

# The Economist

The Israeli-Palestinian conflict: another lethal spiral



MAY 15TH–21ST 2021

Ten million reasons to vaccinate the world



Our new model of the true death toll from covid-19



## On the cover

A model built by *The Economist* reveals the true course of the pandemic. Here is what to do next: leader, *page 7*. Our covid-19 model, *page 14*. How can the world increase its vaccine supply? *Page 16*. Some politicians want pharma patents to be weakened. Is that a good idea? *Page 59*. A worrying new wave of covid-19 is hitting South-East Asia, *page 19*. Death of an Indian bookseller: obituary, *page 78*

**The Israeli-Palestinian conflict**  
Only negotiations will bring lasting peace: leader, *page 8*. Another cycle of violence leaves scores of people dead, *page 36*

**Supply bottlenecks** America's boom is increasing worries about an inflation scare: leader, *page 9*. What an inflation surprise tells you about America's re-opening, *page 61*

**Corporate tax** Time for new rules: leader, *page 10*, and analysis, *page 64*. Corporate taxes are likely to rise in America. Who will shoulder the costs? Free exchange, *page 66*

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## The world this week

- 5 A summary of political and business news

## Leaders

- 7 **The pandemic**  
Vaccinating the world
- 8 **Israel and Palestine**  
Stopping the cycle
- 9 **Supply shortages**  
The bottleneck economy
- 9 **British politics**  
The wrong conservatism
- 10 **Corporate-tax dodging**  
End the contortions

## Letters

- 13 On Taiwan, Scotland, Spain, suicide, patents, workers, Dickens, the C-suite

## Briefing

- 14 **The covid-19 pandemic**  
Counting the dead
- 16 **Producing more vaccines**  
The insufficient miracle



**Schumpeter** For some American chief executives, it was as if covid-19 never happened, *page 60*



## Asia

- 19 South-East Asia's second wave
- 20 Inoculation in Indonesia
- 21 Hunting in Taiwan
- 21 India's hidden toll
- 22 The Korean stalemate
- 23 **Banyan** Islamism in the Maldives



## China

- 24 Football and money
- 25 Ice-hockey woes
- 26 **Chaguan** Youngsters playing it safe



## United States

- 27 New York's mayoral race
- 28 Colonial Pipeline hacked
- 29 Skid Row
- 30 The eviction experiment
- 30 Another epidemic
- 32 **Lexington** Liz Cheney and the triumph of Trumpism



## The Americas

- 33 Post-covid economies
- 34 Hunger in Brazil
- 35 A postal eccentricity



## Middle East & Africa

- 36 The Holy Land erupts
- 37 Saudi Arabia turns nice
- 38 Lake Victoria transformed
- 39 Camelnomics
- 40 Nigeria's economy slumps



▶▶ Contents continues overleaf



**Europe**

- 41 French politics
- 42 Scandal in Bulgaria
- 42 Green steel in Sweden
- 43 Turkish tourism
- 44 Europe's welfare states
- 45 **Charlemagne** The coming boom

**Britain**

- 47 Winning the peace
- 48 Voter ID
- 48 Political realignment
- 49 Slaughter in Ballymurphy
- 50 **Bagehot** Labour's big divide

**International**

- 51 The complexities of truth commissions

**Business**

- 53 SpaceX
- 56 **Bartleby** Working mothers
- 57 Harley-Davidson revs up
- 57 Europe's lobbying swamp
- 58 Musical plagiarism
- 59 Pharma patents under fire
- 60 **Schumpeter** Bosses' pay

**Finance & economics**

- 61 American inflation
- 62 **Buttonwood** The bull case for Britain
- 63 China's census
- 63 David Swensen
- 64 Taxing multinationals
- 66 **Free exchange** Corporate taxes

**Science & technology**

- 68 Recycling car batteries...
- 69 ...and rare earths
- 70 Gender dysphoria
- 71 Charismatic megafauna
- 71 Hypersonic flight

**Books & arts**

- 72 Stacey Abrams
- 73 Thomas Becket's murder
- 74 Opioids in America
- 75 Napoleon's art theft
- 75 Heist fiction

**Economic & financial indicators**

- 76 Statistics on 42 economies

**Graphic detail**

- 77 Park attendance and changing birth rates

**Obituary**

- 78 T.S. Shanbhag, proprietor of a piece of old Bangalore

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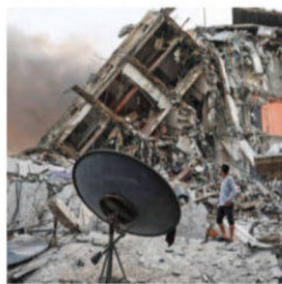
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**Israel** and Hamas, the militant group that controls **Gaza**, were on the brink of war. The crisis began with clashes around the al-Aqsa mosque, Islam's third-holiest site. Israeli police fired stun-grenades and rubber bullets at rock-throwing Palestinians. Hamas and its allies then fired more than 1,600 rockets at Israel, which responded with hundreds of air strikes on Gaza. Scores of people, mostly Palestinians, were killed. Israel said it had killed Hamas officials. Adding to the turmoil, street fighting broke out in several Israeli cities between Jews and Arabs.

**Iran** confirmed that it was talking to **Saudi Arabia**, its arch-rival, in an effort to resolve the many issues that divide them. The secret discussions were mediated by Iraq and started in Baghdad early last month. Meanwhile, an American Coast Guard ship fired warning shots at boats from Iran's Revolutionary Guard in the Strait of Hormuz when they got too close to American naval vessels, the second incident in two weeks.

Republicans in the House of Representatives ousted **Liz Cheney** from her senior leadership role. The eldest daughter of Dick Cheney, George W. Bush's vice-president, Ms Cheney has bona fide conservative credentials; her sin was to reject the lie that last November's election was stolen. A defiant Ms Cheney urged her party to stand up to Donald Trump, warning that "remaining silent, and ignoring the lie, emboldens the liar."

An attempt by the **National Rifle Association** to declare bankruptcy and move its legal

headquarters to Texas was thrown out of court. The judge found that the gun lobby was using what is supposed to be a financial course of action to avoid possible charges of corruption in New York, where it is incorporated.

Protests continued in **Colombia** for a third week. At least 13 people have been recorded as being killed, though the actual number may be higher. Around 60 investigations into police brutality have opened. President Iván Duque attempted to negotiate with protest leaders, with little success. What started as an outcry against an unpopular proposed tax law has broadened into a larger push for reform.

The Scottish National Party's drive for an independent **Scotland** faltered after it failed to win an outright majority in elections to the Scottish Parliament. Together with seats held by the pro-independence Greens, there is a majority for a referendum in the Parliament, but polling has swung a bit against holding another vote. A bruising battle to break from the rest of the United Kingdom wouldn't be easy. Brexit has proved that.

Britain's **Labour Party** lost Hartlepool in a by-election, a constituency it had held since its creation in 1974. A huge swing gave the Conservatives 52% of the vote, nearly twice that of Labour; sitting governments have won by-elections only a handful of times. Labour's leader, Sir Keir Starmer, came under more pressure when the party lost many seats in council elections. Labour's candidate in Hartlepool said voters did not know what the party now stood for.

At a summit meeting in Portugal, EU leaders rejected proposals by Joe Biden to waive covid-19 **vaccine patents** as a way to increase the supply of the drugs. They argued that it would be more helpful if America were to relax its restrictions on the export of vaccines.

Seven children and two adults were killed in a shooting at a school in the **Russian** city of Kazan; 23 others, most of them children, were injured. President Vladimir Putin said he would review the country's gun-control laws. The assailant was a former pupil.

A car bomb outside a girls' school in Kabul killed at least 85 people, mostly pupils. The Taliban denied responsibility. The attack, which occurred in a part of the city that is home to the Hazara ethnic minority, has intensified concerns that the American withdrawal from **Afghanistan** in September will be followed by greater violence against women and minorities. Meanwhile the Taliban seized control of a district near Kabul, the second in a week.

**India's** covid crisis continued to engulf the country, spreading into the rural hinterland and spilling over the country's borders. Daily recorded infections in **Nepal** have jumped by a factor of 25 in the past month and one in every two tests returns a positive result, twice India's already high rate, suggesting many cases are going undetected. Infections are also rising across South-East Asia, testing the capacity of health systems.

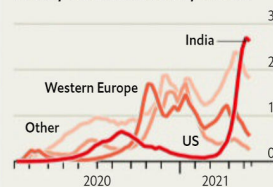
Debris from China's Long March 5B **rocket** plunged into the Indian Ocean. The Chinese government announced that the "great majority" of the material had burned up before reaching the Earth's surface. Nevertheless, NASA accused China of failing to "meet responsible standards" because of its failure to plan a "targeted re-entry" of the debris.

**China** finally released details of its census, which showed that its population reached 1.41bn last year, up by 5.4% from a decade ago. The results contradicted media reports that suggested China's population had fallen below 1.4bn, which would have marked the first decline in six decades.

## Coronavirus briefs

To 6am GMT May 13th 2021

### Weekly confirmed cases by area, m



### Vaccination doses

	Total '000	% of adults with 1st dose	2nd
Israel	10,515	97	91
Bhutan	482	95	0
UAE	11,273	86	54
Mongolia	2,310	82	31
Malta	393	74	36
Maldives	438	74	33
Britain	53,676	68	35
Bahrain	1,416	63	46
United States	263,133	62	44
Chile	15,872	61	51

Sources: Johns Hopkins University CSSE; Our World in Data; United Nations

The **United States** reported its lowest number of new daily cases since June. Just over 22,200 cases were recorded on May 10th, down from a peak of more than 312,000 in early January. Daily deaths fell to 280 on May 9th; in January they peaked at over 4,000.

America's Food and Drug Administration approved the use of the Pfizer vaccine in **children** aged 12 to 15.

The World Health Organisation recommended the use of the **Sinopharm vaccine**, the first vaccine from China ever to be endorsed by the global body. Produced by a state-owned company, it will be added to the COVAX programme providing doses to poor countries.

Hailed for its comparatively low number of infections and deaths, **Taiwan** tightened restrictions because of a small outbreak of locally transmitted cases. The country's stock-market swooned.

→ For our latest coverage of the virus please visit [economist.com/coronavirus](https://www.economist.com/coronavirus) or download the Economist app.





America's annual **inflation** rate soared to 4.2% in April, higher than expected and fuelling concerns that rising consumer prices may become a problem for the American economy. Inflation hawks blame the huge amounts of stimulus injected into the economy and a boom in consumer demand (prices for used cars were up by a fifth, year on year). Global supply bottlenecks are also pushing up costs for manufacturers. The Biden administration, however, thinks inflationary pressures are temporary and will ease later this year.

**Commodity prices** are also going up, with the prices of iron ore and copper reaching record highs, in part because China's factories are sucking up supplies. Oil prices are on the ascent again, approaching \$70 for a barrel of Brent crude.

The FBI launched an investigation into a cyber-attack that forced the closure of the **Colonial Pipeline**, which stretches from Texas to New Jersey, providing half the transport fuel for America's east coast. A criminal gang called DarkSide claimed responsibility. It describes itself as apolitical. There was some panic-buying of petrol (gas) as pump prices soared.

With the outlook for inflation uncertain, **stockmarkets** bounced around as investors pondered whether the Federal Reserve would change direction and raise interest rates. The share prices of high-growth big tech companies have fallen in recent weeks because higher bond yields lower the value of their forecast earnings.

Markets were also rattled by weak data on the **American jobs market**. Employers added 266,000 people to their payrolls in April, well below the numbers for February and March. And job vacancies hit 8.1m at the end of March, the most since records were first compiled in 2000. That led to a lot of head-scratching by economists trying to explain a lack of hiring when the economy is taking off.

#### Just warming up

The **British economy** shrank by 1.5% in the first quarter compared with the previous three months. The post-Christmas lockdown hit output hard in January, but by March it was expanding again as businesses adapted to the restrictions. GDP was still 6% smaller than before the start of the pandemic in February 2020.

**SoftBank** reported net income of ¥5trn (\$46bn) for the year ending March 31st, a record annual profit for a Japanese company. Much of that came from gains in its vision-fund investments, particularly **Coupang**, a South Korean e-commerce company that went public in March. It reported a deep quarterly loss this week, despite rising sales.

Elon Musk, a vocal backer of digital currencies, reversed his three-month-old policy and said that Tesla would not now accept **bitcoin** as payment for its cars because of the environmental effects from the electricity used to power the currency on computers.

The EU's General Court, the second highest in the bloc, ruled that the European Commission was wrong to order **Amazon** to pay €250m (\$300m) in taxes to Luxembourg, finding that the commission had not proved the firm received special tax treatment. The same court made a similar decision last year in the case of Apple; the commission is appealing that ruling to the European Court of Justice.

America's Department of Defence agreed to remove **Xiaomi** from its ban on American investment in companies that are said to have ties to the Chinese army. The maker of smartphones and other devices had already won a suspension of the ban in court.

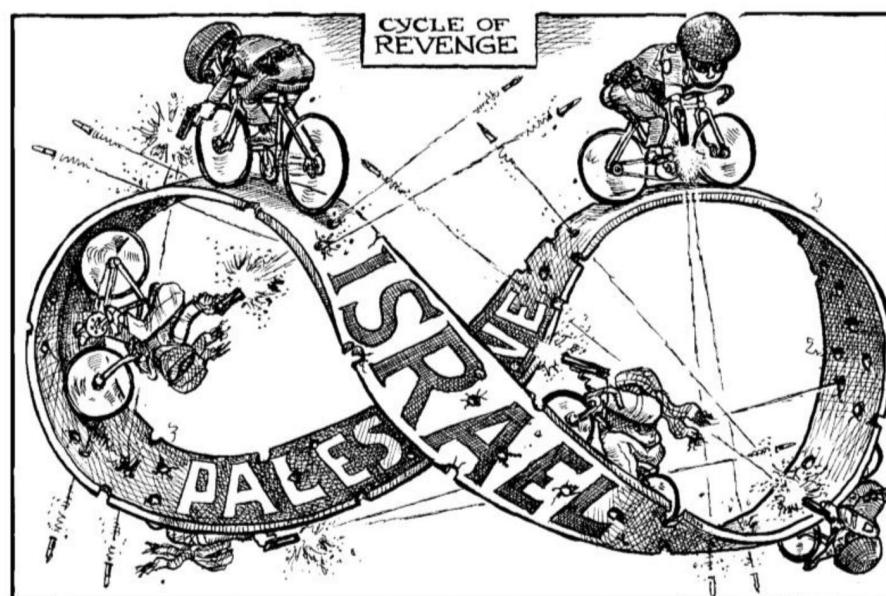
Almost 40% of the shareholder vote at **AstraZeneca's** annual meeting rejected the salary package for its CEO, the latest in a wave of rebellions by investors against generous

payouts for executives dished out during the pandemic. The pay policy—which increases the potential bonus and stock awards for Pascal Soriot—was approved by just 60% of shareholders at the meeting.

There were more signs of a recovery in the **tourism industry**. TUI, the world's largest tour company, said there had been a clear pickup in demand. Although it doesn't expect its business in 2021 to reach pre-pandemic levels, bookings for holidays next year from Britain, one of its biggest customer markets, are exceeding bookings at this point in 2019.

#### Choose your words carefully

The share price of **Meituan** plunged, after the Chinese shopping platform's chief executive posted an ancient poem on social media that was taken as a swipe against the government. Like Alibaba, Meituan is in the government's cross-hairs for being too big and influential, and is under investigation for alleged anti-competitive practices. Wang Xing posted a poem written during the Tang dynasty over 1,000 years ago, which criticised the emperor's attempt to crush dissent.



# Vaccinating the world

Our model reveals the true course of the pandemic. Here is what to do next

**T**HIS WEEK we publish our estimate of the true death toll from covid-19. It tells the real story of the pandemic. But it also contains an urgent warning. Unless vaccine supplies reach poorer countries, the tragic scenes now unfolding in India risk being repeated elsewhere. Millions more will die.

Using known data on 121 variables, from recorded deaths to demography, we have built a pattern of correlations that lets us fill in gaps where numbers are lacking. Our model suggests that covid-19 has already claimed 7.1m-12.7m lives. Our central estimate is that 10m people have died who would otherwise be living. This tally of "excess deaths" is over three times the official count, which nevertheless is the basis for most statistics on the disease, including fatality rates and cross-country comparisons.

The most important insight from our work is that covid-19 has been harder on the poor than anyone knew (see Briefing). Official figures suggest that the pandemic has struck in waves, and that the United States and Europe have been hit hard. Although South America has been ravaged (see Americas section), the rest of the developing world seemed to get off lightly.

Our modelling tells another story. When you count all the bodies, you see that the pandemic has spread remorselessly from the rich, connected world to poorer, more isolated places. As it has done so, the global daily death rate has climbed steeply.

Death rates have been very high in some rich countries, but the overwhelming majority of the 6.7m or so deaths that nobody counted were in poor and middle-income ones. In Romania and Iran excess deaths are more than double the number officially put down to covid-19. In Egypt they are 13 times as big. In America the difference is 7.1%.

India, where about 20,000 are dying every day, is not an outlier. Our figures suggest that, in terms of deaths as a share of population, Peru's pandemic has been 2.5 times worse than India's. The disease is working its way through Nepal and Pakistan. Infectious variants spread faster and, because of the tyranny of exponential growth, overwhelm health-care systems and fill mortuaries even if the virus is no more lethal.

Ultimately the way to stop this is vaccination. As an example of collaboration and pioneering science, covid-19 vaccines rank with the Apollo space programme. Within just a year of the virus being discovered, people could be protected from severe disease and death. Hundreds of millions of them have benefited.

However, in the short run vaccines will fuel the divide between rich and poor. Soon, the only people to die from covid-19 in rich countries will be exceptionally frail or exceptionally unlucky, as well as those who have spurned the chance to be vaccinated. In poorer countries, by contrast, most people will have no choice. They will remain unprotected for many months or years.

The world cannot rest while people perish for want of a jab costing as little as \$4 for a two-dose course. It is hard to think of a better use of resources than vaccination. Economists' central estimate for the direct value of a course is \$2,900—if you include factors like long covid and the effect of impaired education, the total is much bigger. The benefit from an extra 1bn doses sup-

plied by July would be worth hundreds of billions of dollars. Less circulating virus means less mutation, and so a lower chance of a new variant that reinfects the vaccinated.

Supplies of vaccines are already growing. By the end of April, according to Airfinity, an analytics firm, vaccine-makers produced 1.7bn doses, 700m more than the end of March and ten times more than January. Before the pandemic, annual global vaccine capacity was roughly 3.5bn doses. The latest estimates are that total output in 2021 will be almost 11bn. Some in the industry predict a global surplus in 2022.

And yet the world is right to strive to get more doses in more arms sooner. Hence President Joe Biden has proposed waiving intellectual-property claims on covid-19 vaccines. Many experts argue that, because some manufacturing capacity is going begging, millions more doses might become available if patent-owners shared their secrets, including in countries that today are at the back of the queue. World-trade rules allow for a waiver. When invoke them if not in the throes of a pandemic?

We believe that Mr Biden is wrong. A waiver may signal that his administration cares about the world, but it is at best an empty gesture and at worst a cynical one.

A waiver will do nothing to fill the urgent shortfall of doses in 2021. The head of the World Trade Organisation, the forum where it will be thrashed out, warns there may be no vote until December. Technology transfer would take six months or so to complete even if it started today. With the new mRNA vaccines made by Pfizer and Moderna, it may take longer. Supposing the tech transfer was faster than that, experienced vaccine-makers would be unavailable for hire and makers could not obtain inputs from suppliers whose order books are al-

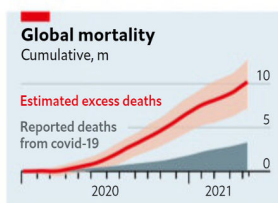
ready bursting. Pfizer's vaccine requires 280 inputs from suppliers in 19 countries. No firm can recreate that in a hurry.

In any case, vaccine-makers do not appear to be hoarding their technology—otherwise output would not be increasing so fast. They have struck 214 technology-transfer agreements, an unprecedented number. They are not price-gouging: money is not the constraint on vaccination. Poor countries are not being priced out of the market: their vaccines are coming through covax, a global distribution scheme funded by donors.

In the longer term, the effect of a waiver is unpredictable. Perhaps it will indeed lead to technology being transferred to poor countries; more likely, though, it will cause harm by disrupting supply chains, wasting resources and, ultimately, deterring innovation (see Business section). Whatever the case, if vaccines are nearing a surplus in 2022, the cavalry will arrive too late.

## A needle in time

If Mr Biden really wants to make a difference, he can donate vaccine right now through COVAX. Rich countries over-ordered because they did not know which vaccines would work. Britain has ordered more than nine doses for each adult, Canada more than 13. These will be urgently needed elsewhere. It is wrong to put teenagers, who have a minuscule risk of dying from covid-19, be- ➤





fore the elderly and health-care workers in poor countries. The rich world should not stockpile boosters to cover the population many times over on the off-chance that they may be needed. In the next six months, this could yield billions of doses of vaccine.

Countries can also improve supply chains. The Serum Institute, an Indian vaccine-maker, has struggled to get parts such as filters from America because exports were gummed up by the Defence Production Act (DPA), which puts suppliers on a war-footing. Mr Biden authorised a one-off release, but he should be focusing the DPA on supplying the world instead. And better use

needs to be made of finished vaccine. In some poor countries, vaccine languishes unused because of hesitancy and chaotic organisation. It makes sense to prioritise getting one shot into every vulnerable arm, before setting about the second.

Our model is not predictive. However it does suggest that some parts of the world are particularly vulnerable—one example is South-East Asia, home to over 650m people, which has so far been spared mass fatalities for no obvious reason. Covid-19 has not yet run its course. But vaccines have created the chance to save millions of lives. The world must not squander it. ■

## Israel and the Palestinians

# Stopping the cycle

### Only negotiations will bring lasting peace

IT WAS A confrontation waiting to happen, in a conflict the world would rather ignore. Israelis and Palestinians have once again goaded each other to the brink of war in the Holy Land. Hundreds of rockets, fired by Palestinian militants, have been aimed at Jerusalem, Tel Aviv and southern Israel. Gaza, the Palestinian territory run by Hamas, a violent Islamist movement, has been hit even harder by Israeli air strikes. Arabs and Jews have clashed in the streets of Israeli cities. Dozens of people, most of them Palestinian, have been killed.

The worst fighting between Israelis and Palestinians in years has Jerusalem at its heart, as so often (see Middle East & Africa section). In April, at the start of the Muslim holy month of Ramadan, Israel's police chief fenced off the plaza around the Damascus Gate, one of the entrances to Jerusalem's old walled city and a gathering spot for Palestinians. The move, made for "security reasons", led to clashes between Palestinians and Israeli police. Hundreds were injured. Then the rockets started flying.

The violence, as ever, is counterproductive. Turning Israeli cities "into hell", as Hamas threatens, will not help the Palestinians who suffer grievously in Gaza—just the opposite, in fact. Every rocket that Hamas fires makes it easier for Israel to claim that it has "no partner for peace" and to intensify its siege of Gaza. But Israel, too, must reconsider its strategy. Its leaders view the broader conflict as something to be managed, not solved. Yet its unjust treatment of the Palestinians stores up trouble. Today's crisis was predictable—even if the spark that ignited it was not.

