alone can be mistaken logic. Perhaps there might be something potent about the place itself. But, on the other hand, New Yorkers may earn more simply because they have higher skills. In the latter case, anyone moving to the city with the ambition to be Jay Gatsby but without his talents would find themselves sorely disappointed.

Teasing apart these explanations has confounded economists for decades. A recent paper by David Card (a newly minted Nobel laureate) and Jesse Rothstein of the University of California, Berkeley, and Moises Yi of the Census Bureau—all economists—suggests an answer. Using proprietary census data, they tracked the wages of 12m people for nearly a decade as they moved between jobs in cities across America. This allowed them to separate out the effect of skills on average wages from the effect of the location premium—the *je ne sais quoi* about a place that makes it more lucrative for almost anyone.

Mr Card and his colleagues found that human capital—the calibre of skills of a given city's employees—accounts for more than two-thirds of the variation in earnings across cities. New York, San Jose and San Francisco have the highest wages in America primarily because they have the highest-skilled workers. Location premiums are real but smaller. They also have little to do with a place's industrial mix. The billions of dollars localities spend on tax

incentives to attract specific firms might thus be wrongheaded. Directly attracting high-skilled people (through amenities, for instance) may be a better tactic.

The Census Bureau's disclosure rules prevent the publication of the precise values of the premiums. But at our request, Mr Card and his colleagues received approval to disclose them at a more granular level than previously published.

To translate these data into meaningful monetary values, *The Economist* calculated how much more a worker in one of the lowest-remunerated areas of America (making an average annual salary of roughly \$25,000) could make by moving. Location premiums are high in big cities like New York, San Jose and San Francisco. But housing costs are also so high that they cancel out the probable boost to wages. On the other hand, rural, extractive-industry economies like those in North Dakota offer substantial location premiums (as much as 26%), without the astronomic rents of the big cities. We await the next Great American novel from North Dakota. ■



## Homo impatiens

**Richard Leakey, palaeoanthropologist and conservationist, died on January 2nd, aged 77**

THE LITTLE Cessna had been in the air no more than ten minutes when its single engine sputtered and began losing power. Richard Leakey ramped up the fuel mixture, cutting the air intake—a mistake at that altitude. Unable to restart the engine, he found himself free-falling towards villages and schools. There were children below, waving at the plane as it came closer. He also had four passengers on board, all workers at the Kenya Wildlife Service (KWS), where he was director. More than himself, he had to save all those folk.

Spying a nearby cattle field, he tried to descend in a gentle glide, but one of the wings struck the edge of a sprawling mango tree. As the nose hit the ground, the engine was thrust back into the cockpit and his ankles folded up against his sharp-snapped legs. It was an injury known as “pilot’s foot”.

His chronic impatience was epitomised by that crash. Pig-headedly, and against advice, he never wore boots while flying his plane. That morning he had ordered his staff to fly with him instead of travelling, as planned, by road; no time to lose. Nor did he agree that the accident was pilot error and mechanical failure, as the Cessna engineers concluded. To him it was clearly sabotage for political reasons, an attempt to get him out of the way. Facts were inconvenient in such a good story.

As for his legs, after the medics had amputated his left below the knee and told him that his right foot would need a year more to heal, he ordered the surgeon to cut that off, too. When his prosthetic limbs arrived, he learned to walk in just three days. His doctors had said it would take a fortnight.

Impatience was a family trait: an odd one, since the Leakeys’ speciality was humanity’s deep history. At 23, having dropped out of school, he went behind his father’s back and persuaded the National Geographic Society, his father’s funders, to provide \$25,000 for a fossil-hunting expedition to what is now Lake Turkana, in

northern Kenya. In 1969 his team unearthed a cache of primitive tools and two skulls there. One was an *Australopithecus*, an ape-like creature some palaeontologists call “near-man”.

The discovery established Kenya as a great new source of fossils. It also made him, at 25, the head of all Kenya’s museums, and pitched him into one of the fiercest debates in science. He believed that man, with his large brain and tool-making ability, went back 3m years. His biggest rival, Donald Johanson, director of the Institute of Human Origins in Berkeley, California, thought they were much more recent and that his own discovery in Ethiopia, *Australopithecus afarensis* (known as “Lucy”) was the ancestor of all hominids. In 1981, on American TV, he and Dr Johanson went *mano a mano*. Dr Johanson, with a felt-tip pen, drew his linear version of man’s family tree; he, in reply, scrawled an X through it and put beside it a huge, dramatic question-mark. Eventually he was proved right: early apes were more diverse than many realised, and the human family tree had many branches too, including ones that cross-pollinated.

Altogether the Leakey team was to find more than 10,000 fossils at Lake Turkana. As team leader he naturally called himself Dr Leakey, though as a palaeontologist he was self-taught and chippy about his lack of academic credentials. It was his wife Meave whose diligence gave the family enterprise its scientific heft. His own forte was to see the larger picture. Asked once if he would help raise funds for an independent research centre at Lake Turkana, he instantly said he would, as long as he could build it big.

He had big ambitions for conservation, too. When, one April morning in 1989, he heard that President Daniel arap Moi had appointed him as the new head of Kenya’s wildlife department, he knew he had got the job by publicly criticising the management of the country’s national parks and the government’s flabby response to poaching. Moi, in effect, was throwing down the gauntlet to see if “Dr Leakey” could do any better.

He could. With characteristic speed he dismantled the corrupt and dispirited department he had inherited, sacking nearly 1,700 layabouts, appointing 40 senior staff on decent dollar-pegged salaries and creating what one colleague called “the most radical institution in Africa”. He tackled the ivory trade not by selling Kenya’s confiscated stash but by burning it in a flaming pyre that made front pages round the world. The World Bank and other donors were so impressed that they approved nearly \$150m in loans that were ring-fenced for KWS’s use alone. When anyone complained, he went straight to the president.

For some it was all too much, too fast. He was accused of liking animals more than people, and of favouring certain tribes over others. His “shoot-to-kill” policy against poachers revolted many in the West who otherwise supported him. In 1994, after the plane crash, he resigned. He made a spirited foray into party politics afterwards, but it ground too slow for him.

### Under the acacia

He spent his last months in his usual rush, trying to raise money for a \$100m museum of humankind to be built on his own land. The more he thought about it, the bigger he wanted it to be, a grand gesture to symbolise Africa’s importance in the human story. Not only would it explore evolution, but also arts and science. It would include a think-tank where Africans could meet and sit at high table with the best Western minds. But American philanthropists, always among his keenest backers, sat on their hands.

There would be time to rest, he liked to say, when the Grim Reaper caught up with him. He had outwitted him several times before. When at last he failed to, he was buried at his home on the edge of the Great Rift Valley. He faced south, towards one of the sites where his father had first found proof that human beings walked out of Africa to settle the rest of the Earth. Not ten feet from his grave, buried under the same acacia tree, were the limbs he had lost to impatience so many years before. ■

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