Jerusalem epitomises the problem. Israel claims the city as its "eternal and undivided capital". But its inhabitants are irrevocably split. The eastern part of the city, although captured by Israel in 1967, remains largely Palestinian. The Oslo accords of 1993 left the city's status to be settled in a permanent peace deal between Israel and the Palestinians. But Israel has built a wall separating Jerusalem from the Palestinian hinterland. It seeks to strengthen its claim to the whole city by ringing it with new Jewish homes and squeezing Palestinians out. Though they make up 38% of Jerusalem's population, most local Palestinians are not citizens but mere "residents", granted access to health care and social security, but not the same rights as Jews.

This disparity in the law is at the heart of a case before Israel's Supreme Court that is making the atmosphere more febrile. The

court is reviewing a judgment to evict Palestinian families from the Sheikh Jarrah neighbourhood of East Jerusalem. Their homes sit on land that was owned by Jews before Jordan occupied the eastern part of Jerusalem in 1948. Israeli law allows the heirs of the original owners to reclaim property in East Jerusalem. Yet Palestinians cannot claim their former homes in West Jerusalem (or anywhere else in Israel). No wonder Palestinian residents of the city are always ready to protest.

The injustices elsewhere are worse. Palestinians in the wider West Bank, like those in Jerusalem, have watched Israel confiscate land and build settlements on occupied territory, which is illegal under international law. They must also deal with Israeli checkpoints and an onerous permit regime. In Gaza more than 2m Palestinians have been cut off from the world by Israeli and Egyptian blockades since 2007, when Hamas grabbed control. The territory struggles to keep the lights on; the tap water is filthy. Despair at such conditions led to violence in 2018 and 2019, and is feeding the current spasm.

Yet Israeli politicians ignore the conflict. The Palestinian issue did not feature in any of the four elections Israel has recently held. Most Israelis are comfortable with the "anti-solutionism" of Binyamin Netanyahu, the prime minister, who shows little interest in pursuing a permanent settlement with the Palestinians. His domestic rivals are edging closer to a deal that would push him out of power. But, before the recent violence, they said little about how they would handle the conflict.

Palestinian leaders have made it easy for Israel to give up on peace. Hamas is more interested in firing rockets than improving the lives of Gazans. Its rival, Fatah, has not done much better in the West Bank. The party's leader, Mahmoud Abbas, is in the 17th year of a four-year term as Palestine's president. He seems concerned mainly with preserving his own power. On April 29th, blaming Israel for restricting voting in East Jerusalem, he indefinitely postponed elections that Fatah was likely to lose.

With little hope of a better future, a good number of young Palestinians favour confronting Israel. That makes repeated fits of deadly violence inevitable. Only negotiations will bring lasting peace. Western and regional powers should press for them to resume; Israeli and Palestinian leaders should come to the table. Solving the conflict will be even harder than managing it. But talking is the one permanent way out. ■



## Supply shortages

## The bottleneck economy

America's boom is increasing worries about an inflation scare

THE GLOBAL economy is entering unfamiliar territory. After a decade of worries about inadequate demand and spending power in the aftermath of the global financial crisis, signs of insufficient supply are now emerging. A lack of goods, services and people means that red-hot demand is increasingly met slowly or not at all. There are already signs that supply bottlenecks may lead to nasty surprises which could upset the post-pandemic recovery. Nowhere are shortages more acute than in America, where a boom is under way. Consumer spending is growing by over 10% at an annual rate, as people put to work the \$2trn-plus of extra savings accumulated in the past year. More stimulus is still being doled out.

The boom is creating two kinds of bottleneck. The first relates to supply chains. There are shortages of everything from timber to semiconductors. The cost of shipping goods from China to America has tripled. Companies have not reported supplier delays this severe in decades. In the past year many firms have cut their investment in logistics. Lockdowns have left some container ships stranded. Companies are trying to go from 0 to 60 and it shows.

The second kind of bottleneck is in labour markets. In April America created only 266,000 jobs, many fewer than the 1m or more that had been expected. Yet job vacancies are at all-time highs, and so firms are struggling to fill positions. Economists argue over whether generous unemployment benefits are giving people a reason not to look for work. It also takes time for people to move from dying industries to growing ones.

As booming demand runs up against tight supply, inflation is in the spotlight. In April American consumer prices rose by 4.2%

year on year, up from 2.6% in March (see Finance section). This partly reflects "base effects": oil prices are only as high as they were in 2019, but 272% higher than in April 2020. It also reflects a genuine underlying rise in global prices. China's factory-gate prices are rising at the fastest rate in over three years.

Central banks insist that their maximal stimulus must continue for fear of jeopardising the nascent recovery (see Charlemagne). Lael Brainard, a governor of the Federal Reserve, has said that the inflation spike as the economy reopens will be "largely transitory". Jerome Powell, the chairman, sees little reason to worry. The Fed will tolerate somewhat above-target inflation for a bit, in part because it expects prices soon to fall back. So do many forecasters.

Yet this approach carries dangers. One is that inflation fades slowly. The supply bottlenecks of the early phase of the pandemic in 2020 cleared fast, but there is no guarantee this will happen now. Inflation expectations may also rise if people come to believe that central banks will act slowly and too late. Many companies are now discussing inflation with their investors. Bond-market traders think the Fed will be forced to act sooner than it wants. Bill Dudley, a former governor, worries that the Fed will have to raise interest rates to as high as 4.5% to cool the economy.

This points to the danger that sharp rate rises rock markets. So far the main event has been a sell-off in tech stocks, which is manageable. Banks are well capitalised. Yet the recent implodings of Archegos, a hedge fund, and Greensill Capital, a finance firm, are a reminder of the hidden leverage in a financial system that has come to depend on low interest rates. The post-pandemic boom may not always be exciting for the right reasons. ■



## British politics

## The wrong sort of conservatism

Boris Johnson wants a big state that crimps civil liberties

CONSERVATISM, AS PRACTISED by the British Conservative Party, is a capacious creed, open to a wide range of interpretations. For Margaret Thatcher, it meant the moral and economic discipline of the free market; for David Cameron, liberal centrism and the embrace of globalisation.

Boris Johnson's interpretation has been hard to decipher, partly because it has been obscured by the chaos of covid-19 and partly because he has never shown any commitment to a set of political ideas. So the Queen's Speech, delivered on May 11th, in which the government presents its programme for the next session of parliament, was of particular interest. It was the clearest expression so far of what might one day be called Johnsonism.

That Mr Johnson is now thought quite likely to be in power for long enough to have his own "ism" would have surprised many just a year ago. His management of the early stages of the

pandemic was lethally slipshod, and there was much grumbling about his leadership. However, on May 6th the Conservatives thumped the Labour Party in a by-election and in a series of local polls (see Britain section).

Mr Johnson's popularity springs from several sources. One is a successful vaccine roll-out, and consequent liberation of the population from lockdown. Another is Mr Johnson himself. His boisterous willingness to outrage liberal sensibilities goes down well outside the cities, and his finely tuned political instincts have led him to espouse a combination of cultural conservatism and statist economics that has more in common with Gaullism or Eisenhower's "modern Republicanism" than it has with Thatcherism or Cameron-style conservatism.

Some of the intervention that the government promises is welcome. It plans to boost investment in R&D and to "level up" ►►



▶ the country by splashing out on infrastructure and on vocational education, which both need money and attention. It promises to reform the planning system, which allows homeowners to veto development and thus condemns Britons to live in expensive rabbit-hutches.

Mr Johnson's solution to the problem of NIMBYism is to limit local authorities' say on planning, giving central government more control over development. Whether or not he will really face down angry suburbanites in the Home Counties over new houses—he has already bottled out of a previous attempt—this approach derives from the fundamental problem with Johnsonism: his tendency to grab power. If local authorities do not want development, Mr Johnson's answer is not to give them more say over taxation and thus an incentive to grow, but to force them to accept it. If parts of the country are poor, his answer is not to allow them to develop their own growth strategies, but to create a central fund to give them money.

The government is extending its control over the economy, too. Its plan for freeports is an attempt to direct investment to particular parts of the country. It is taking the opportunity that Brexit offers to give itself more discretion over handing out money to private companies and over using public procurement

to further its levelling-up agenda. Both should send shivers down taxpayers' spines.

The programme also includes a constitutional power-grab. Mr Johnson has had his sights set on the judiciary ever since the Supreme Court prevented him from proroguing Parliament over Brexit in 2019. That explains plans to limit the judges' power to challenge the executive, as well as to restore the executive's discretion over when to call an election, which Mr Cameron's coalition government had renounced.

And as state power extends, so civil liberties will be cramped. The government has entertained new restraints on protest, limitations on asylum and voter-ID requirements. It looks set on meddling in culture and universities. These measures are all designed to press culturally conservative voters' hot-buttons.

### Johnsonism unbound

For a prime minister who hopes to use his newly recovered mandate to call an early election and wants to be seen to be doing stuff, the extension of central-government power has a clear appeal. For this newspaper, which puts a high price on civil liberties and believes that smaller states and freer markets make for more prosperous countries, it does not. ■

## Corporate-tax dodging

# End the contortions

Corporate-tax gymnastics have reached Olympic gold-medal levels. Time for new rules

TAX COMPANIES too much, and growth will shrivel. Tax them too little, and resentment will soar. The public and politicians in Western countries have long thought the treatment of multinationals falls too close to that second extreme. Now the system is reaching breaking-point (see Finance section). Over 40 countries are squabbling over how to impose levies on Silicon Valley firms. Meanwhile the pandemic is forcing governments to find ways to plug their fiscal deficits, not least the Biden administration, which wants to increase multinationals' tax rate.

The best hope for an amicable outcome lies in a forum run by the OECD, a club of mainly rich countries, where this summer 139 countries hope to agree on new tax principles. Success would represent the most important overhaul to the international architecture in a century. It would also help avoid chaos.

In theory, globe-trotting companies pay taxes based on where they have their headquarters, and where they do the work that produces their profits. An individual firm's legal affiliates are typically taxed separately, with transfers between them recorded as if on the open market. In practice, firms cut their tax bills by divorcing their reported profits from where they conduct business.

This has become easier because of the rise of intangible assets such as brands. The share of American multinationals' foreign profits booked in tax havens has doubled since 2000, to 63% in 2018. We estimate they had only 5% of their staff in these places. They booked more profit in Bermuda than in China.

Tax havens insist that rock-bottom tax rates are an expression of their sovereignty. But around the world exchequers are robbed of up to \$240bn a year by firms rerouting profits, the

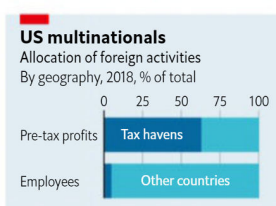
OECD reckons. Taxpayers in America or France are right to feel aggrieved when the income a tech firm generates there is magically away to Ireland or a shell company in the Caribbean.

A globally co-ordinated minimum tax would blunt the incentive to engage in shenanigans (see Free exchange). Some 330,000 people list "transfer pricing" on their LinkedIn profile. Treating companies as a whole, rather than relying on transfer pricing, could reduce the army of advisers running circles around tax authorities. Allocating taxing rights according to where firms really operate would be harder to game, as consumers and staff are less mobile than algorithms.

Talks at the OECD are at least moving in the right direction, with both a minimum tax and a reallocation of taxing rights under discussion. The Biden administration wants a minimum global rate of 21%, but squeals from havens mean that 10-15% is more probable. Some global profits are likely to be freed from the broken "arm's length" transfer-pricing approach, but only a small slice of them.

Bolder reform would be better. Tax authorities should do away with the fiction that intangible capital can be priced accurately through transfer pricing and instead try to reflect where activity takes place, by looking at sales and where employees are. This would benefit not only short-changed advanced economies but also poorer countries, which often lose out too.

Time is of the essence. Without reform, the distortion and disorder will worsen. Corporate tax-departments will arbitrage mismatches between different countries' tax laws. And countries that are short-changed will take action on their own, leading to an acrimonious tangle of tax grabs and tariff spat. ■



## Complacent Taiwan

Though the risk of escalation between Taiwan and China is increasing, the Taiwanese public remain nonchalant about the possible outbreak of war ("The most dangerous place on Earth", May 1st). The chief reason is the global demand for semiconductor chips. Mark Liu, chairman of Taiwan Semiconductor Manufacturing Company, has said that his firm is the silicon shield preventing Taiwan from an attack by mainland China. This view is widely shared by the Taiwanese public. Su Tseng-chang, the prime minister, thinks that "as long as the world needs Taiwan, the island will be safe."

This mentality, based on the belief that the international community will protect Taiwan because of its economic importance, is ill-founded. Even though the discussion centres on the disruption of the supply chain for chips, Taiwan's strategic importance does not guarantee its safety. Ignoring these perils can only put the island in a more dangerous position.

C.Y. HUANG  
President  
FCC Partners Asia  
Taipei

## Scots who want to stay

The possible preference of the Scottish counties that lie on the border with England not to join a Scottish separation from the United Kingdom should be considered seriously ("Bordering on nervous", May 1st). These counties have voted against the Scottish National Party in elections for the Scottish and Westminster parliaments, and, by nearly two to one, against devolution in 1979 and independence in 2014. This is the same margin by which Scots voted to remain in the European Union, prompting Nicola Sturgeon to claim that Scotland was being dragged out of the bloc "against our will".

Sauce for the goose?  
JACK PONTON  
Earlston, Scottish Borders

## The church in Spain

It is true that Spain's constitution of 1978 "separated church and state, but acknowledged Spaniards' religious faith" ("Empty pews, big pulpit", May 1st). But it went further than that. Article 16 declares: "the public authorities shall take the religious beliefs of Spanish society into account and shall in consequence maintain appropriate co-operation with the Catholic church and the other confessions." No other religious group is mentioned by name. The left at the time viewed this as introducing covert confessionalism.

Furthermore, the church is the only one that benefits from the system that allows taxpayers to donate 0.7% of their annual tax income to it, without increasing their total tax bill. Yet there are a significant number of Muslims in Spain as well as Jews and Protestants.

According to the 1979 agreement between Spain and the Vatican, the church was meant to work towards self-financing, but this has not happened. Spain remains far from being a French-style secular state.

WILLIAM CHISLETT  
Elcano Royal Institute  
Madrid

## Covid and community

Graphic detail looked at the economic impact of covid-19 on suicide rates (April 24th). The reported decrease in suicide, perhaps surprising given many people's financial hardship, could be explained by the work of Emile Durkheim. In "Suicide", the late-19th-century French sociologist studied people who took their own life and how they interacted with society. He described four types of suicide, one of which is egoistic suicide, when an individual does not feel a sense of belonging.

It is well known that in times of war suicide rates drop. This is generally ascribed to a "we're all in it together" sentiment in a unified fight against a common foe. It is plausible that the war on covid has united societies in this way

and suicide rates have fallen as a consequence.

NICK AIREY  
Psychiatrist  
Sheldon, Devon

## Patent law

"Ruling the world" (April 24th) made the point that British lawyers have lost the right to practise in Europe, potentially undermining the reach of British courts and practitioners. One important area where the links remain is patents. The European Patent Convention (and its associated European Patent Office) is an international treaty organisation independent of the EU, and so British-based patent attorneys can still prosecute European patent filings in Munich and The Hague. Britain is a member of its board.

British patent courts are often used to clear the way for new innovators faced by threats of injunctions or costly licences. That's an important service the British legal system can still provide to the world.  
TONY CLAYTON  
Former chief economist at the Intellectual Property Office  
Sevenoaks, Kent

## Not every worker gets a lift

Tearing down barriers to occupations through meritocratic access to education and retraining will not create more opportunities for low-skilled workers hoping to "climb the ladder" to high-skilled jobs ("Riding high", April 10th). This assumes talent and ability are evenly distributed and that some people will work harder to jump on a waiting empty elevator, pushing the button to reach a higher socioeconomic position.

Mobility is upward and downward. The higher floors have a finite space. The elevators are also full of people on the way down. Anne Case and Angus Deaton call this the dark side of democracy in "Deaths of Despair and the Future of Capitalism". Those left behind are devalued and disrespected as "losers". The meritocratic elite contribute to the culture

of overwork, their success making everybody else feel that they have failed.

CHRISTOPHER VOISEY  
Singapore

## A Dickens of a story

Pyramid schemes of the type described in your obituary of Bernard Madoff (April 24th) form important components in two novels by Charles Dickens, "Martin Chuzzlewit" and "Little Dorrit". The modus operandi in both cases is remarkably similar to your account. Decades before the infamous Ponzi scheme, I'd like to know whether they came purely from the fertile imagination of the great author, or whether such con tricks existed in England at the time. It seems safe to assume that Madoff's victims did not have the benefit of reading either book in their youth.

JOHN DOUGLAS HEY  
Calgary

## Too many Cs at work

I laughed out loud at Bartleby's satire of chief impact officers (April 10th). Each one I have met struggled to articulate what good or service they practically made available. The expansion of the C-suite has been mind-boggling in my own organisation. When I asked our chief information-security officer for policy advice on the medical data of our staff, he asked the chief people officer, chief information officer and chief technology officer to refer the query I had raised to my own office, on the advice of the chief medical officer.

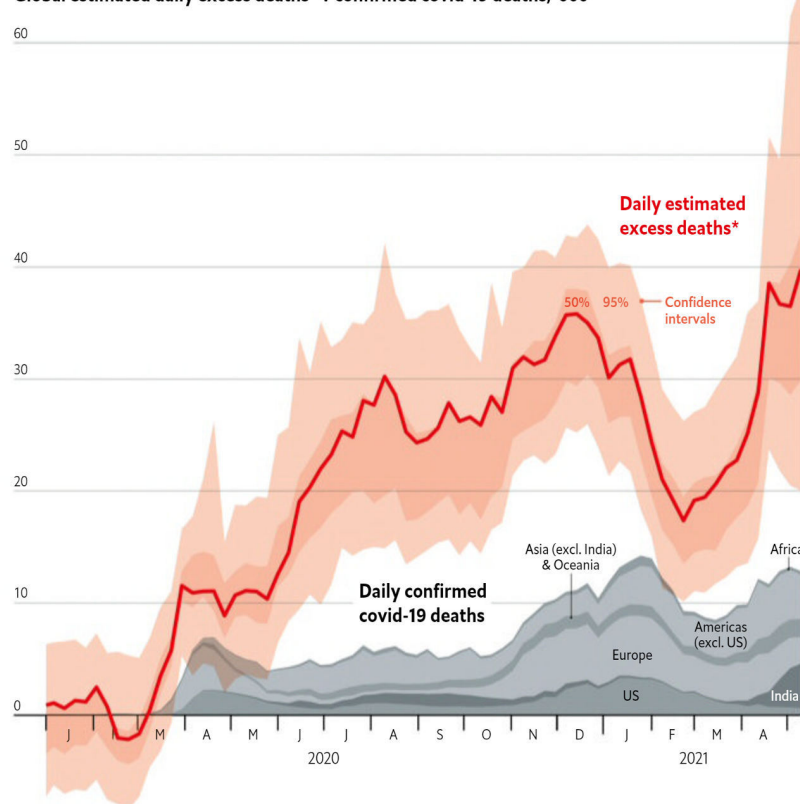
Fortunately I get on well with our chief mental health officer. Perhaps he can alleviate these challenges to my sanity.

JACK SEABROOK  
Auckland, New Zealand

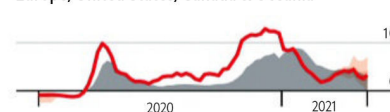
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More letters are available at: [Economist.com/letters](https://www.economist.com/letters)



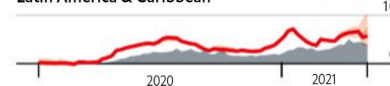
Global estimated daily excess deaths\* v confirmed covid-19 deaths, '000



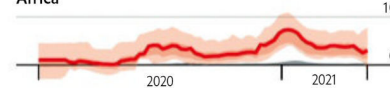
Europe, United States, Canada &amp; Oceania



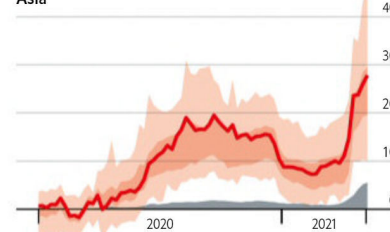
Latin America &amp; Caribbean



Africa



Asia



\*Deaths relative to expected deaths in normal years  
Sources: Johns Hopkins University CSSE; *The Economist* excess-deaths model (see [economist.com/ExcessDeathsModel](https://www.economist.com/ExcessDeathsModel) for full sources)

## Counting the dead

**Covid-19 has led to between 7m and 13m excess deaths worldwide, according to a model built by *The Economist***

OFFICIAL FIGURES say there have been 55,000 covid deaths in South Africa since March 27th last year. That puts the country's death rate at 92.7 per 100,000 people, the highest in sub-Saharan Africa. It is also a significant underestimate—as, it seems safe to infer, are all the other African data on the disease.

Over the year to May 8th the country recorded 158,499 excess deaths—that is, deaths above the number that would be expected on past trends, given demographic changes. Public-health officials feel confident that 85-95% of those deaths were caused by SARS-CoV-2, the covid-19 virus, almost three times the official number. The discrepancy is the result of the fact that, for a death to be registered as caused by covid-19, the deceased needs to have had a covid test and been recorded as having

died from the disease. Although South Africa does a lot of testing compared with neighbouring countries, its overall rate is still low. And the cause of death is unevenly recorded for those who die at home.

South Africa is not particularly unusual in its levels of testing or in missing deaths outside the medical system. Excess mortality has outstripped deaths officially reported as due to covid-19, at least at some points in the course of the epidemic, in most if not all of the world. According to the most recent data, America's excess deaths were 7.1% higher than its official covid-19 deaths between early March 2020

and mid-April 2021.

Studies of such mismatches have proved illuminating in some countries. For example, Britain saw excess deaths higher than official covid-19 deaths during its first wave, but lower than the official covid death rates in the second—an effect taken to show that measures to stop the spread of covid had saved lives which in another year would have been lost to other diseases, such as seasonal flu, perhaps. Something similar was seen in France.

But the excess-mortality method has failed to provide useful or robust global figures for the simple reason that most countries, and in particular most poor countries, do not provide excess-mortality statistics in a timely fashion. Global estimates have used the official numbers, despite knowing that the figure—currently 3.3m—surely falls well short of the true total.

To try to put numbers on how much of an underestimate it is—and thus on how great the true burden has been—*The Economist* has attempted to model the level of excess mortality over the course of the pandemic in countries that do not report it. This work gives a 95% probability that the death toll to date is between 7.1m and 12.7m, with a central estimate of 10.2m. The

→ Also in this section

16 Producing more vaccines

official numbers represent, at best, a bit less than half the true toll, and at worst only about a quarter of it.

As well as providing a new estimate of the overall size of the pandemic, the modelling sheds light on the distribution of its effects and on its overall course.

Unsurprisingly, most of the deaths caused by covid-19 but not attributed to it are found in low- and middle-income countries. Our figures give a death rate for the mostly rich countries which belong to the OECD of 1.17 times the official number. The estimated death rate for sub-Saharan Africa is 14 times the official number. And the first-and-second-wave structure seen in Europe and the United States is much less visible in the model's figures for the world as a whole. Overall, the pandemic is increasingly concentrated in developing economies and continuing to grow.

To create these global estimates of total excess deaths during the pandemic, we drew on a wide range of data. Official counts of covid-19 deaths, however imperfect they may be, are available for most countries; they are shown in the top map on this page. So, frequently, are data on the number of covid cases and the share of covid tests that are positive. In general, if lots of tests are coming back positive, it is a fair bet that many more infections are being missed by a testing regime that is looking only at those seeking medical treatment and those near them.

### Boosting the gradient

In some places there have been seroprevalence surveys which show how many people have detectable SARS-cov-2 antibodies, a sign of earlier infection. Other factors we thought might matter included the steps governments have taken to curb the spread of disease—such as closing schools—and the extent to which people moved around.

Demography matters a lot: more younger people typically means lower death rates. So, we inferred, do less obvious factors such as systems of government and the degree of media freedom. To take a specific example, excess deaths in Russia are 5.1 times greater than official covid deaths.

All told we collected data on 121 indicators for more than 200 countries and territories. We next trained a machine-learning model which used a process called gradient boosting to find relationships between these indicators and data on excess deaths in places where they were available (those data are on the second map). The finished model used those relationships to provide estimates of excess deaths in times and places for which there were no data available. A description of our methodology and the ways in which we tested it, as well as links to replication code and data, are at [economist.com/ExcessDeathsModel](https://economist.com/ExcessDeathsModel).

We estimate that, by May 10th, there

was a 95% probability that the pandemic had brought about between 2.4m and 7.1m excess deaths in Asia (official covid-19 deaths: 0.6m), 1.5m–1.8m deaths in Latin America and the Caribbean (v 0.6m), 0–2.1m deaths in Africa (v 0.1m), 1.5m–1.6m deaths in Europe (v 1.0m) and 0.6m–0.7m deaths in America and Canada (v 0.6m). In Oceania, with only 1,218 official deaths, the model predicted somewhere between –12,000 and 13,000, the lower bound reflecting the possibility that precautions against covid-19 had reduced deaths from other causes. Readers can explore the model country by country using interactive graphics on our website.

The ranges for Africa and Asia are spectacularly wide. So they should be. The data from which to make strong predictions are not available, and in some places do not exist. Yet, wide as they are, they provide a

more reliable picture than official tallies. The 50% probability ranges narrow considerably: 3.3m–5.2m for Asia, 0.8m–1.6m for Africa, 8.2m–10.5m for the world.

During 2020 deaths per day rose for 33 of 52 weeks. After a brief lull at the beginning of 2021, they shot up to new highs, driven in large part by the tragedy currently unfolding in India. Our model suggests the country is seeing between 6,000 and 31,000 excess deaths a day, well in excess of official figures around the 4,000 mark. This fits with independent epidemiological estimates of between 8,000 and 32,000 a day. On the basis of the model it would appear that around 1m people may have died of covid-19 in India so far this year. Again, this does not seem out of line with other estimates.

The Indian catastrophe will eventually abate, as lesser spikes have elsewhere. But ▶▶

### → Two data sets and a model

#### Confirmed covid-19 deaths

Official covid-19 deaths. Likely to undercount deaths due to lack of reporting and testing.



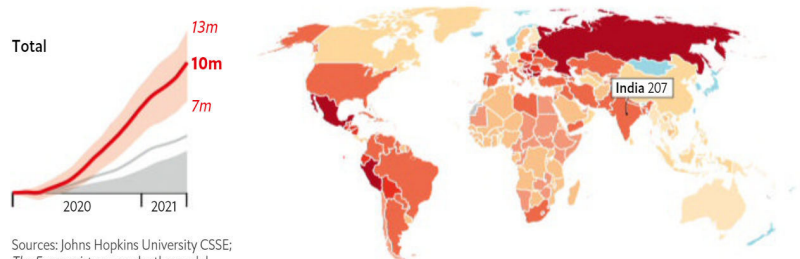
#### Reported excess deaths

Deaths relative to expected deaths in normal years. Not reported by all countries, and often reported well after the fact.



#### Estimated excess deaths

Deaths based on combination of data on excess deaths where available, and a statistical model where unknown.



Sources: Johns Hopkins University CSSE; The Economist excess-deaths model



▶ that does not mean that the global picture will improve. Though the disease rises and falls in waves in any given place—a first wave takes some of the most vulnerable and leads to responses that lower spread, a second wave builds up when those responses are loosened—the waves are not all in sync. That is why, to date, the number of daily deaths worldwide has increased in ten out of 15 months, including some, such as June and July last year, when much of the rich world was between waves.

It is worth noting, though, that despite hitting the poorer parts of the world harder than indicated by data on covid-related deaths, on a per-person basis covid-19 really has been worse in richer countries. For Asia and Africa, the average estimated deaths per million people are about half those of Europe (including Russia). India is comparable to Britain, at least for now.

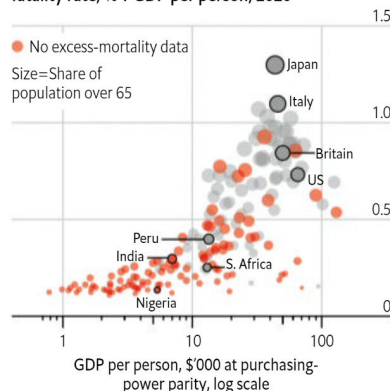
This might sound surprising to Europeans, who have been in lockdown for the better part of a year. How did people in these mostly poor countries see less death despite frequently lacking interventions to curb the spread of the virus and having less well-funded health care? It seems likely that much of the answer comes down to age. If two populations have the same level of health care, the one with more elderly people will see more deaths. If demography were the only difference, estimates of the way that the risk of dying from covid-19 infection varies with age suggest the disease would be 13 times more deadly in Japan (median age 48) than Uganda (median age 17). Reliable excess-mortality data tend to come from countries with older, more vulnerable populations (see chart).

Low as they are in absolute terms, though, the death rates among poor young populations are much higher than they would be for populations in the rich world with similar age profiles. And for the elderly in poor countries the outlook is clearly grim. South Africa has seen 120,000 excess deaths among those over 60.

The fact that a relative lack of deaths in developing countries seems to be due to age, rather than anything else, has various implications. One is that the virus is spreading easily among younger people—a finding backed by seroprevalence surveys, which find far higher rates of past infection in Afghanistan, India and elsewhere than they do in Europe or America. This suggests lots of non-fatal cases of disease, something which suggests that the problem of “long covid” will be worse in these countries. It also means that the virus is getting plenty of opportunities to mutate.

There is an exception to this story. In some countries in South-East Asia, deaths seem remarkably low, at least so far. This is not an artefact of the model: excess-death data for Malaysia and Thailand have hardly risen at all. It is possible that people there

Covid-19, demography-adjusted\* expected fatality rate, % v GDP per person, 2020



\*Average for country's population based on age and sex, assuming rich-world medical treatment  
Sources: World Bank; UN; Brazeau et al. (2020); The Economist

benefit from “cross-immunities”—a level of protection against SARS-CoV-2 conferred by past infection by other viruses circulating in the region. Unfortunately, though, there are signs that the figures are now mounting (see Asia section).

The Economist's global excess-death-toll estimates are, as far as we know, the first of their kind. They are not the only way to in-

fer the total number of deaths due to covid-19. On May 6th the Institute for Health Metrics and Evaluation (IHME) at the University of Washington published the results of a simpler model which applies fixed multipliers, mostly based on test-positivity rates, to official covid-19 death tolls in different countries and territories. This methodology often provides numbers which fail to match reported excess deaths. For example, IHME estimates that there have been 100,000 covid-19 deaths in Japan, far more than have been reported, but the excess-death figure for the year to March 2021 was 11,000.

However they are made, estimates are no substitute for data, notes Ariel Karlinsky, a statistician at the Kohlet Economic Forum, an Israeli think-tank, who as leader of the World Mortality Dataset project has collected many of the excess-mortality data on which *The Economist's* model relies. Only by better tracking of mortality in poor countries can estimates of the death rate be improved. Resources should be put into such measures not just to honour the dead and the truth, but also because, without such basic numbers, estimates of other impacts—economic, educational, cultural or in the health of survivors—are hard to understand, or to compare. ■

## Producing more vaccines

# The insufficient miracle

## How can the world increase its vaccine supply?

BIOMEDICINE HAS never seen anything like it. This time last year, no company had ever made a vaccine against SARS-CoV-2, the virus that causes covid 19, on an industrial scale. By the middle of this April a billion doses had been delivered. According to Airfinity, a data provider, a second billion doses are expected by June 1st. On current estimates the world's pharmaceutical companies look set to provide 10.9bn doses over the course of 2021.

So far this effort has increased the world's capacity for producing vaccines of all sorts by a factor of three to four. “It's insane,” says Tim Gardner, the boss of Riffyn, a biotechnology startup focused on speeding up drug-production processes. “It's an incredible success.”

At the same time many parts of the world have no smooth-running avenues of supply. The Covid-19 Vaccines Global Access Facility (COVAX), a vaccine-sharing scheme designed to provide supplies to low- and middle-income countries, has so far distributed only 59m doses. Most of the

most vulnerable unvaccinated people look unlikely to be vaccinated soon. This is both inequitable and inefficient; it will increase the death toll and prolong the pandemic, increasing both economic losses and the odds of new variants of concern.

A recent report from the OECD, a club of mostly rich countries, made the case for continued government investment in vaccine-production capacity, putting the idea into the context of long-term strategies such as “co-ordinated approaches to the sharing of intellectual property and technology transfer”.

It is the sharing of intellectual property, not increased investment, which has drawn the most attention. Since last October, South Africa and India have been arguing for an arrangement whereby the World Trade Organisation no longer obliges countries to protect patents, industrial designs, copyright and trade secrets which apply to covid-19 vaccines, therapeutics and diagnostics. America, Britain, the European Union and Switzerland—home, ▶▶

► between them, to most of the world's big drugmakers—opposed the waiver. But on May 5th President Joe Biden broke ranks. Katherine Tai, the US trade representative, said that the administration would support proposals to waive intellectual property protections for covid-19 vaccines, winning the administration plaudits from over 100 countries which support the waiver as well as from people at home who think drug companies inherently villainous.

If such a waiver is agreed on, it will not be soon. Proponents take that in their stride: better to arrive at the end of the year with a waiver agreement close to hand and no need to use it, goes one argument, than still to be facing a global crisis of unmanageable proportions but with a diplomatic mountain to climb. That may be so. But the world's need to create new production facilities, and ideally to work the various capabilities it has already developed even harder, will not wait. And intellectual-property rights are far from the most pressing, or most restrictive, constraint.

#### Billion wise, trillion foolish

The increase in capacity seen over the past year was brought about in large part because of government interventions, most notably Operation Warp Speed in America and the activities of the Vaccine Taskforce in Britain, which guaranteed payments and drove the expansion of supply chains.

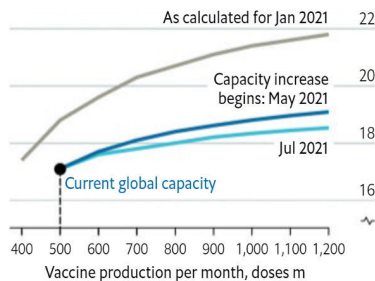
These efforts splashed around a lot of money which, if none of the vaccines had worked, would have been lost. But with the benefit of hindsight it is now hard not to wish they had been more generous still. In March *Science*, a journal, published estimates from a group of economists of the total global economic loss that would have been avoided if enough money to produce vaccines for the entire world had been provided up front, rather than enough for most of the rich world. They calculated that if the world had put in place a vaccine-production infrastructure capable of pumping out some 1.2bn doses per month by January 2021, it would have saved the global economy almost \$5trn (see chart).

Eric Budish of the Chicago Booth School of Business, one of the model's authors, explains the situation using a plumbing metaphor: it is faster to lay down a wider-bore pipe at the start of a project than to expand a narrow one later. The rich world succeeded in producing effective vaccines remarkably quickly in quantities broadly sufficient to its needs: an extraordinary achievement. But the capacity of the system it built in order to do so created constraints that the rest of the world must now live with. That was a choice, not destiny.

But if the best time to invest was last year, the second best is now. Three distinct types of vaccine—based on mRNA, on DNA packaged inside an adenovirus, and on in-

#### ► Earlier is better, but later still helps

Global estimated value of vaccine capacity \$trn



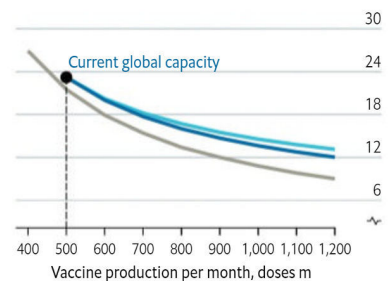
Sources: "Market design to accelerate COVID-19 vaccine supply", by Juan Camillo Castillo et al.; Eric Budish et al.

activated SARS-CoV-2 particles—have been widely authorised for use, if in most cases and places only on an emergency basis. Companies that play a role in relevant supply chains are able to invest with an assuredness about what is to come that they could not have had last year. Thermo Fisher, an American firm which sells a range of scientific and pharmaceutical supplies, having seen "mRNA confidence increase on the demand side", is spending \$60m on a facility in Texas that will produce more of the nucleotide building blocks from which mRNA vaccines are assembled.

The mRNA vaccines made by Pfizer/BioNTech and Moderna are, in general, those which Western customers are most excited about seeing scaled up. Moderna is ramping up production around the world; it recently announced that it will make 3bn doses next year. On May 10th BioNTech said it plans to create a factory with an annual capacity of several hundred million doses in Singapore. The firm is in discussion with other countries about further production sites. A joint venture with Fosun Pharma, a Chinese firm, could make up to 1bn doses a year. A number of African countries are known to be keen on bringing the technology to the continent.

Unfortunately for the vulnerable people at growing risk around the world none of this will be quick. Stéphane Bancel, the

Time to vaccinate 70% of global population Months



boss of Moderna, says that it takes six to nine months at a minimum to add significant capacity, which means there is no way to increase capacity this year beyond what is already planned. Even when a company has a site ready to take mRNA manufacturing equipment, machines have to be ordered, built, shipped and installed, a reliable supply of raw materials has to be arranged and people have to be hired, trained and brought up to speed on the processes involved.

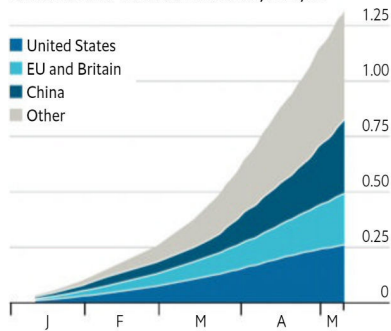
#### Pollyanna, meet Polanyi

Building up the requisite knowledge in the new teams is the hardest task. The problem, says Rob Carlson, a veteran biotechnology investor, is that that knowledge is not stored in a format that is easy to copy between facilities. Each vaccine is produced according to a "recipe" which lists the settings for all of the things in a production facility that can be changed from job to job: every dial on every machine, timings, temperatures, masses, volumes and concentrations. Such a recipe may run to hundreds of pages. And it will still typically be incomplete; tacit knowledge matters, too, and it is for the most part lodged in the minds of very busy people.

Under pandemic conditions accessing what those people know will be complicated by the fact that they may well be on the edge of burnout. Mr Bancel says his team "has been working hard for a year, seven days a week...we are not even finished doing all the tech transfer to deliver the billion for this year." Every day he worries that he is pushing them too close to their breaking point.

The non-mRNA Western firms have been working just as hard at transferring their technology. AstraZeneca made global production of its adenovirus vaccine a particular focus; the tech transfer of Oxford University vaccine taken forward by AstraZeneca to one British production site took about seven months, says Sandy Douglas, the Oxford professor who managed the transfer. Novavax has taken the better part ►►

Global vaccine doses administered, 2021, bn



Source: Our World in Data



of a year to transfer the insect-cell-based manufacturing system for its not-yet approved protein-subunit vaccine to the Serum Institute of India (SII), a huge and very experienced vaccine-maker. Stan Erck, the company's CEO, says it is repeating the process in the Czech Republic, Korea, Japan and America.

All told, pharma firms have made 280 partnership contracts covering the production of covid-19 vaccines, says Thomas Cueni, head of the International Federation of Pharmaceutical Manufacturers and Associations, a trade group. About three-quarters of those deals involve technology transfer. He adds that the firms that are doing well in terms of meeting production targets tend to have relatively few production sites, pointing to the benefits centralisation offers attempts to scale up.

### Biobags and bottlenecks

Despite all this activity, though, some companies which could be making vaccines are not. Teva Pharmaceutical Industries, an established Israeli generic-medicine maker, has failed to reach a co-production deal with any covid-19-vaccine-maker. At the end of April it said it had stopped trying. Incepta, a Bangladeshi firm with the capacity to fill and finish hundreds of millions of vaccine vials a year, has also complained that it has been unable to interest producers in its services.

Given the constraints on expansion, it is vital that the supply chains on which current production rests be kept in fine fettle. "The number one priority today must be to do everything that we can to ramp up raw materials and get them to the production centres," says the European Federation of Pharmaceutical Industries and Associations, a trade group. Unfortunately, production has been slowed at various facilities by insufficient supplies of biobags (the containers in which vaccines are often made), tubing, filters and growth media for cells. Novavax's lines in both Britain and India have been hit by shortages, at times coming to a halt; the company's production plans have been set back significantly.

On April 16th the trouble with the Indian line led to a remarkable tweet. Adar Poonawalla, the head of SII, begged President Biden—"Respected @POTUS"—"to lift the embargo of raw material exports out of the U.S. so that vaccine production can ramp up". At issue was America's Defence Production Act (DPA), which grants the president broad industrial-mobilisation powers. The government is using the DPA to prioritise domestic firms' orders for material and equipment used in vaccine production over those flooding in from other countries. Overseas producers who depend on American equipment or materials are feeling the pinch.

The SII said difficulties in getting mate-

rials from America were putting an AstraZeneca line at risk, as well as the Novavax one; between them they have a capacity of 160m-170m doses a month. On April 26th Tim Manning, the White House's supply co-ordinator for covid-19, defended the use of the DPA, saying it is not a "de facto ban" on export and does not create supply shortages. But Biovac, a South African vaccine-maker, told Reuters that its American supplier of biobags was explicitly blaming the DPA for a 14 month backlog on biobag deliveries. Last year a number of big pharma firms started re-creating supply chains outside America to serve international customers. The SII Novavax line is still running at a fraction of its full capacity.

Disruptions to supply chains, whether down to the DPA or other factors, are a source of deep frustration. "Why on earth is production at the Serum Institute being delayed because it can't get enough culture media?" asks Dr Douglas. "It's madness! Is it because the company that makes culture media has a shortage of its own? If so let's fix that." Such problems have a worrying tendency to amplify themselves; when companies have concerns about supply chains they stockpile supplies, stressing the chains even more. The fact that some of the equipment needed for vaccine-making also plays a part in the production of considerably higher-margin products such as cancer treatments further complicates the situation, breeding suspicion.

Despite the supply difficulties, Airfinity says that current roll-out forecasts suggest that the America, Britain, Canada, the EU and Japan will have enough doses for their entire adult populations between the summer of 2021 and January 2022. But middle- and low-income countries are at risk. Donors have committed money to COVAX, but it has not been getting the vaccines it is meant to buy. Bruce Aylward, senior adviser to the director general at the World Health Organisation (WHO), says COVAX hopes to have the J&J adenovirus vaccine

by June but "who knows, it is at risk for a million reasons so maybe June, maybe July, maybe August". Of the 40m doses that Pfizer has promised, he says, it has delivered only 960,000. There was, though, some good news for COVAX on May 7th, when Sinopharm's vaccine was given emergency-use authorisation by the WHO. This means that the vaccine, one of two inactivated-virus formulations being made in bulk by China, can now be distributed through COVAX.

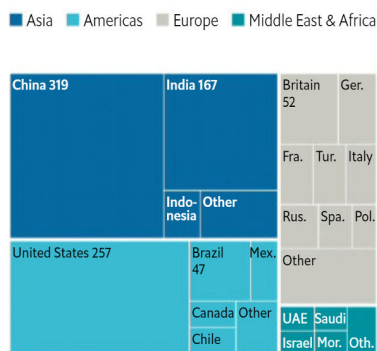
Some countries have promised to donate doses to COVAX, but the volumes are small. Spain and New Zealand, the most generous, have pledged 1.6m and 7.5m doses respectively. The organisation has so far dealt with just 100,000 donated doses, provided by France and dispatched to Mauritania, says Dr Aylward. Rasmus Bech Hansen, boss of Airfinity, says he hears that the large purchase orders made by some governments may be resold rather than donated. The possibility of donations could be further dampened by a perceived need for booster shots as new variants spread.

### Fail better

Bottlenecks in supply and hold-ups in distribution have led to calls for a fresh round of state investment. Public Citizen, an American consumer-advocacy group, says that with \$25bn the Biomedical Advanced Research and Development Authority, a part of America's Department of Health which comes up with solutions to health emergencies, could scale up vaccine production enough to cut years off the tail of the pandemic. The money would be spent on stimulating production all the way along the supply chain, on technology transfer and on the construction of new facilities around the world. All of those people that *The Economist* spoke to who work in the existing vaccine-supply chain agreed that this was one sure-fire way to boost vaccine output yet further. The second-best time will always be now. ■

### → A global effort from which much of the globe is excluded

Total vaccinations by country, May 9th 2021, m



Sources: Our World in Data; Airfinity

Total doses by manufacturer, May 11th 2021, bn



\*Includes planned donations



### The pandemic in Asia

## Next in line

SINGAPORE

After India, a worrying new wave of covid-19 is hitting South-East Asia

ON APRIL 25TH Bloomberg ranked Singapore as the world's best country in which to weather the pandemic, in part because it had almost no local transmission. Two days later a 46-year-old nurse at Tan Tock Seng Hospital tested positive for the virus, revealing a cluster of dozens of infections. Within a week the government identified other new clusters, including at the airport and port. "We are now on the knife's edge," Lawrence Wong, a minister on Singapore's covid-19 task force, warned on May 11th. "Our community cases can go either way in the next few weeks."

Much of South-East Asia is similarly poised. Across the region, clusters have been found in places where defences are weakest: hospitals, quarantine facilities and border crossings. Lapses in those places allowed infections to spread more widely. Moreover, the virus has mutated over the past year, and the variants spreading now are more transmissible. That includes B.1.617, first identified in India, which has appeared in Cambodia, Indonesia, Malaysia, Singapore and Thailand.

New cases in Malaysia have more than

tripled in the past month, hitting 4,765 on May 12th. Thailand's daily tally has jumped from 50 in early April to more than 2,000 a month later. Of Cambodia's 20,000-odd recorded infections, nearly 90% have occurred since the start of April. At least eight hospitals in Vietnam have locked down because of the virus since May 5th. Indonesia, where detected cases have levelled off



### → Also in this section

- 20 Inoculation in Indonesia
- 21 Taiwan's endangered hunters
- 21 The cost of covid-19 in India
- 22 Stalemate on the Korean peninsula
- 23 Banyan: Islamism in the Maldives

at around 5,000 a day (though actual numbers may be higher; see Briefing), is preparing for a sharp rise after hundreds of thousands of city-dwellers defied a travel ban to return to their home villages for Eid al-Fitr, a Muslim holiday, in the first half of May. And as India has shown, the pandemic can shift from an apparent retreat to an unstoppable onslaught in a matter of weeks.

The reasons each country lost control of its outbreak vary, but in most, festivals, foreigners or fornication played a part. In Vietnam, Malaysia and Thailand, experts blame travel and mass intermingling during festive periods, in addition to complacency. Malaysia's Muslim majority has for the past month been celebrating Ramadan, when people pray and socialise in the evenings. A cluster of cases in Bangkok's nightclub district accelerated after the Songkran holiday in mid-April. In Laos, too, the festival resulted in a rash of cases. On April 29th, on the eve of "Reunification Day", a national holiday, more passengers passed through the airport in Ho Chi Minh city, Vietnam's largest, than on any other day since it opened decades ago.

Laos, Vietnam and Cambodia, none of which has previously faced an outbreak on the scale they are currently experiencing, also point the finger at outsiders. Laos blames infected visitors from Thailand. Vietnam ascribes its cases to lax observation of quarantine by people arriving from China, India and Japan. In Cambodia two prostitutes infected with the more infectious British variant of covid-19, known as



► B.1.1.7, arrived on a private jet from Dubai in early February and promptly broke quarantine to visit clients, nightclubs and other places. By mid-May the outbreak they seeded had infected thousands of people and killed more than 100. The Institut Pasteur, a French medical-research institution, is sequencing 1% of all positive samples in the country. With the exception of newly imported cases, "It's all B.1.1.7" from the same source, says Laurence Baril, director of the Cambodian branch.

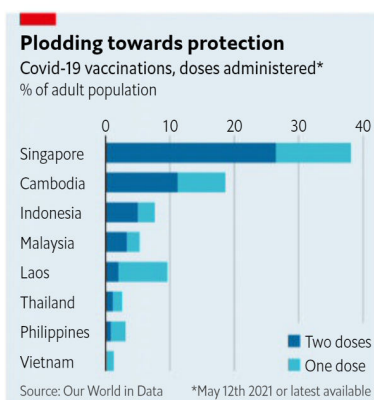
The strain is beginning to show. Bangkok's hospitals are filling up. "Our health care, with the increase in numbers, is becoming a bit overwhelmed," says Subramaniam Muniandy, president of the Malaysian Medical Association. "Frontliners are tired, exhausted." The Laotian health-care system could very quickly be overrun if the number of severe cases shoots up, says an expert in Vientiane, the capital. Dr Baril says it took her institute weeks to charter a plane, despite the Cambodian government's support, to import 2.7 tonnes of the chemicals needed to conduct the most reliable test for the virus.

The rise is particularly worrying for countries that had avoided big outbreaks, and so have a wholly vulnerable population. Exactly how they escaped is a mystery. One commonly cited explanation is that they acted early to close borders, impose quarantine measures and trace the contacts of infected people, having learnt from the SARS epidemic of 2003-04. It helped that citizens complied when authorities instructed them to wear masks.

Other factors beyond the control of policymakers probably contributed, too. Most Cambodians, Laotians and Vietnamese live in rural areas, many in homes they cool by keeping windows open. This naturally dispersed, well-ventilated way of life may have slowed the spread of the virus. South-East Asians may also have had an immunity acquired through previous exposure to coronaviruses circulating in the region, but that hypothesis is unproven.

Countries are scrambling to contain the virus by reimposing restrictions. Vietnam and Singapore have extended quarantine for incoming travellers from two to three weeks, and closed some recreational facilities. On May 10th Malaysia imposed a four-week national lockdown. Laos shut down the capital in April and sealed its borders. Vaccination rates are rising but, with the exception of Singapore and Cambodia, less than 10% of the adult population in each country has received a single dose (see chart).

A huge question mark lingers over the two countries where infections are stable or falling, Indonesia and the Philippines, between them home to more than half the region's population and seemingly out of step with the trend in the region. Indone-



sia, which has not yet seen a second wave, has worrying parallels with India, says Dicky Budiman, an epidemiologist at Griffith University in Australia: the virus has been circulating for well over a year, the health-care system is already stretched, the messaging from the government is muddled and a religious holiday has drawn millions of people into celebrations in groups. Officials are expecting the worst.

The Philippines suffered a surge in March, when new cases reached 10,000 a day. A strict lockdown brought that down by half. Yet the proportion of tests coming back positive, while falling, is still 15%, suggesting that many cases are escaping detection. "We don't want to end up with a surge like India," says Drew Camposano, a pediatric infectious-disease specialist in Iloilo City, in central Philippines. "It is a cautionary tale." ■

## Indonesian inoculation

### Join the (other) queue

SINGAPORE

**A corporate vaccination effort spreads discontent**

IN TIMES OF hardship, Indonesians turn to each other for help. That is the idea behind *gotong royong*, or mutual assistance, the Javanese name for a custom in which villagers help build each other's houses or clean up after a natural disaster. It is therefore unfortunate that the organisers of a private vaccination scheme have borrowed the name. When it launches on May 17th, "Vaksinasi Gotong Royong" (VGR) will inoculate millions of people against covid-19. But rather than encouraging Indonesians to help each other, it encourages the richer ones to help themselves.

When the government kicked off its vaccination drive in January, it pledged to jab 181.5m people, about two-thirds of the

population, by the end of the year. The Indonesian Chamber of Commerce and Industry, known as Kadin, suggested that private companies could help move things along by paying for vaccines procured by the government and inoculating their employees and their families. The idea is to reduce the amount of time it takes for Indonesia to achieve herd immunity and defray the cost of the government's free vaccination programme. "We have to appreciate that the government is trying its best," says Shinta Kamdani of Kadin. "But I think they cannot do it alone."

The government gave Kadin the green light in February. Given that just 7.6% of Indonesian adults have had their first dose so far, bosses are eagerly enrolling their businesses in the private scheme. More than 17,000 companies have signed up on behalf of 8.7m employees and their relatives. Kadin expects that it will eventually inoculate 20m Indonesians.

Yet the private effort may not turn out to be quite as mutually beneficial as advertised. The biggest hurdle for government procurers is not cost but supply, as the finance minister herself admits. Indonesia faces an acute shortage of vaccines. Indeed, VGR may in fact slow down the overall vaccination drive. Perhaps to avoid creating the perception that the private sector is siphoning off vaccines from the national stockpile, the government requires VGR to obtain its jabs from manufacturers who are not already supplying the public programme. But the government controls procurement, so an already frazzled bureaucracy must find and approve alternative vaccines for VGR. Honesti Basyir, the head of PT Bio Farma, the state company in charge of vaccine procurement, rejects the idea that VGR is overburdening his firm. Before the pandemic, his employees' productivity had not been "maximised", he says. Now they have just enough work to keep them busy. Other government departments may not be so lucky.

Perceptions of unfairness are another worry. The salaried types who will benefit tend to be richer and fitter than informal workers, who constitute 55% of the labour force. Just 13% of the elderly have had their first dose. If the scheme mostly vaccinates younger, healthier and wealthier Indonesians, it is likely to cause resentment among the rest.

There is already grumbling. Erni Subekti, a 49-year-old food vendor from Jakarta, the capital, thinks that Indonesia will achieve herd immunity more quickly with VGR, which pleases her. But the idea that the wealthy will get vaccinated before people like her rankles. Like many informal workers, Ms Erni cannot work from home. She contracted covid-19 in October. "We are at higher risk," she says. "Shouldn't we be prioritised as well?" ■





Tradition and the law

## Endangered hunters

Taiwan's indigenous tribes have their day in court (and lose)

THERE ARE many unwritten rules for hunting in Taiwan. For members of the Bunun tribe, a community of indigenous people who live among the island's mountains, flatulence and sneezing are bad omens (in addition to scaring off prey). Male deer are fair game, but females, who might be pregnant, are left in peace. Talam Suqluman followed these strictures in the summer of 2013, when he climbed into the hills of Taitung County, on the south-east coast, and shot two deer, a Formosan serow and a Reeve's muntjac. They would provide a good store of meat for his ageing mother, with plenty left over to share with his village.

There are some written rules, too. Mr Suqluman was arrested and charged with possession of an illegal firearm and for violating the Wildlife Conservation Act. He was sentenced to more than three years in jail (although appeals have ensured that he has yet to spend any time behind bars). Indigenous communities were outraged at the sentence, which they viewed as unduly harsh. Moreover, they were angry that their traditional hunting practices are prohibited at all.

In early May Taiwan's highest court ruled that while some of the rules around hunting are unconstitutional, because they breach indigenous people's rights to practice their culture freely, animals also need to be protected. Hunting restrictions will mostly remain in place. The verdict is "far from satisfactory", says Awi Mona of National Dong Hwa University, the first indigenous person in Taiwan to obtain a doctorate in law.

Taiwan's tribes have lived on the island for some 6,000 years, but only

started to receive official recognition in 2001. They are more closely related ethnically to Filipinos than to the island's Chinese majority, who are descended from settlers who began arriving in large numbers in the 17th century. Today the 16 officially recognised tribes make up 2.5% of the population. Around half of indigenous people live in the countryside, where hunting is central to their way of life. The conservation law, which states that hunting can be done only on certain days and that hunters must apply for a permit indicating which animals they are planning to kill, is routinely ignored. Indigenous hunters also complain about the rule that they must use only traditional, home-made guns. These require gunpowder and ammunition to be loaded from the front end of the barrel, like a musket, making them more dangerous than modern weapons.

Just like the guns they are forced to use, many indigenous people feel they themselves are viewed as primitive. Savungaz Valincinan, from the Bunun tribe, complains that ethnic-Chinese people ask her things like, "Can you ride a mountain pig?" It is not just bad attitudes that people are upset about. Aboriginal life expectancy is 8.6 years lower than that of the general population.

In 2016 Tsai Ing-wen, Taiwan's president, promised to improve the lot of indigenous people and apologised for centuries of "pain and unfair treatment". But prohibiting hunting will "wipe out" their culture, said Mr Suqluman, in a statement after last week's verdict. Regardless of the law, he says that "of course" he will continue to hunt.

### Covid-19 in India

## Let them eat dark chocolate

DELHI

India's crisis is devastating its most desperate people

PYE DOGS and circling scavengers gave the first clue. When villagers approached the riverbank, the stench confirmed the horror. By the time authorities collected and buried all the bodies on May 11th, the count had risen to 71. And this was at just one bend in the sacred Ganges, by the village of Chausa on the border between Bihar and Uttar Pradesh, India's poorest, most underdeveloped states. In the same week at least three other grisly human logjams were reported upstream.

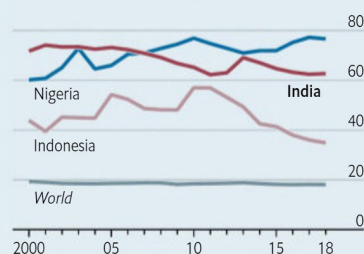
These sad scenes reveal two things. One is the scale of the tragedy now sweeping India's vast interior. Far away from city labs, no one gets tested, so no cases are recorded, so no deaths are captured in the official national toll, which at 258,000 is a small fraction of the real tally (see Briefing).

The second thing the bodies in the Ganges reveal is how India's second wave is worsening the already harsh lot of its poor. "People borrow money to pay for medicines, or for oxygen, or for an ambulance driver who has charged them extra covid rates," explains Utpal Pathak, a local journalist. "Then they can't afford the funeral." In recent weeks, say residents of Chausa, the cost of a cremation has tripled. It is telling that the authorities, despite denying that poverty has anything to do with the scandal, have started supplying free wood to the funeral ghats of Chausa. Bihar has also capped the price of ambulances.

After the first covid-19 wave swept India last year, numerous reports tried to tally the cost to the poor. Pew, a research institute, estimates that whereas just 4.3% of Indians were earning less than \$2 a day in January 2020, a year later this had risen to ▶▶

### Wealth is health

Out-of-pocket spending\*  
As % of total health spending



Source: World Bank \*Direct payments by individuals to health-care providers at the time of service use



► 9.7%, or 134m people. An in-depth study by Azim Premji University in Bangalore suggests that in the wake of last year's nationwide lockdown, some 230m Indians slipped below a poverty threshold tied to the national minimum wage (around \$45 a month). Its researchers found that, during the lockdown, 90% of the poor consumed less food. Six months later, their diets had not returned to normal. Over the course of the year the earnings of Indian workers, including the lucky 10% who hold salaried jobs, declined by a third.

Shocked by the pain it caused last year, the central government has left state and local governments to impose their own lockdowns during this wave. But though the economy has not come to a complete standstill, the sheer scale of the outbreak means lots of families have suffered just as much. For many, the biggest blow has been the loss of breadwinners. Indian Railways, which employs 1.2m people, says covid has killed 1,952 of its staff. The state of Uttar Pradesh in April put 1.2m civil servants to work running local elections and counting ballots. The vote was a super-spreader and an estimated 2,000 of these workers subsequently died, including 800 school-teachers. Each of those deaths represented weeks of trauma and expense for the families seeking treatment and, for every person that died, perhaps another 20 were seriously ill.

With government spending on health stuck at a meagre 1.2% of GDP, in ordinary times Indians pay out of their own pockets for some 60% of health-care costs (see chart on previous page). And in an ordinary year one in every 20 families is pushed into poverty by medical expenses. The past two months have been anything but ordinary. Millions of desperate Indian families have been forced to sell gold, to pawn possessions or to borrow at usurious rates, all too often in order to pay for unnecessary treatments prescribed by harried doctors, or to provide basic items lacking in government hospitals, from oxygen tanks to syringes. The variety of traps they have fallen into seems endless: medical staff demanding bribes to secure hospital admission, suppliers of fake medicines, and even, in several states, conmen who have painted over fire extinguishers to sell as oxygen cylinders.

In Delhi, India's capital, police have set up a special unit to fight such scams. Mostly, however, the government is notable by its absence. Harsh Vardhan, the health minister, who has promoted herbal covid "cures", last week advised Indians to eat extra-dark chocolate with "more than 70% cocoa" in order to beat covid-related stress. Perhaps he should read a recent World Bank report, which shows that 86% of Indian families cannot afford a basic balanced diet, let alone fancy chocolate. ■

## The Korean peninsula

### Silent sigh

SEOUL

**The stalemate between the two Koreas is unlikely to break without new talks**

TO THE CASUAL reader, the biggest danger in perusing "With the Century" may be the book's propensity to induce a deep sleep. Its author, Kim Il Sung, North Korea's founding dictator, takes eight volumes and nearly 3,500 pages to recount his heroic revolutionary exploits. Whether the topic is glorious campaigns against the Japanese, earnest conversations with brave peasants, or long-winded meditations on the true meaning of *juche* (self-reliance), the message is, "You had to be there".

But that is not how Do Tae-woo, a lawyer for various right-wing groups, saw it when he filed an injunction last month against a South Korean publisher who produced a new edition of the memoir in the South. Publishing the book, Mr Do argued, was "the ultimate act of treason".

South Korean law agrees. Under the national security act, enforced with minor changes since 1948, distributing material favourable to the regime in the North is punishable with up to seven years in prison. The South's government blocks access to North Korean state media (except on the website of its own semi-official news agency, which publishes daily excerpts). When Mr Do sued, police began investigating the publisher that put out the memoir. Bookshops stopped selling it.

Though the law is no longer enforced with the same enthusiasm as in South Korea's undemocratic past, its longevity is a reminder that the fundamental relation-

ship between the two Koreas has changed remarkably little in the past 70 years. On paper, they are still at war, each considering itself the legitimate government of the other's people and territory. Short of one side invading—a strategy that North Korea attempted with disappointing results in 1950—or North Korea collapsing, a fate that pundits have been predicting with a similar lack of success for decades, talking is still the only viable way improve things.

Precious little of that has been happening of late. The latest round of diplomacy, intended to persuade the North to abandon its nuclear weapons, fell apart at a summit between Kim Jong Un, the North's dictator, and Donald Trump, then America's president, more than two years ago in Vietnam. Last summer North Korea blew up the South's de facto embassy in the border city of Kaesong, laying waste to a symbol of the detente that began in early 2018. The North has since resumed testing missiles and has increased the ferocity of its denunciations of South Korea and America.

Moon Jae-in, the South's president, who is nearing the end of his term, lamented this on May 10th and vowed to make a last-ditch effort to improve things. "It is the aspiration of 80m Koreans to end the era of confrontation and conflict on the Korean peninsula and usher in an era of peace and prosperity," he said. He promised to try in his last year in office to move from "an incomplete peace" to "an irreversible one".

Improving relations with the North has been at the centre of Mr Moon's presidency. But that goal remains elusive. The failure of the summit meeting with Mr Trump in Vietnam humiliated Mr Kim, who sacked most of his negotiators afterwards. He has made clear he has little interest in talking to the South without new concessions from America, which Mr Kim sees as his main adversary and negotiating partner. When the covid-19 pandemic began, he closed the border, cutting the North off even from China, its main trading partner. The lockdown appears to have hurt the North's economy more than the international sanctions that were intended to persuade Mr Kim to abandon his nukes. The North still harangues the South about its failure to rein in defectors who send leaflets and money across the border. The rhetoric of Mr Kim's regime is ever more paranoid. Its people are warned that "flying objects" (such as leaflets), packaging or even snow may carry the virus.

Mr Moon is meeting Joe Biden, his American counterpart, on May 21st. He hopes to persuade him to join a fresh attempt to break the impasse. Last month the Biden administration announced a new "calibrated, practical approach" to diplomacy with the North, without giving details. But it said nothing to irritate Mr Kim, ►►



The #1 Pyongyang Times bestseller



who may have been pleased that America embraced the North's talk of "the denuclearisation of the Korean peninsula" rather than referring only to North Korea. Rumours this week in Seoul, the South's capital, hinted that the North may have responded positively to the possibility of further talks with America.

But the Koreans are probably quite low on Mr Biden's agenda, as he faces foreign-policy crises on a variety of other fronts. He has yet to appoint a successor to Stephen Biegun, Mr Trump's point man on North Korea, leaving no obvious interlocutor if

the North indeed wants to talk. Unless it is fleshed out in the next few weeks, America's new policy will be hard to distinguish from Barack Obama's "strategic patience", says Sung Ki-young of the Institute for National Security Studies, a government-affiliated think-tank in Seoul.

Other stumbling blocks may also impede talks. South Korean officials say they were happy to have been consulted on America's new policy. But some of their attempts to mollify the North sit awkwardly with Mr Biden's priorities. Police in Seoul this week interrogated Park Sang-hak, a

North Korean defector who sent leaflets northwards last month, defying a new law. He could face up to three years in prison. In the same speech in which Mr Moon promised a push for peace, he also alluded to Mr Park's case, stressing that his government had "no choice" but to enforce the law. Mr Biden's people say they intend to pay more attention to human rights when talking to North Korea, presumably including those of Northerners in the South. Mr Moon will be hoping that when he goes to Washington next week, Mr Park's fate gets less air-time than the exploits of Mr Kim. ■

## Banyan Malé malaise

*In the Maldives, an ominous rise in intolerant Islam*

THE INDIAN OCEAN'S most exquisite building must be the Old Friday Mosque in Malé, the capital of the Maldives. It was built in the 17th century from interlocking coral blocks. Inside, the carved-wood panelling and lacquer-work represent ravishing embellishments by master craftsmen who happily borrowed from Arabia, Persia and South Asia to make an art that was their own. Maldivians today are proud of their history as a maritime crossroads of culture and commerce. They say it informs their tiny atoll nation's open-mindedness. So the recent smashing of some of the ornate tombs outside the mosque carried an ominous note—as if some people want to shatter the tolerance for which the Maldives is known and replace it with something more puritanical and austere.

A brutal realisation of that omen was the detonation of a bomb on May 6th that rocked the densely packed capital. Its target was the country's best-known figure, Mohamed Nasheed. A political prisoner under the former dictator, Maumoon Abdul Gayoom, he became the Maldives' first democratically elected president in 2008 before being ousted in a coup. In 2018 he returned from self-exile after his ally, Ibrahim "Ibu" Mohamed Solih, won a presidential election that the authoritarian incumbent, Gayoom's half-brother, Abdulla Yameen, tried but failed to rig. Mr Nasheed is now speaker of parliament.

Mr Nasheed was rushed to hospital and flown to Germany for further treatment (bodyguards and bystanders were also injured). Three alleged assailants have been arrested. They are said by the authorities to be tied to jihadist groups.

Strands of the Maldives' traditional Sunni Islam have certainly hardened in

recent years. Money from Saudi Arabia has made its way to Maldivian mosques, and with it a fundamentalist Salafist doctrine. More alarmingly, both al-Qaeda and Islamic State have been recruiting. In 2019 a presidential commission concluded that al-Qaeda was behind the disappearance of a liberal journalist five years earlier. Dozens of jihadists fighting in Syria with Islamic State have since sneaked home to Malé or the outlying atolls.

The Maldives has a population of less than 540,000. It does not take many troublemakers to cause mayhem. The attack on Mr Nasheed, who has long been a critic of fundamentalism, seemed intended to show what Islamists are capable of. Under-resourced, the government has called in Australian police to help investigate.

For many Maldivians, radical Islam is an alien toxin poisoning the domestic well. Yet that, argues Azim Zahir of the University of Western Australia, is to ignore home-grown sources of extremism. For one, the identity of the Maldives as a nation-state (it gained independence in 1965) is bound up with Islam. Sunni

Islam is the state religion. Only Sunni Muslims may be citizens. Maldivians' behaviour, says Mr Zahir, may appear to be modern and liberal, but the national identity is fused with religion. That makes it a lot easier for radical Islam to subvert the existing version.

Besides, to blame only outside forces is to ignore the social and political context of the growing fundamentalism. The Maldives promotes itself to the outside world as an island paradise of honeymooners' resorts. In reality, the resorts have immense defects. Their owners form part of web of businessmen, politicians, judges and officials grown fat on political favours and lucrative deals.

A huge scandal at the tourism board under Mr Yameen involved the pilfering of tens of millions of dollars. Mr Solih promised to get to the bottom of it. Yet though Mr Yameen and his tourism minister have been convicted of money-laundering and other charges, few others implicated in the scandal have faced justice. Even members of Mr Solih's own government appear tainted.

The resorts also trash coral reefs and generate seas of garbage. Above all, they epitomise a rentier economy which fails to address the needs of ordinary people. Schools are underfunded and youth unemployment stands at nearly a fifth.

That may explain why disillusion is high, says Asiath Rilweena of Transparency Maldives, an NGO, and so the ground fertile for radicalisation. Drug use and dealing only makes things worse, with radicalised Maldivians often having been members of gangs. The only occasion many politicians think about these disaffected groups is when employing them to put up campaign posters at election time. After the attack on Mr Nasheed, they must think harder.







## Football

## Own goal

SHANGHAI

**The sport's troubles reflect broader issues within the economy**

IT WAS A hot and sticky night for football. Because of covid-19 restrictions, the match was played at a neutral site, nearly three hours from Shanghai by car. Adding to the inconvenience, kick-off was at 6pm on a Monday. Yet a few thousand supporters still made the trek on May 10th to watch their beloved local side, Shenhua, battle the club from Hebei, a northern province. "It's a kind of faith for us," said A.G. Wan, a middle-aged businessman.

Cries of *sha bi*, a phrase not translatable in a family newspaper, rang out whenever the referee missed fouls that, for the fans, were plain to see. Cheers erupted when a Shenhua midfielder scored the equaliser with a perfectly struck last-minute penalty kick. The crowd's passion would have been familiar to football fans anywhere. But the canvas on which it was painted—a league beset by financial chicanery and political meddling—was unmistakably Chinese.

China can seem like an economic juggernaut. Leaders set lofty targets and fun-

nel money to favoured industries, a potent recipe when combined with talented, driven people. Football shows a less flattering side of its system: how the top-down approach that has worked well to build bullet trains can fail in less predictable domains.

The government has high ambitions for football, encapsulated by President Xi Jinping's stated dream for China to win the World Cup some day. That day remains distant. The national team is ranked 77th in the world, behind tiny Curaçao. And domestic leagues, a crucial building block, are mired in mediocrity.

To understand what has gone wrong, look at the Chinese Super League (CSL), the country's main football contest. Three months after winning its first-ever CSL

title, Jiangsu Suning disbanded in February, tripped up by slowing growth and a more conservative political environment. The team's owner, Suning, an electronics retailer, has been trying to pay down its debts, like other overstretched Chinese firms. Not long ago a football champion would have attracted buyers, even if bleeding cash. These days, though, few tycoons dare to acquire trophy assets. In all, more than 20 teams have left China's professional leagues in the past two years.

The economics of football in China are atrocious. Average annual salaries for players of \$1.2m in 2019 put the CSL roughly in line with Ligue 1, France's top division. But revenues in China are piddling, with tickets regularly costing as little as 50 yuan (\$8). Guangzhou Evergrande, a club renowned for its profligacy, took in only a third of the 2.9bn yuan (\$450m) that it spent in 2019.

Moreover, most wages go to a few extremely expensive players, often imported from abroad, sometimes well past their prime. Carlos Tevez, a faded Argentinian star, described his spell with Shenhua in 2017 as a "vacation for seven months", despite reportedly earning \$40m. In the 1990s foreign clubs rarely gave their Chinese counterparts the time of day, says Joseph Lee, a powerful agent. Now, he says, they view China as "stupid" money.

Why have teams burnt cash with such

## → Also in this section

25 Humiliation at ice hockey

26 Chaguan: The bureaucracy's allure



gusto? Partly it is about branding. Xu Jiayin, the billionaire behind Evergrande, a property developer, once said that owning a football club ensured that his company made the evening news at a fraction of the cost of advertisements. But China's tycoons are not just targeting consumers. They see Mr Xi's professed love for football as a way to connect with him. After he rose to power in 2012, Chinese money poured into starry European clubs, from Inter Milan to Manchester City.

The past year has made clear that, far from appreciating their investments in football, Mr Xi and his advisers see them as a red flag. Companies including Fosun, Wanda, CEFC, TEDA and Guangzhou R&F were among the big spenders, and all have had their finances come under scrutiny. There is talk that some entrepreneurs overpaid for players or for clubs in order to skirt China's stringent capital controls (the suggestion was that they had kickbacks paid into their accounts abroad).

So the government has introduced tough new rules, a crackdown that parallels Mr Xi's efforts to reassert control over the broader economy. Politically, there has been a push to induct more footballers into the Communist Party, much as private companies are pressed to set up party branches. And the Chinese Football Association has capped salaries at 5m yuan for Chinese players and €3m for foreigners. It also ordered clubs to drop corporate titles from their names. Guangzhou Evergrande has become Guangzhou.

Ma Dexing, a football columnist, sees the restraints as progress. "Over the past 30 years professional football in China has been chaotic," he says. Mr Lee thinks the changes have been rash. "It's like half the building was good and the other half rotten, but they demolished it all," he says.

The new rules also display officials' penchant for micro-management. In 2017, to boost youth development, the football association required clubs to field an under-23 player for every match. Managers gamed that rule, substituting youngsters after as little as a minute. So the football tsars mandated that they must play for the whole match. "The narrative every year ends up being 'How have the rules changed?'," sighs Cameron Wilson, founder of Wild East Football, a website devoted to the Chinese game.

For China's national football team, the fundamental problem is not at the elite level but at the grassroots. In big cities there is little space for children to kick a ball around. A hyper-competitive education system, in any case, leaves them little time for play. Officials had hoped that glittering football academies would help. The world's largest was opened by Evergrande in 2012 with 50 full-sized pitches. So far, though, none of its thousands of graduates

has made the senior national team.

The football association has also tried to identify promising players early in life, placing them in development programmes—an approach that works for table tennis and diving but does not translate so well to team sports. "You don't need an under-15 national team. You need thousands of under-15s playing," says Joan Oliver, former boss of Barcelona, who now owns Beijing Institute of Technology Football Club in China's second tier.

With qualifying matches for the 2022 World Cup coming up, the government wants short cuts. Over the past three years China has started naturalising foreign footballers. On May 10th it named five, including three Brazilian-born forwards, to its squad. Mr Xi has called for greater self-reliance in China's quest for global power. Football is a stark reminder that it still needs foreign imports. ■

## Winter Olympics

# The puck stops here

China's ice-hockey team could be in for a difficult Olympic games

IN 2018 THE Chinese men's ice-hockey team qualified for the first time for the Olympic games, to be held in 2022 in Beijing, under a special dispensation for the host country. The cold reality of what this would mean was brought home last year when China was drawn in the same group in the competition as two powerhouses of the sport, Canada and America. A "slaughter" is likely, says China Sports Insider, a website. That would be a propaganda nightmare for the Communist Party, especially given the notable enthusiasm Presi-

dent Xi Jinping has shown for the sport.

In 2014 Mr Xi told an interviewer in Sochi, Russia, that ice hockey was his "favourite" winter sport to watch. Ice hockey also features most prominently in an official video about Mr Xi and the 2022 games. At one point he tells a group of young ice-hockey players that China's "hopes are pinned on your generation".

Efforts to boost the current generation of contenders have not gone well. Kunlun Red Star, a Chinese-owned club competing in Russia's ice-hockey league, was meant to help. Mr Xi and Russia's president, Vladimir Putin, attended the opening ceremony at the team's formation in 2016 (they also attended a youth ice-hockey event together in 2018, pictured). Red Star set out to solve Mr Xi's problem by recruiting foreigners of Chinese descent, including veterans of America's National Hockey League, to move to China and become eligible to represent the country in 2022.

But Red Star and the state sports bureaucracy appear to have had a falling-out, and responsibility for the national team has been passed like an errant puck between the club and Chinese officials. The relationship grew frostier still in 2019 when a squad made up of Red Star's weaker players annihilated the Chinese national team, 10-0.

The International Ice Hockey Federation in Zurich, which granted China its spot in the Olympics, wants to avoid even more lopsided results in February. On May 8th René Fasel, head of the federation, held a call with ice-hockey officials in China, a spokesman says, to discuss "how best to prepare the Chinese team" for the games.

The only realistic solution is for China to bring in the ethnic-Chinese players Red Star has already recruited. They are waiting in cities from Vancouver to Boston for the call to play. China would still be expected to lose at the Olympics, but avoiding humiliation would feel like victory. ■



The iceman cometh



## Chaguan | Landing ashore

*Disillusioned with foreign firms and domestic tech giants, more Chinese want to be officials*



WHEN ZHU LING graduated last year from a highly competitive master's programme at one of China's best universities, prestigious, well-paid jobs were hers for the taking. Instead she chose to become a civil servant for the central government, earning 6,000 yuan (\$930) a month, or less than some Beijing professionals spend on gym membership.

A decade ago, Miss Zhu (not her real name) might have joined a multinational firm. They pay well, and it was "cool to work for foreign companies, because that shows your international horizons, and you can travel all over the world", she says over cappuccino at an outdoor cafe in Beijing. Five years ago, top graduates vied to join home-grown technology giants like Alibaba, Tencent or Huawei. In addition to high salaries, such firms had free-thinking cultures and seemed to respect young people, she explains.

Today, the trends are changing again. China still wants foreign businesses for their know-how and dynamism, but their status "is definitely going down", says Miss Zhu. Geopolitical distrust is bleeding into work relations. Chinese employed by foreigners have noticed that they never advance beyond middle management and are the first to be laid off in bad times, she claims. As for domestic technology firms, their high salaries continue to attract the young. But they also face vocal criticism in Chinese media for domineering business practices and the "996" work schedules of their staff, toiling from at least 9am to 9pm, six days a week. In all, a third of Miss Zhu's classmates took civil-service examinations. Some were hired by state-owned banks. Three joined technology companies. None joined a foreign firm.

Chinese refer to securing an official position as *shang an*, or "landing ashore", reflecting the security such jobs offer. In 2020, 1.6m people passed background checks to take national civil-service exams, 140,000 more than the year before. Almost a million candidates eventually sat the exam, chasing 25,700 jobs. Still more took tests to become provincial and local officials. Many were fleeing a bleak market for new graduates, as covid-19 hit private firms.

Miss Zhu says she joined an elite government ministry in search of meaningful work. She will soon spend two years as an official in a remote rural area, saying: "If you want to become a good policymaker, you have to go to the grassroots level." A decade ago

her parents would not have wanted her to join the public sector, she thinks. They distrusted officials, who routinely shook them down for bribes. Back then they would also have worried about her prospects as someone with no family *guanxi*, or connections: her grandfather was a farmer and her parents run a small business. She credits an anti-corruption drive that began in 2012 with changing their views of officialdom.

Miss Zhu's blend of ambition and idealism is a good fit with the times. *Qiushi*, a theoretical journal, recently published a speech that President Xi Jinping made in January to national and provincial leaders. He described "chaos" in the outside world, celebrated China's new strength and declared that "time and momentum are on our side". Mr Xi also identified risks for China, ranging from dependence on foreign technologies to political turmoil should "an insurmountable gap between the rich and the poor" appear. He told officials to study the Soviet Union's collapse, after its ruling Communist Party became "a privileged bureaucracy that defended only its own interests".

Aware of public anger about inequality, Chinese propaganda has taken a populist turn, presenting the party as an ally against rapacious capitalism. In April authorities launched an anti-trust probe into Meituan, a food-delivery giant. Two days later Beijing Television showed a city official spending a day undercover, riding an electric scooter for Meituan. The exhausted bureaucrat told viewers that the work is "too difficult", earning praise for his caring ways from the *People's Daily*, a flagship party newspaper. Official media did not mention Chen Guojian, a real-life Beijing delivery rider detained after posting videos of grim working conditions. He was charged on April 2nd with "picking quarrels and provoking trouble", a catch-all crime used against activists who challenge the party's monopoly over questions of social justice.

Miss Zhu admits that idealism is not the only reason to join the public sector. A brilliant classmate might have become a university lecturer, but instead took a post at a highly selective high school. She became a teacher because, years from now, she will be entitled to a school place for her (as yet unborn) child. To millions of hard-pressed parents who see education as their children's only hope of getting ahead, such planning makes perfect sense.

### If you can't beat 'em...

Other civil servants accept a low salary because of the heavily subsidised housing, health insurance and pension that go with it. Some small-town or provincial Chinese take on boring government jobs that come with hard-to-secure residence papers for such megacities as Beijing or Shanghai. A sense of filial duty prompted Wu Hong, an only child who graduated in 2008, to leave his software business in the boomtown of Shenzhen and return to his home province of Jiangxi. Mr Wu (not his real name) is now a poorly paid local bureaucrat. "My parents are getting old, and in my small town there is no better place to find a stable job," he says.

Offcn, an adult-education business, prepares millions of students each year for public-sector exams. It grew fast during the pandemic. "Training centres rose like bamboo shoots after rain," says an Offcn manager in Beijing. He once looked down on civil-service jobs. Now he regrets missing the age limit—typically 35—for joining many government departments.

Ordinary Chinese are often cynical about officials as a class, deeming them slow to help and quick to conceal mistakes. But for many in the private economy, just keeping heads above water is an exhausting slog. Small wonder some dream of heading ashore. ■



## New York's mayoral race

## Uncertainty and the city

NEW YORK

**Next month's primary is the first in a generation to be run while the city seems to be shrinking**

**T**IMES SQUARE is the only neighbourhood in New York City where regulations require a minimum amount of display lighting. Before the pandemic, tourists flocked there to gawk at the dazzling lights or to take selfies with someone dressed as Elmo or Spiderman, or maybe with the guitar-strumming Naked Cowboy (who in fact wears Y-fronts). But for decades until the mid-1990s, New Yorkers and visitors alike avoided this "Crossroads of the World" because of its reputation for crime and drugs. On May 8th, when a gunfight erupted in Times Square and a toddler and two visitors were wounded, New Yorkers feared, not the first time, that their city was sliding back into its old ways.

On promises to make New York's lights shine brighter than ever, about a dozen Democrats are running for mayor, known as the second-toughest job in America. They are elbowing one another for attention from the city's diminished media. New Yorkers are still struggling to keep track of their names, much less the fine points of policy that (sort of) distinguish them. The candidate leading in the polls is

the one with the most name recognition, Andrew Yang, who competed for the 2020 Democratic nomination for president, and who is positioning himself as the field's tech-savvy moderate. He was quick to condemn the shooting, saying "everything is contingent upon whether our streets and our subways are safe". The Democratic primary is on June 22nd, and it is likely to be decisive. There are two Republican candidates running, but Democrats outnumber Republicans in the city seven to one.

Typically mayoral candidates find themselves arguing about how to manage New York's growth. This is the first election for a generation in which they are con-

fronting the hazards of shrinkage. Reliable numbers are hard to come by, but even before the epidemic the population was declining very slightly. Last year it shrank by perhaps 300,000 people (an estimate from CBS, a broadcaster, based on postal changes of address). Perhaps more worrying, the Partnership for New York City, an industry group, surveyed the city's big employers and found that only 10% of Manhattan's office workers had returned to their desks by March. Employers expect only 46% of their people back at their desks by September, and they expect 56% will work remotely at least part of the time after that.

With so many commuters vanishing, thousands of small businesses have closed their doors, taking one out of every eight jobs with them. On once-busy commercial streets, storefronts are empty and dark. Though Broadway is set to reopen in September, the hospitality industry has taken a beating during the pandemic: more than seven in ten of those working in the sector lost work last year. Across the city, employment is not expected to recover its pre-pandemic levels before 2024.

Crime is still much lower than it was at its height three decades ago, but New Yorkers list it among their top three priorities for the next mayor, along with stopping the spread of covid-19 and kick-starting the economy. Eric Adams, Brooklyn's borough president and a former policeman, is second in most polls and has made combating crime a focus. He compared gun violence to a virus. "If we do not inoculate against it ▶▶

## → Also in this section

---

28 The Colonial Pipeline hack

---

29 Clearing Skid Row

---

30 Lessons from the evictions pause

---

30 The other epidemic

---

32 Lexington: Liz Cheney and Trumpism

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► now, it will spread and spread and it will mean the death of countless New Yorkers and the city we have built." Fearmongering, perhaps, but also a sign of how fearful many constituents are. When Mr Adams recently strolled down Brooklyn's Metropolitan Avenue, which he once patrolled, many passers-by shared their concerns about violence with him. "I'm afraid to walk to work," said one Fed-Ex worker.

Crime is again confronting many American cities. But the next mayor will also face problems that are peculiar to New York. One is how to raise taxes enough to finance more spending without prompting more Wall Street firms to leave town. Several, including Blackstone, a private-equity giant, have already opened offices in Florida, where taxes are far lower.

Another New-York-specific problem is the subway, beset before the pandemic by delays caused by an ageing signal system and now seeing a decline of two-thirds in daily riders, which was 5.6m before covid-19 struck. New York's governor actually has more control over the subway, which only makes the next mayor's task harder: the city will not rebound if the subway doesn't. Not only the virus but fear of crime is keeping New Yorkers from going down into the tunnels. The current mayor, Bill de Blasio, has felt it necessary to create a travel-buddy scheme for city employees.

New Yorkers have more reason than usual to master fine distinctions among all the candidates because this is the first big-city election to be decided by ranked-choice voting. Voters will be able to express their preference, in order, for up to five candidates. But whom to rank where?

Each candidate has a plan for the city's recovery. Ray McGuire, a former Citigroup executive, says through measures like salary subsidies to small businesses he will bring back 500,000 jobs. He ticks a lot of boxes. He had a modest upbringing by a single mother, but at Citi he advised on transactions even bigger than the city's \$99bn budget. Several progressive candidates, including Dianne Morales, a former non-profit executive, are calling for new programmes and higher taxes on the wealthy. But the city cannot raise taxes without the state government's approval, and New York City already faces the highest income-tax rate in the country.

Mr Yang has some intriguing ideas, and New York's mayors are supposed to do things that other cities copy. But he stands apart mainly because the city likes a star: Ed Koch, Rudy Giuliani and Michael Bloomberg were all well-known before they became mayors. Mr Yang has said he would hire Kathryn Garcia, an experienced problem-solver in city government, to help him run the place. Like a true New Yorker, Ms Garcia, who is also a candidate, shot back that Mr Yang could work for her. ■

## Hacking and ransoms

# Post-Colonial studies

NEW YORK

## A cyber-attack exposes growing risks to America's energy infrastructure

PIPELINES, LIKE cables and substations, are the type of dull, critical infrastructure that Americans don't think about until, suddenly, they must. On May 7th a cyber-attack prompted Colonial Pipeline, a firm headquartered in Georgia, to shut down a tube stretching from Texas to New Jersey that supplies about 45% of the petrol and diesel used on the east coast. Federal officials confirmed that DarkSide, a ransomware gang believed to be based in the former Soviet Union, was responsible. "We're not talking about some small pipeline," explains Amy Myers Jaffe, author of "Energy's Digital Future", a new book. "We're talking about the jugular."

On May 12th Colonial Pipeline said it had "initiated the restart of pipeline operations", a carefully worded statement that conveys both the difficulty of returning to normal and a desire to contain panic. That day average petrol prices topped \$3 a gallon for the first time since 2014. Much depends on whether more drivers rush to buy petrol, as they did in the oil shocks of the 1970s. If 30m car-owners with half a tank decide to fill up, reckons S&P Global Platts Analytics, a data group, they would guzzle over 4m barrels, more than the recent daily demand of the entire eastern seaboard. Many are already buying while they can. Long queues formed at petrol stations in

the south-east on May 11th. Some stations limited purchases; others ran out of fuel. The White House said it had established "an inter-agency response group" to "ensure a continuing flow of fuel".

Even if supplies are restored quickly, however, America faces a more stubborn problem. Despite more than a decade of attention to cyber-security, the country's energy infrastructure—the pipelines, power generators and grids on which the economy depends—remains exposed to hackers. Indeed the energy system may yet become more vulnerable, not less.

Securing oil and electricity assets used to mean guarding against physical attacks: a bombing of a refinery, for instance. Those risks remain, but hackers can also inflict grave damage. In 2010 the Stuxnet worm, generally believed to have been deployed by Israel and America, targeted a nuclear facility in Iran. In 2015 and 2016 Russian hackers caused blackouts in Ukraine.

Aware of such risks, American executives and politicians have tried to mitigate them. The American Petroleum Institute, the country's main oil lobby, has held an annual conference on cyber-security since 2006. The Department of Energy dutifully developed "The Energy Sector Specific Plan" for cyberthreats, in 2015, "The Multi-year Plan for Energy Sector Cybersecurity", in 2018 and "The 2020 Cybersecurity Multi-year Program Plan", to name but a few.

Yet weaknesses remain. The shutdown of the Colonial Pipeline exposes gaps in companies' cyber-armour. It also reveals the idea that shale oil might guarantee energy security to be a fallacy. Oil may be fungible but oil infrastructure is not, notes Michael Tran of RBC Capital Markets. America's north-east is particularly exposed to attack, Mr Tran says. A dearth of local refineries makes the region dependent on pipelines and tankers for oil products.

The federal government's cyber-defences are imperfect, too. The Government Accountability Office (GAO), the agency charged with criticising other agencies, has found cyber-security a particularly rich subject. The Transportation Security Administration (TSA) is supposed to help safeguard oil and gas pipelines; in 2019 the GAO identified "factors that limit the usefulness of TSA's risk assessment". In March the GAO reported that the Department of Energy's plans for cyber protection "do not fully address risks to the grid's distribution systems", leaving big cities vulnerable.

Worryingly, cyber-attacks may increase in number and ambition. Hackers are using ransomware to infiltrate larger companies and seek higher payments. Their average ransom payment has roughly doubled over the past year, according to Coveware, a tracking firm. Furthermore, changes to the electricity system may, without sufficient planning, make it more vulnerable. As ►►



Jam today



more devices are connected to the internet, hackers have a larger number of targets. As more cars run on electricity rather than combustion, a blackout can wreak broader damage. And as transmission lines connect distant power systems, helping to balance intermittent wind and solar power, a problem in one grid can have an impact on another.

These challenges are not unique to America. But they pose a particular headache for President Joe Biden, who is trying to win support for climate proposals in his \$2trn infrastructure bill. Limiting climate change and fighting cyberthreats are hardly mutually exclusive endeavours. Mr Biden must make a credible case that he can make America's energy system both greener and more secure. ■

## Homelessness

### The Row row

LOS ANGELES

**Skid Row has been decades in the making. A judge wants it closed now**

TANYA MCNICHOLS moved to Los Angeles from Cincinnati when Eartha Kitt died. She says she is on a mission from Jehovah. Asked how she spends her days, she fires off four words: "Shower, wash, read, pray." Ms McNichols lives surrounded by her possessions on the street in front of the Union Rescue Mission, a non-profit that serves the homeless of Los Angeles's Skid Row. Reverend Andrew Bales, who runs the Mission, sees Skid Row as a humanitarian disaster. "It couldn't be a worse situation", he says, "unless it was hell itself." He has experienced this hell first-hand. While delivering water in the area, Reverend Bales contracted a painful infection that resulted in the partial amputation of both legs.

On April 20 a federal judge ordered the city and county to clean up Skid Row. In a flowery 110-page injunction, Judge David Carter chronicled the century-plus of history that culminated in Los Angeles's contemporary homelessness crisis. In its final pages, he made his decree. Los Angeles must set aside \$1bn to tackle homelessness. By mid-July, the city and county must offer shelter to all unaccompanied women and children on Skid Row. By October 18, the county must offer shelter to all of the homeless people in the area. The city and county are appealing against the order.

Los Angeles has long fought a losing battle against homelessness. The county provides around 50,000 shelter beds for a steadily increasing homeless population of more than 60,000. According to the Los Angeles Homeless Services Authority, an

average of 207 people exit homelessness every day, while an average of 227 become homeless. Around 5,000 people are concentrated on Skid Row, a little over half of whom are in shelters or other temporary housing; the rest sleep rough. More than a third suffer from a substance use disorder and many are mentally ill or physically disabled. The area is squalid.

This concentration of misery is a result of both historical accident and deliberate policy. Beginning in the 1880s, the proximity of downtown Los Angeles to a rail terminal made it a locus for poor transient labourers. Charitable organisations and public agencies soon appeared to serve this population. In the 1960s, urban-renewal efforts reduced the area's housing stock, and displaced residents flooded the streets. A deliberate policy of "containment" beginning in the mid-1970s led the city to concentrate services for the indigent within the 50-block area. Homeless people from across the region now gravitate there.

The city and county argue that Judge Carter's ruling is an instance of judicial overreach and that its timeline is unreasonable. Mayor Eric Garcetti has suggested that it will complicate long-term planning around homelessness. Existing efforts include two ballot initiatives: Proposition HHH, which set aside more than \$1bn to build up to 10,000 housing units for the homeless, and Measure H, which raised county sales taxes by a small amount to pay for improved services.

The problem with these efforts, charges Reverend Bales, is that they have proved expensive and slow. While the city dallies, he says, people are dying on the street. He has a point. In 2020 nearly four homeless

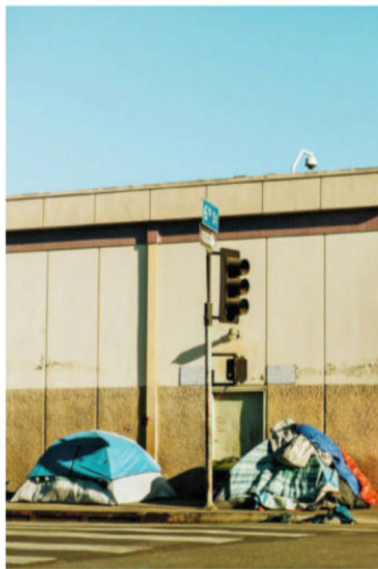
people died in Los Angeles per day. The first units made possible by Proposition HHH, which passed in 2016, did not open until 2020. A third of the homes in the pipeline will cost more than \$500,000 each to build. And the city has dragged its feet: although Los Angeles is eligible for federal reimbursement for homeless services, it has not even applied for the money; city officials plead a lack of staff.

In his order, Judge Carter takes the city to task for this "embarrassing performance", arguing that it has long failed to achieve its stated goals. In addition to its requirement that the city shelter the residents of Skid Row, the order also imposes accountability requirements: the city must explain how funds intended to help with homelessness are being spent.

Some homelessness experts are sceptical. Suzanne Wenzel of the University of Southern California acknowledges that long-term solutions take time but worries that money for permanent fixes could now be siphoned off to temporary ones. And she fears unintended consequences. If the city is forced to rapidly clear Skid Row, she says, "they will be forced to make some decisions that are ultimately not going to be in the best interests of those now on the streets." Gary Blasi, a law professor who works on homeless issues, agrees. "The way this city would comply with such an order", he says, "would be to build shelters that people living in encampments find inferior to where they are now."

What would be better? Experts recommend permanent supportive housing for those who may be struggling with mental illness or drug addiction, something Proposition HHH was supposed to do. The city also needs to find a way to bring down astronomical construction prices. And a better safety net would help: thousands of Angelenos spend nearly all they earn on rent, teetering on the edge of homelessness. Mr Blasi points out that LA County's general relief programme pays out a paltry \$221 per month to indigent Angelenos.

On April 25, Judge Carter stayed some provisions of his initial order and agreed to give the city 60 days to spell out how its homelessness funds will be spent. He has invited the parties to discuss a settlement. Such a settlement might look like an earlier case Judge Carter presided over in nearby Orange County. In that one, the city could be required to create enough shelter for 60% of the homeless people in each city-council district. Council members would then be free to have remaining homeless people cleared from the area. Mr Blasi thinks this is a bad idea. "It does give individual city-council members power to clear encampments that are bothering their most powerful constituents," he says. "But at the end of the day many of those people would still be homeless." ■



From despair to where?



Evictions paused

## Shelter in place

NEW JERSEY

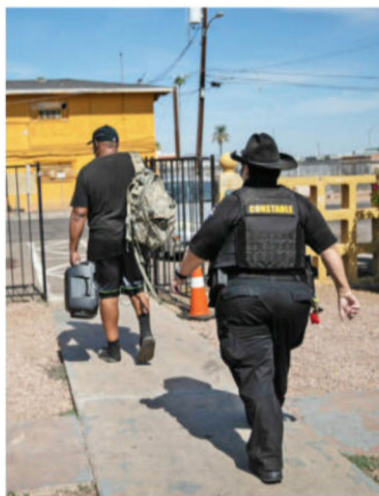
**Lessons from the federal government's moratorium on evicting tenants**

**B**EFORE COVID-19, evictions were a hot topic, thanks to the publication of "Evicted", a rare wonk-bestseller by Matthew Desmond of Princeton University. The book follows eight families turfed out of their homes in Milwaukee, their possessions unceremoniously dumped on the pavement. Mr Desmond estimates that there are 1m evictions a year in America, a staggering number given the relatively small number of people affected (about 2.3m adults and children). Then, when covid-19 hit, an experiment took place. The Trump administration issued an edict pausing evictions, a policy continued by the Biden White House. On May 5th a judge struck down the federal moratorium, apparently ending the experiment. What were the results?

The federal moratorium actually consisted of several policies spanning the Trump and Biden administrations. From March to August 2020 it was part of the CARES Act. From September it took the form of a directive from the Centres for Disease Control and Prevention (CDC), which was extended three times to end on June 30th this year. The CDC claimed authority on the ground that evicting people in the middle of an epidemic was a public-health risk. That seems to be true. From May to September 2020, 27 states lifted their eviction moratoriums. Comparing the trend before the pandemic to the trend in infection and deaths once the moratoriums were lifted, researchers estimate that states without moratoriums experienced covid-19 infection rates twice as high as states with them.

As this suggests, state and local governments have interpreted the moratoriums differently. New Hampshire required landlords to file affidavits stating compliance with the CDC before proceeding with an eviction. Some have paused removals but not court hearings, filings and eviction notices. Other places have refused outright to comply, for example Jackson County, Missouri, which included half of Kansas City. This patchwork of policies has confused millions of Americans, with several hundred faced eviction despite federal policies that seemingly banned it.

Forty-three states issued some form of an eviction moratorium during the epidemic. The Eviction Lab, a research group headed by Mr Desmond at Princeton, estimates that the federal moratorium pre-



Back to the beginning

vented at least 1.6m eviction filings in 2020. This reduced filings by 35% compared with the historical average, a notable achievement during an economic slump. By contrast, during the two-week pause between the CARES Act ending in August 2020 and the CDC eviction moratorium beginning in September, evictions rose back to pre-pandemic levels.

The cost of this policy fell mostly on landlords. And in many poor post-industrial cities, the kind of place featured in "Evicted", much affordable housing is supplied by small landlords. Many of them are struggling to make ends meet themselves.

Some are being forced to sell off properties to cut their losses. These sales could reduce the availability of low-cost housing, pushing up the cost of housing and, eventually, resulting in more evictions.

What, then, are the lessons of the evictions pause? One is that the policy needs to be paired with help for tenants and landlords, in the form of rental assistance or vouchers. Billions of federal dollars have been provided for pandemic-related emergency rental assistance (\$25bn under the Trump administration and \$22bn under the Biden administration). But the Urban Institute, a think-tank, estimates that at least \$50bn is needed to cover rent owed. And according to the Eviction Lab, many tenants are being evicted before the funds are being disbursed. In Texas, only 250 households received assistance out of 70,000 applicants by the end of March.

Increasing the stock of affordable housing would also help. In 1999 the Faircloth Amendment, an amendment to the Housing Act of 1937, capped the amount of housing that could be owned by the Public Housing Authority. So for any public housing unit to be built, one must be taken away. Finally, unlike the procedure in criminal cases, renters facing eviction are not guaranteed a lawyer. So whereas 90% of landlords have legal counsel, only 10% of tenants do. And lawyers make a difference. In New York City, 84% of renters represented by counsel avoided eviction after the city made lawyers more widely available. That would also slow evictions down, without penalising landlords unfairly. ■

Opioids

## The other epidemic

DENVER

**Changes to drug markets explain why more people in San Francisco died of overdoses in 2020 than were killed by covid-19**

**T**HE FIRST time Jean was offered heroin, she declined. One night, though, when she was 18 or 19, she decided to give it a try. Over the next few years, heroin led to meth, and meth led to fentanyl. It wasn't until she got pregnant in 2017 that she decided to seek help. "I was at a point in my life where I kept consistently hitting rock bottom and I was OK with that," says the 29-year-old from Denver. "But when I found out that I was pregnant with my daughter, I wanted better for her."

Not everyone has such a realisation. While covid-19 rampaged across the country, America's other epidemic has quietly boiled over. Provisional data from the Centres for Disease Control and Prevention (CDC) suggest that just over 90,000 Ameri-

cans died by drug overdose in the 12 months to October 2020, a 30% increase on the previous year. That is more than the number of people who were killed last year by car crashes (42,000) and guns (44,000) combined. Roughly 55,000 of those who overdosed died from synthetic opioids such as fentanyl, a 57% jump year-on-year.

The pandemic seems partly to blame for the increase. Dr Chris Thurstone, the director of behavioural health services at Denver Health, says the isolation wrought by lockdowns can worsen depression and anxiety, and substance abuse often increases during economic downturns, when people have lost their jobs or are worried about their finances. More people may have used drugs alone, or been unable ►►



to seek medical help when clinics closed or stopped accepting new patients. But there is more to the story. America's opioid epidemic has entered a dangerous new phase thanks in large part to shifting—and modernising—drug markets.

The roots of the epidemic can be traced back to prescription painkillers, such as OxyContin, which was introduced in 1996 (see Books & Arts). In the 15 or so years it took for the prescription opioid crisis to turn into an illicit opioid crisis, the geography of the epidemic remained relatively stable. Many hoped fentanyl, which is up to 100 times more potent than morphine per gram, would not spread beyond the East Coast and Appalachia, where it has wreaked the most havoc. Users in Western states have historically preferred black-tar heroin, which does not mix as well with fentanyl, to the white-powder heroin found in the east. "Opiate users generally have their drug of choice," says Bill Bodner, who runs the Los Angeles division of America's Drug Enforcement Administration (DEA). Older westerners addicted to opioids, "were tar heroin users, they are tar heroin users, and they are going to continue to be tar heroin users."

Yet recent tallies show that the scourge has now found purchase in the West too. In San Francisco, more than twice as many people died from an accidental drug overdose last year as from covid-19. The city's chief medical examiner estimates that fentanyl was detected in the bloodstream in nearly 73% of overdose deaths. In Las Vegas, overdose deaths from fentanyl increased from just 16 in 2015 to 219 in 2020.

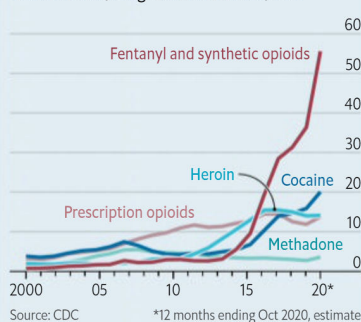
Fentanyl's spread is as much about geopolitics and organised crime as it is about local drug markets. China is the biggest supplier of the chemicals used to make fentanyl, and until recently the drug was often mailed directly to the United States in small parcels. In 2019 the Trump administration successfully lobbied the Chinese government to ban the illicit production and sale of fentanyl and similar substances. Afterwards, says Matthew Donahue, deputy chief of operations for the DEA, direct shipments "virtually stopped".

Fentanyl did not disappear, however. Chinese producers simply took the long way round, shipping the chemicals to Mexico for drug cartels—which were already trafficking heroin, meth and cocaine—to then move across the border. The amount of fentanyl seized by Mexican security forces nearly quintupled between 2019 and 2020. Once across the border, the cartels, Sinaloa and Jalisco New Generation chief among them, use their established networks to distribute the drug throughout the United States.

It is not just the route that fentanyl travels that has changed. The drug is also shape-shifting. In Mexico, fentanyl is

### The other epidemic

United States, drug overdose deaths, '000



pressed into counterfeit pills made to resemble painkillers like OxyContin or hydrocodone. Just two milligrams of fentanyl can be fatal, so a pure fentanyl pill—or one pressed with another drug such as heroin or cocaine—can be deadly many times over. When the DEA tested sample pills from drug seizures between January and March of 2019, 27% contained a lethal dose of fentanyl. John Pelletier, who runs the narcotics division of the Las Vegas Metropolitan Police, said his team responded to a fatal-overdose call where the two victims had their phones open to check the side-effects of OxyContin, not realising they had ingested a fentanyl pill.

Counterfeit pills are great business for the cartels. Fentanyl can be produced at one-hundredth the cost of heroin, says Keith Humphreys of Stanford University. The cartels "don't need a field of poppy plants," says Mr Donahue, "they just need a basement, house or small warehouse."

The spread of fentanyl has changed the demographics of who is dying from opioids. In 2014, opioids killed whites at twice the rate as African-Americans. The

overdose death rate among black Americans more than tripled in the five years to 2019 as fentanyl infiltrated the supply of illicit drugs. Young people in their 20s and 30s are also dying in greater numbers.

Higher death rates among younger Americans reflects a shift to online drug markets. The dark web, an obscure corner of the internet, has long been a source for illicit drugs. Now, counterfeit pills are readily available on gaming and social-media platforms such as Instagram or TikTok. The pandemic has accelerated the trend: Americans turned more frequently to the internet for drugs just as they did for toilet paper and groceries.

All this paints a bleak picture. Officials warn that the other epidemic, which has steadily worsened for decades, will get deadlier still before it gets better. President Joe Biden's American Rescue Plan, which was passed in March, included nearly \$4bn for mental health and substance-abuse services. Mr Biden has also made it easier to prescribe buprenorphine, a drug used to treat opioid addiction.

That is welcome, but 90,000 people dead suggests the need for a more muscular response. It would help if the dozen states that declined to expand Medicaid under the Affordable Care Act would change their stance, as that could provide methadone for addicts. Congress could also restart Medicaid—the government health-insurance programme for poor people—for prisoners in the weeks before they are released. A study in 2018 found that the risk of opioid overdose for former inmates in North Carolina was up to 40 times higher than for the state's general population. It would be great to think that the problem could be fixed by choking off supply. But one constant of border policy in this and the previous administration is that fentanyl can always find a way in. ■

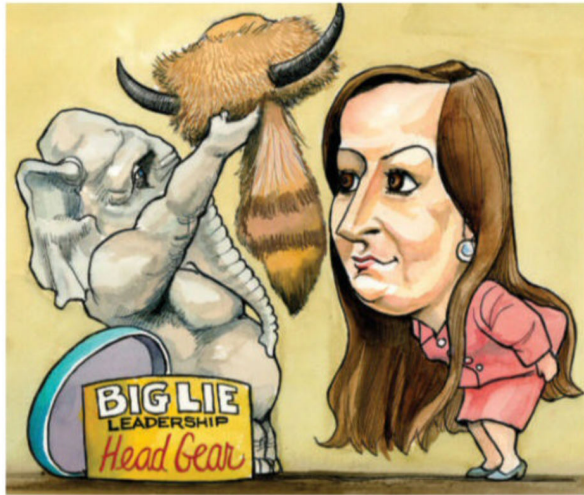


The pill and the damage done



## Lexington | The kraken is unleashed

*Liz Cheney's demotion is a death rattle for principled conservatism*



NOT LONG ago the prospect of House Republicans replacing a middle-aged security hawk as their number three with the 30-something representative of a district that voted for Barack Obama twice might have suggested something important about the party's ideological direction. Yet only the most credulous commentators are treating the impending replacement of Liz Cheney, a Republican blue-blood and scourge of progressivism from Wyoming, with Elise Stefanik in those terms. In reality it indicates a party abandoning conservative ideology altogether.

There are few more trenchant conservatives than Ms Cheney, who was sacked from the Republican leadership this week. The daughter of a vice-president renowned for those qualities, she voted for Donald Trump's bills 93% of the time and has rarely come across a centre-left proposal she did not view as deviant socialism. Ms Stefanik, by contrast, is a 36-year-old Harvard graduate who opposed Mr Trump's tax cut, was once known for advocating gay rights and has been called a "liberal" by the Club for Growth. But that explains neither her rise nor Ms Cheney's fall; intellectual argument is yesterday's Republican politics.

Ms Cheney's offence against the new conservative orthodoxy is her refusal to accept that last year's presidential election was stolen. She further claims, accurately, that those who promulgate this lie, including the former president and most of her Republican colleagues, are responsible for deceiving millions of voters with potentially calamitous consequences, of which the ransacking of the Capitol by a pro-Trump mob on January 6th was but a foretaste. "I will not sit back and watch in silence while others lead our party down a path that abandons the rule of law and joins the former president's crusade to undermine our democracy," she said before her removal. Ms Stefanik is one of those others.

The 36-year-old's rapid rise from the ranks owes everything to her warm embrace of Mr Trump's lawlessness. A former critic of his Muslim ban, border wall and ill behaviour, she made an unexpected lurch to Trumpism during the former president's first impeachment trial, which she inaccurately called "baseless and illegal". Richly praised by the former president, she began aping him. She jettisoned her commitments to bipartisanship, gay rights and tax realism. She caricatured her Democratic electoral opponent,

Tedra Cobb, as "Taxin' Tedra" (which was maybe what the former president had in mind when he called her a "gifted communicator"). Perpetuating his rigged-election lie was the next step.

Ms Stefanik joined the Republican vote—just hours after the insurrection—to reject the election results. In an interview-cum-hustings with Steve Bannon, she dived further off the edge by backing a Republican audit of the vote in Arizona's biggest county that is to election security what Mr Trump's view on disinfectant infusions was to covid-19 medicine. The auditors are examining ballot papers for traces of bamboo, in response to an online rumour that thousands were fraudulently smuggled in from Asia.

There is little chance that the capable Ms Stefanik believes such nonsense. According to Representative Adam Kinzinger of Illinois, only around five Republicans in Congress do. Indeed Ms Stefanik's careful choice of words gives her away. While dignifying all manner of debunked Trumpian election falsehood, in what might sound like an admirably restrained way ("...I do not take this action lightly. I am acting to protect our democratic process..."), she refuses to say outright that the vote was stolen. The troubling reality of American politics is not that she and other ambitious young Republican lie-peddlers, such as Josh Hawley and Matt Gaetz, are deceived, but that they are incentivised to behave in this mendacious, anti-democratic way. And, further, that they see no impediment to doing so.

Currying favour with Mr Trump, though rewarding, is only part of the explanation for that. The former president's loss of office and media platforms presented his party with an opportunity to distance itself from his falsehoods that it has simply shown no interest in taking. Beyond their fear of the former president, Republicans have become hooked on his method, which in essence involves firing up the party's relatively small and fearful base, while trying to compensate for the Democrats' greater numbers by suppressing their vote. Kevin McCarthy, the Republican leader in the House, exemplified the first in a letter announcing his intention to knife Ms Cheney. Her truth-telling, he claimed, was impeding Republicans' efforts to stop Democrats "destroying the country". Republican state legislatures—independently of Mr Trump—are pursuing the second course, through some 400 legislative efforts to tighten voting rules. In several states, Joe Biden's winning margin was smaller than the number of votes cast by methods, such as emergency postal ballots, that have since been banned.

In totality, this Republican campaign is less a new course than an escalation of grubby tactics that predated Mr Trump; and which Democrats, in the form of gerrymandering, also dabbled in. The sliding descent into skulduggery this represents (rationalised by an increasingly feverish view of the other side) explains why so few House Republicans have resisted it. Ms Cheney and Mr Kinzinger have done so, in effect, by seeing a distinction between seizing dubious advantages in the democratic system and assaulting it for partisan gain. It is no coincidence that they are motivated more by ideology than power for its own sake. Ms Stefanik and her peers see no such distinction. They, also not coincidentally, mostly entered Republican politics after the party had started jettisoning ideas for scaremongering and the pursuit of power by any means.

### Working on the Cheney gang

Ms Cheney's demotion leaves this group in control of a caucus that has a good chance of taking the House at next year's mid-terms. To her credit, she vows to continue fighting to bring her party "back to substance and principle". She has her work cut out. ■





## Post-covid economies

## A long way down

BOGOTÁ

Why Latin America has been so badly hurt by covid-19

**B**EFORE THE pandemic hit, Jaime Alirio Pinilla, a 45-year-old in Bogotá, the capital of Colombia, was employed as a construction worker. "But because of this shit I lost my job and now work on the streets," he says, standing behind a steel cart from which he sells orange juice, sweets, cigarettes and coffee. Colombia has already had one of the longest lockdowns in the world; now it also faces daily clashes between protesters and security forces, as riots over the economic situation continue for a third week. "We've been locked up for more than a year, and we can't bear this any longer," says Mr Pinilla. "The economy is ruined, we're surviving, not living."

The covid-19 pandemic provoked the deepest global recession since the second world war. But one region has fared worse economically than any other—and by a stretch. Global GDP contracted by 3% last year, but in Latin America and the Caribbean output fell by 7%, the worst of any region tracked by the IMF (although India, almost a region in itself, did worse). In 2020 people in Latin America worked 16% fewer

hours, almost twice the loss globally. Several countries in the region have done extraordinarily badly: Peru's GDP, for instance, fell by 11% last year. And whereas some economies are now roaring back as restrictions are lifted, in Latin America the mood is if anything darkening.

The simplest explanation for the region's terrible performance relates to public health. *The Economist's* excess death model estimates that Latin America and the Caribbean has the highest number of excess deaths in the pandemic, relative to population, of the world's regions. As vaccinations in other parts of the world reduce the spread of the disease and the damage it causes, in many parts of Latin America the coronavirus rages unchecked.

## → Also in this section

34 Hunger returns to Brazil

35 Getting lost in Costa Rica

— Bello is away

In Brazil, where the populist president, Jair Bolsonaro, has refused to wear a face mask or be vaccinated, the official daily death toll at one point exceeded 4,000 a day (it is now about 2,000). Even countries that had previously done a good job of controlling the pandemic, such as Uruguay, are struggling with soaring case numbers.

The spread of the disease spurred some governments across the region to implement the world's toughest lockdowns. A quantitative measure produced by Goldman Sachs, a bank, assigns a score from zero to 100 to assess the severity of a country's rules on lockdown, the degree of adherence to such strictures and any voluntary social distancing (see chart on next page). No region has had a more home-bound year than Latin America, with movement 70% more constrained than in North America.

Argentina and Chile have been the world's second- and fourth-most restricted countries, respectively. Peru tops the list. There the initial lockdown felt like living through the darkest days of the war against Maoist insurgents in the early 1990s. No one was allowed to leave home except to buy groceries. Police officers and soldiers strictly enforced a curfew. Lockdowns this tough make much economic activity impossible, even if many of the region's poorest people have little choice but to defy stay-at-home orders in an attempt to make ends meet.

In addition to the severity of Latin ▶▶



▶ America's outbreak and the associated lockdowns, two other factors have contributed to the region's painful economic contraction: the structure of local economies, and the scale and design of fiscal stimulus. Take economic structure first. A range of evidence suggests that the region is especially vulnerable to lockdowns. Many countries in Latin America and the Caribbean are highly dependent on receipts from international tourists. Aruba, a Dutch island in the Caribbean especially reliant on visitors, saw GDP fall by 25% in 2020.

Recent research from the IMF finds that employment in what it calls "contact-intensive sectors"—the kind where it is impossible to do a job without being in physical proximity to others—is especially important in Latin America and the Caribbean. Jobs in industries such as restaurants, shops or public transport account for 43% of total employment, compared with 30% in emerging markets as a whole.

A region with high inequality, Latin America has an unusually large share of people working as domestic staff for richer folk, which inherently involves the mixing of households. For a recent paper, Louisa Acciari of University College London and colleagues surveyed domestic workers in multiple countries, and found stories of inadequate personal-protective equipment and violations of their rights. Indeed the first official covid-19 death in Rio de Janeiro last March was a maid who had been infected by her employer, according to state officials; the woman had been to Italy and, they allege, did not bother to send her maid home once she became sick.

The final factor behind the region's dreadful economic performance is fiscal policy. One way of measuring whether a country's fiscal response to the pandemic has been large enough involves comparing two things: the change in a country's overall budget deficit, and its lost output during the pandemic. Borrowing a methodology developed in a research paper by Goldman Sachs, *The Economist* calculated

the adequacy of pandemic-induced stimulus for 193 countries. Many governments around the world have, for every dollar of lost output, boosted their spending by a dollar. A few, such as those of the United States and Australia, have been substantially more generous. Latin America, although implementing more generous fiscal stimulus than in past recessions, has been stingy even relative to other emerging markets, with the median country adding just 28 cents of extra deficit spending for every dollar of lost output.

The design of the stimulus also has shortcomings. Countries with the most successful plans have sent vast amounts of money directly to people. That has helped break the link between job losses and cuts in households' spending, supporting the economy. Latin America, by contrast, has mostly focused its resources elsewhere, including on building up underfunded health-care systems.

Not all Latin American countries have taken this route. In Brazil, spending by Mr Bolsonaro's government has made up for lost output almost completely. This helped reduce the incidence of extreme poverty even as the pandemic gripped the country, although the level of emergency aid to poor households has recently declined, and hunger and other forms of deprivation are on the rise again (see next story).

Yet some governments have been puzzlingly austere. Nowhere is this truer than in Mexico, led by the self-proclaimed left-winger Andrés Manuel López Obrador. Mexico's puny stimulus programme (of 17 cents per dollar of lost spending) stems from Mr López Obrador's monastic and austere sensibilities, which make him instinctively leery of debt but especially so when it is funded by foreign financiers. In Colombia the protests were sparked by the attempt on April 28th by Iván Duque's government to push through a tax reform, but have grown into something far larger. Much of the discontent stems from the perception of an inadequate or misguided

response to covid-19, which has allowed 2.8m people to fall into extreme poverty.

The economic carnage will not last for ever. But the annual growth in GDP of 3-4% that Latin America and the Caribbean can expect, once restrictions are safely lifted, remains some way below the rates that the United States and some other countries are about to see. A recent surge in commodity prices will help less than many think: an index of world commodity prices remains below where it was for much of the period since the global financial crisis. And because of feeble stimulus households have not accumulated big chunks of savings, as they have in many richer countries, so there will be no post-lockdown spending binge. As the riots in Colombia show, the region hardest hit by the pandemic faces yet more trouble. ■

### Hunger in Brazil

## An old scourge returns

SÃO PAULO

Many poorer Brazilians cannot afford enough food

DENIZE XAVIER DE CARVALHO, a 40-year-old single mother, scoops rice onto the four plates in front of her. She adds a small spoonful of beans to each one as she turns off the stove. The pressure cooker sitting on the burner hisses as it cools, with a few chicken feet inside to feed her and her three children. This is the first time the family, who live in a slum in Rio de Janeiro, have eaten meat in months. Ms Carvalho, who lost her job as a waitress at the beginning of the pandemic, often can only feed her children bread and margarine. "It's really hard," she says, "to hear your children crying for a piece of bread and sometimes not having anything to give them."

For decades malnutrition was a problem in Brazil, as the country struggled to lift millions of families out of extreme poverty. In the mid-1990s a series of programmes, starting with the creation of a National Council for Food and Nutritional Security (CONSEA), began to curb poverty rates, and with it rates of hunger. Thanks to the commodity boom in the 2000s, and a push under the government of Luiz Inácio Lula da Silva, who was president from 2003 until 2011, Brazil was removed from the list of undernourished countries in the World Food Programme's Hunger Map in 2014. This was achieved by a mix of policies, including the introduction of a national school-meals programme, an increase in the minimum wage and the Bolsa Família (family grant), which provided stipends to people who kept their children in school. ▶▶

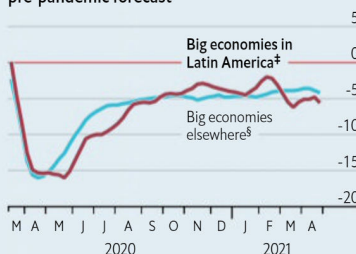
### The confined continent

Lockdown severity\*, 100=most locked down  
Seven-day moving average



Sources: Goldman Sachs; Nicolas Woloszko; OECD; World Bank; *The Economist*

Weekly GDP, % difference relative to pre-pandemic forecast



\*Measures strictness of rules and adherence to them †Excluding China  
‡Argentina, Brazil, Chile, Colombia, Mexico §Other OECD and G20 countries



But the improvements in nutrition appear to be reversing. Food insecurity—a lack of consistent access to enough food—affected over half of homes, or 117m Brazilians, during the first year of the pandemic. According to a study by the Brazilian Research Network on Food Sovereignty and Security (PENSSAN), an NGO, some 19m Brazilians, or 9% of the population, suffered from severe food insecurity in 2020.

As in most countries, hunger afflicts some groups more than others. Single black mothers, such as Ms Carvalho, tend to be the worst affected. According to the study by PENSSAN, those in the north and north-east were most likely to go hungry last year. Rural people also have a higher rate of severe food insecurity.

The numbers of hungry Brazilians started creeping back up after the recession in 2014-16, when millions of workers lost their jobs and most programmes to fight hunger suffered drastic budget cuts. When Jair Bolsonaro, the president, took office in 2019, he scrapped CONSEA, too. According to Elisabetta Recine, co-ordinator of the Observatory of Food Security and Nutrition Policies at the University of Brasília (and formerly the head of CONSEA) this meant that the country was already in a bad way before the pandemic.

But covid-19 has made everything worse. For a start, rising consumer prices, caused by a tumble in the real, have hit the poorest hardest. During the first year of the pandemic food prices rose by 15%, almost three times the overall inflation rate of 5.2%, according to the Brazilian Institute of Geography and Statistics. The price of rice jumped by 70%, that of soya oil by 88%, potatoes by 48% and milk by 21%. Ms Carvalho complains that a bag of rice that once cost 10 reais (\$1.90) is now three times as expensive.

At first, federal emergency aid was fairly generous. In April last year Mr Bolsonaro's government announced that poor families would receive 600 reais a month, and those headed by single mothers twice as much, to help them weather the pandemic. But five months later, the amount was halved. According to Vilma Pinto, an economist at the Fundação Getúlio Vargas, a university in São Paulo, the government had underestimated how much this would cost, thinking that only those already enrolled in government assistance programmes would need it. In the end the government spent 293bn reais, almost treble what it first announced. The government had not realised just how many people were living in a state of precarity, explains Ms Pinto.

Last month the budget for emergency aid was reduced further, to 44bn reais a year. Eligibility for payments was restricted to those who already receive food aid or families with incomes below 550 reais per person per month. As a result some 22m people who received emergency aid last year will not do so again this year. Similarly, some state-level programmes which provided aid in lieu of free school meals have become slightly less generous (though some schemes, such as Rio de Janeiro's, are now offered to all public-school students, not just those who receive Bolsa Família benefits).

For Ms Carvalho the emergency aid is a boon, but she claims that it cannot be relied upon entirely, and that there are months when nothing is deposited onto the card she was given to receive the meal benefit, possibly because of an error. "Sometimes I go to the supermarket and when I go to pay with the card there's nothing on it," she says. "Then I have to put everything back and leave with nothing." ■



He deserves some more

#### Vague addresses

## Off the grid

SAN JOSÉ

It is easy to get lost in Costa Rica

"PEOPLE REFER to a corner shop, a bar, a tree—even a tree!" exclaims Rolando Granja Enríquez, a postman. For a place with well-developed public services, Costa Rica's addresses are a conundrum. Nearly everyone uses vague places, distances and compass directions, rather than street-names and postcodes: 200 metres west of such-and-such juice bar, 100 metres north of the house with the pink fence, and so on. Worse, sometimes the landmarks used as reference points have long gone, says Mr Enríquez.

This archaic method may be quaint and infused with local history—indeed neighbouring Nicaragua has a similar system. But it has a high economic cost, says Geovanny Campos, the head of logistics at Correos de Costa Rica, the postal service. Exactly how much is unknown: the last study, over a decade ago, estimated a toll of \$720m annually.

The lack of clear addresses obstructs the smooth delivery not only of letters, but of other public and private services, too. Police, for example, may be slow to respond to calls for help if they cannot find the caller. Food takes longer to deliver, resulting in lukewarm *chifrijos* (pork and beans). The past year has been particularly troublesome, as many Ticos (as people from Costa Rica are known) have stayed at home and ordered goods online.

In 2002 the post office came up with a plan for naming the streets, which became a government decree in 2005. Since then just 30% of Costa Rica's 82 municipalities have worked with the post office to name their streets. Overall the initiative has been a failure, admits Mr Campos. Other institutions do not seem terribly interested in change. Even in towns where streets and houses have numbers, all too often locals keep using the old way of specifying places.

Despite this the postal system in Costa Rica is fairly efficient. Only around one in 20 letters is returned to the sender because it cannot be delivered. Many companies that will not ship to Mexico, which has a decent address system but tricky customs, deliver to Costa Rica. That is thanks to old hands like Mr Enríquez, who spend years in the same neighbourhood and come to know it and its residents. But what will happen when Mr Enríquez and his colleagues retire?





Israel and Palestine

## The fire this time

JERUSALEM

Another cycle of violence leaves scores of people dead. How will it end?

**W**HAT BEGAN last month as a dispute over metal barricades in Jerusalem has now, in the surreal logic of the Holy Land, brought Israel and Gaza to the brink of war. Since May 10th Palestinian militants in the territory have fired more than 1,600 rockets at Israel, which in turn has carried out hundreds of air strikes. It is by far the most intense round of warfare since 2014. Israeli bombs have destroyed three tower blocks in Gaza, in operations reportedly aimed at offices of Hamas, the militant Islamist group that controls the territory. Hamas and its allies have fired huge barrages of rockets at Tel Aviv and southern Israel. Scores of people, mostly Palestinians, have been killed.

Both sides have threatened more violence, despite calls for the opposite from America, the European Union and Arab countries. Israel moved troops to the border with Gaza and told residents to stay in bomb shelters. Clashes between Arabs and Jews spread across Israel, which imposed a

state of emergency in the city of Lod following riots by Israeli Arabs and the killing of an Arab man by a Jewish resident. The United Nations envoy to the Middle East, Tor Wennesland, warned that fighting was “escalating towards a full-scale war”.

The trouble started, as it so often does, with clashes over a small bit of land, intensified by the religious power of Jerusalem. In this case it was the sunken plaza around the Damascus Gate, one of the ancient entrances to the old walled city (see map on next page). In April, at the start of the Muslim holy month of Ramadan, Israel’s police chief decided “for security reasons” to

fence off the area, a gathering spot for Palestinians. That led to clashes. The move was later reversed, but street battles between young Palestinians and Israeli police culminated in two big incidents in which police entered the area around the al-Aqsa mosque, Islam’s third-holiest site, firing stun-grenades and rubber bullets. Hundreds of people were injured.

On May 10th thousands of Jewish nationalists added to the febrile atmosphere by marching, as they do every year, on “Jerusalem Day”—a holiday marking Israel’s capture of East Jerusalem, the West Bank and Gaza in the six-day war in 1967. This year, at least, Binyamin Netanyahu, Israel’s prime minister, ordered a last-minute change to the route, away from the Damascus Gate. That angered the marchers, but just as they were gathering at the roadblock preventing their progress to the gate, Hamas launched its rockets, setting off air-raid sirens and forcing them to disperse.

Israel’s Iron Dome missile-defence system has shot down most of the rockets; only a handful have got through to hit built-up areas. Israeli deaths remain in single digits. Avoiding further escalation depends partly on the system’s success. “What you’re seeing in the sky is the algorithm,” explains an engineer involved in tweaking the system the better to identify and intercept the most threatening rockets. “We’ve been constantly improving the

### → Also in this section

37 Prince Charming bin Salman

38 The reinvention of Africa’s biggest lake

39 Selling camels in Somaliland

40 Nigeria’s economic slump



algorithm so it can face a barrage like this." Israel is also trying to stop the attacks at source. It has bombed about 200 launching sites, but there are still many more. Separately, it is trying to inflict pain on the militant groups by killing their leaders.

"The main strategic advantage of Iron Dome is that by significantly reducing Israeli civilian casualties, it allows the political leadership to pause before committing to all-out war," says an Israeli general. "There's no perfect weapon to prevent all casualties," he adds. "For that you need peace." But for now, peace does not seem either side's favoured option. Israeli leaders have rejected a ceasefire and vowed to strike Hamas hard. The government remains anxious about an invasion of Gaza, though. Close-quarters fighting would favour the militants, and would involve many more casualties on all sides.

Whether Israel can defeat Hamas without shedding much blood may affect how Israelis think about Mr Netanyahu's long-running policy of managing, rather than trying to solve, the conflict with the Palestinians. He has not seriously pursued a settlement, wagering that Palestinians have become resigned to the occupation or, if not, that he can suppress their anger. In Jerusalem 38% of the population are Palestinians, most of whom have "residency" rights, which gives them access to Israeli social security and health care. They are not treated as equals to Israelis, though, and face a variety of pressures to move out.

A case before Israel's Supreme Court—now postponed, in light of the violence—is indicative. It concerns the eviction of some

Palestinian families from the Sheikh Jarrah neighbourhood of East Jerusalem, which is largely Palestinian. The land on which their homes sit was owned by Jews before Jordan occupied the eastern part of Jerusalem in 1948. Under Israeli law the heirs of the original owners can reclaim the property because it is in East Jerusalem. Palestinian families have no such rights over their former homes in West Jerusalem. In fact, all property once owned by "absentee" Palestinians was expropriated by Israel.

The frustration this causes is fodder for Hamas. It expected to make big gains in Palestinian legislative elections on May 22nd (the first such ballot in 15 years). Mahmoud Abbas, the Palestinian president and leader of Fatah, a rival party, decided last month to postpone the elections. Ostensibly he did so because Israel would not let some Palestinians vote at post offices in East Jerusalem. In fact, his main concern was that he might lose. By latching onto the protests in Jerusalem, Hamas hopes to boost its political standing, never mind the consequences for Gaza. Mr Abbas, meanwhile, has prevented Palestinians in the West Bank from organising protests in solidarity with their kin in Jerusalem.

On the Israeli side, Mr Netanyahu is tired and distracted. He has fought four elections in two years; none produced a conclusive result. His rivals have been edging closer to a deal that will remove him from power. Were he in a stronger position, he might have done more to rein in the police and his far-right supporters. But now that fighting has started, he has a chance to portray himself as a trusted wartime leader. He insists that Hamas should "pay a very heavy price".

Foreign powers have been little help. Four months after President Joe Biden was inaugurated, there is still no American ambassador in Jerusalem. His administration seems torn about how to respond. The State Department blamed both sides for stoking tensions, but America later stalled a similar statement by the UN Security Council. The previous UN envoy, Nickolay Mladenov, was adept at dampening occasional spasms of violence before they escalated to war. Mr Wennesland, his successor and a veteran diplomat in the region, has inherited that challenge.

Mr Netanyahu has spent much of his career insisting that Israel need not make peace with the Palestinians. On his watch the occupied territories have been relatively quiet, at least compared to the violence of past Palestinian *intifadas*, or uprisings. Yet the events of the past month, the unrest that has spread from Jerusalem to every corner of the land, are a reminder that Palestinian grievances will not disappear. If Mr Netanyahu does leave office in the coming weeks, it is perhaps a fitting coda to his long rule. ■



Saudi foreign policy

## Prince Charming

**Muhammad bin Salman is playing the diplomat. How long will it last?**

AS A YOUNG buck, Muhammad bin Salman, the Saudi crown prince, thought he could take on the world. He charged into Yemen, detained Lebanon's prime minister and had his people chop up a mild-mannered dissident, Jamal Khashoggi, in the Turkish city of Istanbul. When Western countries, such as Canada and Germany, criticised his human-rights record, he recalled his ambassadors. When President Barack Obama made overtures to Iran, a Saudi rival, Prince Muhammad threatened to sell the kingdom's American assets. To the prince, Iran's supreme leader, Ayatollah Ali Khamenei, was akin to Hitler. He even tried to marshal an array of Arab and Sunni countries against Iran.

Six years after his father, Salman bin Abdelaziz, became king, the prince, now in his mid-30s, may be changing, switching tactics from maximum pressure to maximum diplomacy, cutting his losses and trying to defuse conflicts. Facing resistance in the region and disapproval from President Joe Biden, he may have decided that the cost of his foreign ventures is unsustainable. Saudi foreign policy has begun to look much less aggressive.

So far this year he has held two rounds of talks with Iran in Baghdad, the Iraqi capital, and spoken of his hope for "a good and special relationship". His officials have met his Yemeni foes, the Iranian-backed Houthi rebels, in the Omani capital, Muscat. The Saudis offered to lift the kingdom's siege of Yemen and to help rebuild the





▶ country his jets have bombed. He has also stopped funding the rebellion against Syria's ruler, Bashar al-Assad; earlier this month he sent his intelligence chief to Damascus to discuss restoring ties.

Prince Muhammad is mending fences with Turkey and Qatar as well. Both had irritated him by backing Islamist groups that he dislikes, such as Egypt's Muslim Brotherhood. But the prince has lifted a three-year blockade of Qatar and bought arms from Turkey. On May 10th he hosted Turkey's foreign minister, Mevlut Cavusoglu, and Qatar's emir, Tamim bin Hamad al-Thani. "He's dispensed with polarisation," says Oraib Rantawi, a Jordanian analyst. "A new wind is blowing."

Friends say Prince Muhammad has matured. Others say he is a bully who has been chastened by those he knows to be more powerful. He promised to take Yemen's capital, Sana'a, quickly. Instead, the Houthis have made incursions into Saudi Arabia. Iran and its regional proxies have flung missiles at Saudi airports, palaces and oil installations. Ships in the kingdom's Red Sea ports have come under repeated attack. In 2019, after drones struck the kingdom's oil-processing hub at Abqaiq, halving Saudi oil output, no one came to his rescue, not even President Donald Trump. The prince's allies in the Gulf have abandoned his campaign in Yemen.

During his election campaign President Joe Biden called the kingdom a pariah, accusing it of murdering children in Yemen, and vowed to end American sales of arms. He has since toned down his disapproval but is still calling for an end to the war. Soon after Mr Biden took office, the prince dropped his refusal to talk to Iran and freed Loujain al-Hathloul, the kingdom's most prominent rights activist.

The prince has also been held back by a stalling economy. The pandemic and low oil prices have hurt, while the conflict in Yemen has drained his war chest. And his unpredictability has deterred foreigners from investing in Vision 2030, his grandiose reform programme.

Tension with Iran in the Strait of Hormuz, the conduit for most Saudi oil exports, and the difficulty of building a post-oil economy have altered the prince's plans. In search of alternative trade routes, he is expanding ports on the Red Sea and building a high-speed rail link from west to east. He is also forging a Red Sea council to spur development in all the littoral states and to open a gateway into Africa. His "smart" megacity, Neom, and a vast tourist complex in the kingdom's north-west are meant to bolster economic links with Egypt, Jordan and, perhaps one day, Israel.

Meanwhile, he has trimmed the kingdom's bankrolling of an array of Arab and Muslim causes, such as the Palestinians, whom he recently failed to mention in a

three-hour interview. He has cut aid to Pakistan, failed to prop up Lebanon, and slashed mosque-building projects that used to spread the kingdom's religious conservatism across the world. Defying puritanical clerics who consider Shias heretics, he has played host to some from Iraq.

Prince Muhammad can still, however, annoy his Arab neighbours. His demand that companies doing business with Saudi

Arabia should move their regional headquarters to the kingdom has upset Muhammad bin Zayed of Abu Dhabi, the de facto ruler of the United Arab Emirates, the region's trading hub. And he can still be impulsive. Though he lifted his blockade of Qatar, he recently slapped bans on imports from Jordan, Lebanon and Turkey after their governments displeased him. Prince Charming can still bare his teeth. ■

## Lake Victoria

# Finny business

MUKONO

Commercial fishing has brought profits—and violence—to Africa's biggest lake

THE OLD fishermen at Cape landing site in central Uganda can remember when they first came, in the 1990s, to this sliver of rock that lies between a forest and the lake they call Nnalubaale. There were nine settlers then. Now there are more than 600: sinewy boat-hands, gleeful children and stiff-backed women drying silver fish in the sun. Yet the drinking dens and timbered houses retain an air of impermanence. A fisherman is a wanderer, they say, like a herder always seeking fresh pasture.

These waters are never still. Lake Victoria, as English-speakers know it, is Africa's largest freshwater lake, roughly the size of Ireland. In 1960, about 9m people lived in its catchment, mostly in the riparian countries of Uganda, Tanzania and Kenya; today, more than 60m do. The twin intrusions of market and state are transforming the fish in its waters and life on its shores, bringing export revenues, violence and an ecological crisis.

The lake was once home to around 500

species of small, brightly coloured haplochromine cichlids, which nurture their young in their mouths. Colonial officials considered them to be "trash fish" of little economic value. In the 1950s a rogue fisheries officer dropped Nile perch into the lake, hoping to create a commercial fishery. The newcomers "accepted the terms" of their employment, says Anthony Taabu-Munyaho of the Lake Victoria Fisheries Organisation, an intergovernmental body. In the 1980s an increase of Nile perch and algal blooms killed off more than half the haplochromine species. One team of ecologists described it as possibly "the largest extinction event among vertebrates" in the 20th century.

The old lake had been ecologically diverse and economically unproductive. The new one is the dominion of the Nile perch, which are packed in styrofoam and ice and flown to distant corners of the world. Processing factories, owned by Indians and Europeans, clean and fillet the fish for ex-▶



Twilight of a fishery



port. The law forbids them to operate trawlers, so they buy through middlemen from artisanal fisherfolk.

There are perhaps 77,000 vessels on the lake, most of them open wooden boats with two- or three-man crews. They catch Nile perch, tilapia and tiny silver cyprinids, lured by kerosene lamps on moonless nights. A lucrative side-trade exists in fish maw, the swim bladder of the Nile perch, valued in China for its supposed medicinal properties. Chinese traders will pay more for the maw than for a whole fish fillet. Fishermen call it “lake gold”.

In the early 2000s commercial fishing boomed. Then the Nile perch started to die out. Fishermen used small-mesh nets to catch immature specimens, which they traded across east Africa. Such practices were illegal, but the elected management committees at the landing sites were often led by the least scrupulous fishermen.

Overfishing was bad news for Uganda, on the northern shores of the lake, where fish products had become the second-largest export. Sujal Goswami, a factory-owner who chairs the exporters' association, blames “the greediness and insensitivity of the fisherfolk” for a collapse in stocks. By 2017 only five fish factories were left in Uganda, where once there were more than 20. The president, Yoweri Museveni, had seen enough. He decided to call in the army.

Military patrols helped fish stocks recover and six factories reopened. But fishermen were arrested, beaten and drowned in encounters with the army. Ziyad Nserenko had been fishing for only a few months when he and a friend drowned in March. A relative says they fell into the water after soldiers rammed their boat; the army says they jumped in while trying to escape. At his former landing site in Kalungu district the locals count nine deaths in similar incidents. When soldiers catch you, “they beat you until they see blood,” says a fisherman. A trader, hobbling and holding a crutch, says he was beaten for selling undersized fish.

The commander who took over the army operation in December, Lieutenant-Colonel Dick Kirya Kaija, admits that it used “a lot of force” at first. He paints a picture of the lake as “a harbour for criminals” who operate “like a network of drug dealers”, bending rules to import contraband nets. It is true that some businessmen own fleets of 100 boats or more. “They are damn rich,” complains Colonel Kaija, “and they have befriended security personnel, they have befriended ministers.”

But punishment falls mainly on their crews and those who fish for their own supper. “The government doesn’t help when those poor people are knocked into the water,” says a fisherman. “It’s like they are working for the rich.” Uganda has

## The camel trade

# Cloak-and-finger deals

HARGEISA

In Somaliland traditional ways of selling camels are under threat

IN 1906 LORENZ HAGENBECK received a request from the German government to supply its colonial army in South-West Africa (modern-day Namibia) with 1,000 camels. The animal trader sought out the main force in the industry: Somalis. But upon seeing how they haggled, Hagenback was confounded, “for I had not mastered the secret finger-language used in that trade”.

More than a century later clandestine, tactile negotiating can still be seen in Hargeisa, the capital of Somaliland. The city’s livestock market is a bustling and noisy place: goats bleat, camels bellow and sellers extol their animals’ constitutions. When it comes to reaching a price, however, all is silent. The parties on each side of the trade slip an arm under a shawl. The buyer makes an offer by grabbing the sellers’ fingers. The number of fingers gripped and knuckles pressed

determines the bid. If it is too low the seller manoeuvres the hold. On and on they go, hands like human abacuses, until a deal is done.

Hassan Ahmed Hersi, a livestock broker, is not familiar with the economic term “asymmetric information”. It is a situation in which some participants have access to data or details that others do not, which can lead to market failures. “When brokers are negotiating, I don’t want others standing around to know the price,” he says. Brokers, who sell on behalf of rural herders, control much of the supply of humps. By using the cloak they hoard information about prices, too, giving them an edge. If the next buyer does not know the previous price, he can end up paying more.

Yet “change is coming”, says Warsame Ahmed of the University of Hargeisa. Herders like Mr Hersi grumble that using the cloak is becoming less common. One reason is that others in the market increasingly insist on bargaining in the open. “People think we’re hiding something,” he says, with his arm under a cloak. Meanwhile, mobile phones and messaging apps make it easier for buyers to ask fellow clan members in rural areas for the latest prices. That way they know if they are being stiffed.

Female traders are another big change. “There are becoming more and more of us,” says Hadan Yasin. Perhaps half of the market is staffed by women. Since imams say that Islamic law forbids men and women who are not related from touching, their deals are done verbally. By entering the market they are boosting competition and price transparency. And they are giving the likes of Mr Hersi the hump.



What did you sell for?

banned boats shorter than 28 feet, although larger ones, with bigger engines, require capital and credit. Aishar Nakamanya used to employ two workers to fish from her canoe, until the army burned it and seized her gear. Now she is reimbursing the owner of the outboard motor she had hired, rather than paying the fees that would keep her children in school.

Some kind of enforcement is necessary, as even many fishermen acknowledge. In Uganda alone, fish factories employ 5,600 people directly. Perhaps 1m in all, from hauliers to boat-builders, depend on the industry. Those livelihoods face multiple threats. Climate change makes extreme

weather more likely, and the destruction of lakeside wetlands makes its impact more dramatic. Last year the lake rose to its highest level since records began, inundating homes. This year dead Nile perch washed up on the shoreline, a mysterious phenomenon thought to be caused by low oxygen levels.

Fisheries officials want to tame this turbulence. They are talking up fish-farming and plan to establish a paramilitary lake unit, similar to the rangers which fight poaching in national parks. They envisage a lake that is policed and profitable. That might create jobs, but would be utterly unlike the Nnalubaale of the past. ■



## Nigeria's economy

## Stuck in a rut

LAGOS

Rising oil prices will bring short-term relief, but may delay essential reforms

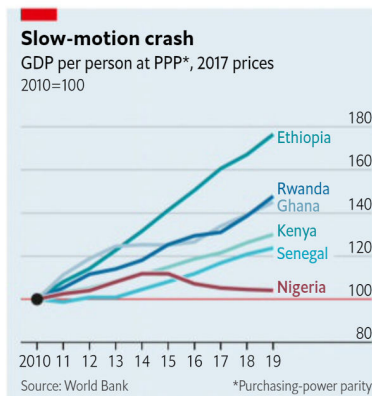
TALK THAT everything is expensive fills the air at a market in Lagos, Nigeria's commercial capital. Since February the minibus fare from home to the market has doubled, says Emmanuel Mokwe, who sells kitchen utensils. So has the price of food, he adds grimly. "It's just chaos," says Dotun Babande, who runs a juice shop across town. Inflation is running at 18%. For food it is 23%, the highest in two decades. More than half of Nigerians are underemployed or unemployed. Before covid-19 about 80m of Nigeria's 200m people lived on less than the equivalent of \$1.90 a day. The pandemic and population growth could see that figure rise to almost 100m by 2023, says the World Bank.

Nigeria's economic woes also help explain a vertiginous rise in crime. More people were kidnapped in the first four months of this year than all of last year, according to Jose Luengo-Cabrera of the World Bank. This has added to worsening violence around three flashpoints: the jihadists of Boko Haram in the north-east; a long-standing conflict between farmers and cattle-herders across central Nigeria; and fighting between government forces and Igbo separatists in the south-east.

Covid-19 has slammed economies everywhere, but Nigeria's economic malaise predates the pandemic. GDP per person has fallen every year since 2015, when oil prices slumped (see chart). The World Bank reckons that by the end of the year real income per person in Nigeria, home to one in six of sub-Saharan Africa's people, will be at the same level as it was in the 1980s. Reform is desperately needed, but fiendishly difficult to enact.

Although oil makes up about 9% of Nigeria's GDP, it accounts for 80% of export earnings and about half of government revenues. A long slump in its price—from over \$100 a barrel in 2014 to less than half that for most of last year—has squeezed the supply of foreign exchange. Normally economies would adjust by letting their exchange rates fall, making imports more expensive. This can be painful in the short term since it fuels inflation. But usually it helps boost exports by making them more competitive. If Nigeria could make, grow or mine more for export, it would be less vulnerable to swings in the oil price.

Instead, the government of President Muhammadu Buhari has restricted imports in an effort to prop up the currency,



which he sees as a measure of Nigeria's strength. In an attempt to conserve dollars, the central bank has banned those intending to import almost 50 items from buying foreign currency. Last month wheat and sugar were added to the list. In 2019 Mr Buhari closed Nigeria's land borders to goods to stop smugglers undermining local producers. Both moves have fuelled food-price inflation.

They have also hobbled manufacturing firms by making it hard for them to obtain inputs. Manufacturers would be lucky if they get 20% of the forex they request, says Muda Yusuf of the Lagos Chamber of Commerce and Industry. Ajibade Oluwabukunmi imports medical equipment and uses the volatile black market, where dollars cost almost 30% more than the official rate. "Nigeria is in a shambles," he laments. Despite all its unorthodox controls, the central bank was forced to devalue the naira twice last year. Businesses are getting neither a stable currency nor access to dollars.

The government may slowly be changing its tune. Bismarck Rewane, an economist who is also on the president's council of economic advisers, says that "the futility of a Robinson Crusoe economy became very clear for everybody". The government is starting to pay more attention to exporters, he claims, pointing to the partial reopening of land borders for goods in December and Nigeria's signing of the African Continental Free Trade Agreement in 2019.

Yet sustained growth in exports requires more than just opening the border. Many firms are uncompetitive because they are hampered by red tape and government failures. "Government is the biggest

problem for business in Nigeria," says Bashir Abdulrahman of Credent Capital and Advisory, an investment bank.

Electricity blackouts are maddeningly frequent. Roads are often poor and ports clogged up. Moving a container 20km from the port of Lagos to the city can cost \$4,000, almost as much as shipping it 12,000km from China. Nigeria ranks 131st out of 190 countries on the World Bank's ease-of-doing-business index. Although some industries, such as information technology, are growing, this is "in spite of the government", says Tayo Oviosu of Paga, a mobile-payments company.

The government has tried to give the poor more aid to get them through the pandemic. It also promises to improve infrastructure. But spending on salaries and other annual costs chews up 75% of the federal budget, leaving little money to invest in roads or railways. With a view to freeing funds for infrastructure, the government last year promised to cut costly fuel subsidies. Yet that has been halted in the face of opposition.

The stalled reform is typical of Nigeria's troubles. For decades cash from oil has been used to subsidise things like fuel and electricity. The easy revenue also allowed the federal and state governments to get away with abysmal tax collection. Worse, it fostered corruption.

Many Nigerians have had enough. Between 2014 and 2018 the percentage who want to emigrate rose from 36% to 52%, one of the highest levels in Africa. Rising oil prices this year will ease the shortages and boost government finances. Yet that may reduce the pressure to fix deeper economic problems, admits Kayode Fayemi, a state governor. Nonetheless, he believes there is an "almost overwhelming consensus" on the need to restructure the economy. "If we don't do it," he warns, "we run the risk of disintegration." ■



Gridlock at the port



France

## A revolution and a rematch

PARIS

Four decades after François Mitterrand's victory, France's left, and its mainstream right, are both in trouble

FORTY YEARS ago on May 10th François Mitterrand made history, becoming France's first Socialist president of the Fifth Republic. Next year, the party the wily leader carried triumphantly to power in 1981 could make history again, but for rather a different reason. The Socialist Party runs the risk of failing to make it to the presidential run-off twice in a row.

A year ahead of any election, polls should be treated with caution. French history is littered with early favourites—Alain Juppé, Dominique Strauss-Kahn—who never made it to the Elysée. In May 2016, a year before the most recent presidential vote, not one poll tested the appeal of Emmanuel Macron, the eventual winner. Still, an average of first-round polls this year, which assume that Anne Hidalgo, the mayor of Paris, will be the Socialists' candidate, gives her just 8%, not enough to get her into the run-off. Worse, were she to make it through and face Marine Le Pen, the leader of the far-right National Rally (RN), polls say Ms Le Pen would win.

Four years after Mr Macron upended French politics, the country's once-dominant parties—on the left and the right—have never looked so weak or unstable. The

left remains divided. The greens (Europe Écologie Les Verts) captured some big town halls last year. But nationally they struggle and squabble. Polls say that Yannick Jadot, who will probably be their presidential candidate, would also lose to Ms Le Pen in a run-off. Last month he called a meeting in Paris with other parties of the left to try to chart a way to a common candidate. The effort failed, not least because Jean-Luc Mélenchon, leader of the left-wing Unsubmissive France, was absent, defying lockdown with a jaunt to Latin America to check on Bolivian socialism.

Matters look little better on the right. The Republicans are again bleeding talent. Mr Macron poached many of their moderates to serve in his government, including two prime ministers (Edouard Philippe and Jean Castex) and a finance minister, Bruno Le Maire. Last week, amid high local drama, Christian Estrosi, the mayor of Nice, quit the Republicans too. Ahead of regional elections next month he was furious that the party had refused an electoral deal with Mr Macron's La République en Marche (LREM) in Provence, to thwart Ms Le Pen's candidate.

Neither of the two strongest presiden-

→ Also in this section

42 Scandal in Bulgaria

42 Green steel in Sweden

43 Tourism without Turks in Turkey

44 Europe's welfare states

45 Charlemagne: The coming boom

tial candidates on the right is even a member of the Republicans any more. Xavier Bertrand, head of the Hauts-de-France region in the north, and Valérie Pécresse, head of the Paris region, have both quit. A bitter internal row centres on how, and whether, to fight the far right. When he walked out, Mr Estrosi declared that a right-wing faction with an ambiguous attitude to the RN had "taken the party hostage". The Republicans, he said, needed to state publicly that their priority is to keep the RN out of power, at all times.

What to make of this volatility? First, parties in France, which lack tribal loyalty, are no longer a determining factor in electoral politics. Michel Barnier, the European Commission's former Brexit negotiator, may hope to run for the presidency as a Republican. But "over the past five years," says Emmanuel Rivière of Kantar, a polling group, "the party that most of the French feel the closest to is 'no party'." Mr Macron exploited the two-round election system to run for president without (much of) one. Mr Bertrand, who has declared his candidacy, is now trying to do the same. If a candidate emerges who consistently polls better than Mr Macron against Ms Le Pen, this—rather than party backing—could be the basis of a serious presidential bid.

Second, there has been a "droitisation", or rightward shift, of the French electorate. Since 2017 the share of voters who say they are on the right has risen by five points, to 38%, according to the Fondation pour l'Innovation Politique, a think-tank; that on the left has dropped by a point, to 24%. This too has blurred voting patterns. In his





► time Mitterrand relied on the votes of the Communist Party, then rooted in industrial and mining areas, to win in the run-off. Today the main beneficiary of the working-class vote is Ms Le Pen. Fully 48% of blue-collar workers told a poll they would back her next year in the first round, next to 2% for Ms Hidalgo and 4% for Mr Jadot.

Third, Republican and RN supporters increasingly share cultural values. According to a study by the Fondation Jean Jaurès, a think-tank, there is now little gap between the two electorates on security, law and order, and attitudes to Islam. When a group of (mostly) retired military officers linked to the far right signed a petition last month in favour of the army stepping in to restore order, 71% of Republican voters approved. Ms Le Pen hopes to use this convergence to split the Republican party.

The collapse of traditional parties could help Mr Macron. Polls suggest that in 2022 he is again likely to face Ms Le Pen in a run-off. Yet where the candidate in 2017 embodied a balance of left and right, the president has in office followed the electorate's rightward shift, appointing Gérald Darmanin, a hardliner, as interior minister.

This carries a risk: that disillusioned voters on the left refuse to back Mr Macron in the run-off, even against Ms Le Pen. For this reason, polls predict a slimmer victory for Mr Macron than he managed in 2017. "He's really got to reach out to the left," says an LREM deputy. For all the other parties' disarray, Mr Macron remains vulnerable. And, as France remembered Mitterrand's first election, one feature of it was doubtless on Ms Le Pen's mind. She is on her third election campaign—just as Mitterrand was when he triumphed in 1981. ■

## Bulgaria

### Battling Borisov

#### Parliament hears explosive allegations about the outgoing prime minister

AT A PARTY the boss is playing cards with his friends. One of them shows a video about what happened to a businessman who did not do what they wanted; he was filmed being sexually abused in custody. Another member of the group, known as "the chicken", has paid €2,500 (\$3,025) to a glamorous woman to "take care" of the boss. Others give the big man gold bars as gifts. It sounds like something out of a gangster movie. But the "boss" is allegedly Boyko Borisov, Bulgaria's prime minister until this week.

The description of the party and other allegations of misconduct were made by

Svetoslav Ilchovsky, who owns an agricultural business. He was testifying on May 5th and 7th to a parliamentary committee examining the behaviour of Mr Borisov and his party, which has dominated politics since 2009. A general election on April 4th was inconclusive: no party was able to form a government. A new poll has been called for July 11th. Meanwhile the president, a political foe of Mr Borisov, appointed a caretaker government on May 11th.

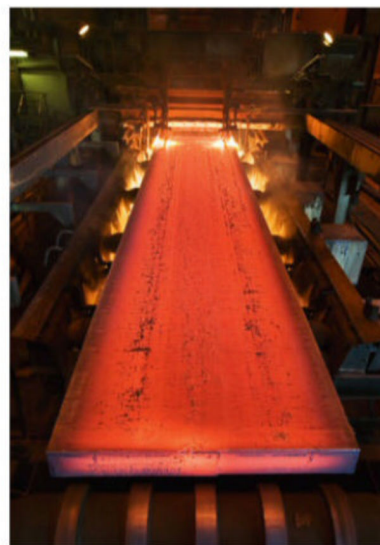
Mr Ilchovsky's allegations could hardly be more damning. The economy is controlled by men close to Mr Borisov and ministers are just "puppets", he said. He claimed that the biggest power in agriculture was Ivan "the chicken" Angelov, and that he had been forced to sell chicken feed to Mr Angelov's company at low prices. Mr Ilchovsky submitted false invoices to inflate the turnover of the company Mr Angelov owns with his brother in order to boost its value when it was launched on the stock exchange in 2018. Every agricultural producer or importer who did not do what was demanded of them was persecuted by the food-standards agency, which held up imports on the border or paralysed businesses with exacting health inspections.

Mr Borisov has denied all the claims and says he has never even met Mr Ilchovsky. Mr Angelov says that 95% of what Mr Ilchovsky says is untrue. On May 10th, however, Pavel Stoimenov, another businessman, made more, similarly damning allegations to the committee. He said he had "delivered" 1,000 votes to Mr Borisov's party, but when he had tried to resist Mr Angelov's demands, buildings belonging to his company had been set on fire.

Mr Ilchovsky said he complied because it was a "survival strategy". "There is not a single EU-funded project in the agricultural sector where prices have not been jacked up or some fraud has not happened," he added. The allegations are being sent to the EU public prosecutor's office, not just Bulgaria's, which is widely believed to be subject to political influence.

Everything the two witnesses claim, says Ognian Georgiev, the economics editor of *Kapital*, a leading business daily, has long been rumoured, and Mr Borisov has survived scandals before. But public remarks by a former insider are "a very heavy blow. He was basically describing in ominous detail how our captured state works."

Atanas Tchobanov, a founder of Bivol, an investigative news site, says Mr Borisov's fall will take time, since his party is embedded in all institutions, including the prosecution service. But now, he says, a window of opportunity has opened. Mr Tchobanov is optimistic that the caretaker government will approve freedom-of-information requests he is about to submit about all sorts of sensitive questions. "It might be the tipping point," he grins. ■



## Sweden

### Green steel

#### Plentiful renewable energy is opening up a new industrial frontier

NORRLAND IS THE largest of Sweden's three historical "lands". It spans the top half of the country and is sparsely populated, the more so the farther north you go. The few people who live there have long relied for work on mining, the army and forestry. Most of Sweden's industry is far to the south. But Norrland abounds in hydro-power. Power that is cheap and—crucially—green, along with bargain land and proximity to iron ore, is sparking an improbable industrial revolution, based on hydrogen, "green" steel and batteries.

SSAB, a steelmaker, is poised to deliver its first consignment of "eco-steel" from a hydrogen-fuelled pilot plant in Luleå, a northern city. Volvo, an industrial-vehicle firm these days, will use the steel to build lorries. Of the six or seven tonnes that its typical lorry weighs, around five consist of steel. And for each tonne of steel produced using fossil fuels, around two tonnes of planet-cooking carbon dioxide get belched into the atmosphere.

To make steel, iron ore must be melted at high temperatures and reduced from iron oxide to iron, a process that typically involves burning fossil fuels, releasing huge amounts of carbon dioxide. Replacing them with hydrogen as a reducing agent eliminates more than 98% of the carbon dioxide normally released. The hydrogen is made by electrolysis of water, using electricity produced by hydro-power. This ►►



► approach involves almost no carbon-dioxide emissions at all.

Scania, another automotive firm, is also hoping to exploit Norrland's cheap hydropower. It plans to make 15,000 battery-powered trucks a year by 2025, around 15% of its annual production. To that end it has invested in Northvolt, a new battery-making enterprise powered by Norrland's hydroelectricity. Northvolt's main facility is in Skellefteå, 130km south-west of Luleå. It is also building a battery-recycling plant there (see Science section). By the end of 2021 the company hopes to have churned out enough batteries to store 16 gigawatt-hours. Carl-Erik Lagercrantz, Northvolt's chairman, wants to scale that up eventually to 150 gigawatt-hours a year. If he does so by 2030, he will be supplying a sizeable amount of the European Union's expected annual demand of some 450 gigawatt-hours of electric-vehicle battery capacity by 2030.

Mr Lagercrantz also wants to get into the green-steel business. Taking inspiration from SSAB's pilot project, he decided to have a go at hydrogen-based steelmaking too, and founded H2 Green Steel. Production will be based in Boden, an old army town 30km north-west of Luleå. The new plant will make 5m tonnes of flat steel a year by 2030, a small but meaningful percentage of the 90m tonnes that is currently consumed annually in the EU.

Northern Sweden's steelmaking leaps are being emulated elsewhere in Europe, in response to similar environmental pressures which will only increase if, as looks very likely, Germany's Greens enter government after the election in September. Europe produces a still significant 16% of the world's steel. Big producers in Germany and Poland, where the industry is mostly coal-based and very dirty, are nervy. Even neighbouring Norway is in danger of losing out. It too has the gift of rich renewable-energy resources, but underinvestment means there may soon not be enough of this green electricity to meet the demands of both households and industry.

Meanwhile, all the green-tinged investments have knock-on effects for the rest of the economy of northern Sweden. Claes Nordmark, the mayor of Boden, says house prices are rising and contractors are queuing up to build apartment blocks in anticipation of H2 Green Steel's new facility. Other companies are vying to supply the steelmaker, or to take advantage of its products. Expecting a jump in population, Mr Nordmark and his colleagues in the region are building schools and sporting facilities. Your correspondent encouraged him to abandon Swedish reticence and brag. "Those in the south think there is nothing here. But now we can offer the green jobs that people dream of—and an amazing lifestyle," he beams. ■

## Pandemic tourism in Turkey

# Where did everyone go?

BODRUM

**Turks are stuck indoors. Foreigners have the country to themselves**

TOURISTS IN TURKEY are already spoiled. The food is excellent, the locals welcoming and the range of holiday options, from mountain hikes on the Black Sea coast to boat cruises on the Aegean and hot-air balloon rides over Cappadocia, are enough to last several summers. A prolonged currency crisis has seen the dollar strengthen against the lira by nearly 60% in just over two years, meaning that vacations in Turkey come cheap. A room in a luxury hotel can easily cost less than a cramped offering from Airbnb in a European capital. If they can only resist tweeting their thoughts about Recep Tayyip Erdogan (at least 36,000 people have been investigated for insulting Turkey's thin-skinned president in a single year), foreigners will be in for a treat.

These days, they will also be in for a surprise, though whether it is a welcome one depends on one's idea of a rewarding vacation. To resuscitate tourism, Turkey has declared holidaymakers exempt from covid-19 lockdowns. With locals ordered to stay home from late April until at least until May 17th, following a surge in infections and deaths, tourists have had the country almost to themselves. Foreigners in Istanbul walk down empty streets and board empty ferries. On the Mediterranean coast, they laze on empty beaches and go for long, lonely swims. Turks caught doing the same have been plucked out of the water by gendarmes and fined 3,180 lira (\$380),

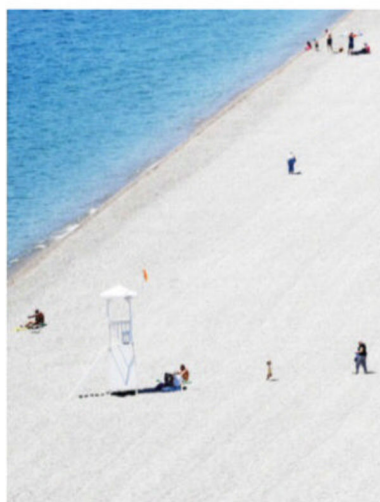
more than the monthly minimum wage. Locals cannot buy alcohol during the lockdown, the result of a government ban. Foreigners can drink freely at hotels.

Things are about to get even more interesting. As of May 15th, travellers from more than a dozen countries, including Britain, will no longer be required to produce a negative covid-19 test on arrival in Turkey. The foreign minister, meanwhile, has pledged to vaccinate "anyone a tourist is likely to see", meaning hotel staff and the like, by the end of the month. Turks who are still waiting for their first shot, and who are unlikely to end up within eyeshot of a visiting foreigner, bristled. The vaccine roll-out has slowed. Of the 100m doses of the Sinovac vaccine China promised to send to Turkey, only 27m have arrived.

Turkey badly needs the income from tourism. A couple of years ago, the industry generated \$34.5bn. That dwindled to \$12.6bn last year because of the pandemic, swelling the country's already unhealthy current-account deficit. This year may be even worse. Tourism revenue between January and March was down by 40% compared with the same period last year. This week Britain placed Turkey on its "red list" for travel, banning visits for pleasure and imposing stringent quarantine rules. That decision forced UEFA, Europe's football association, to move a Champions League final between two English clubs, Manchester City and Chelsea, from Istanbul to Porto, in Portugal. Russia, which sent more tourists than any other country to Turkey last year, has suspended nearly all flights to the country until June. This came after Mr Erdogan criticised Russia's annexation of Crimea and offered to support Ukraine's plans to join NATO.

The new lockdown has brought down covid-19 infections, which had soared to over 60,000 a day in April, offering some hope that tourism may rebound during the summer. But closing down the country to locals while rolling out the red carpet for foreigners has not gone down particularly well. "Turkey unlimited," read a mock tourism advertisement making the rounds on the internet, accompanied by a picture of a nearly deserted beach. "Now available without Turks."

"This is ridiculous," says Kaan Alpan, a banker in Bodrum, a popular vacation spot on the Aegean coast. "If we had closed down correctly at the right time, we would have been able to open by now." Were he a foreigner, Mr Alpan would be free to cool off in the sea. As a Turk, the most he can look forward to is a quick trip to the grocer. Even some tourists are uneasy. Anara, visiting from Kazakhstan, says she does not plan to go swimming while her Turkish neighbours are stuck indoors. "I wouldn't want to do that to them," she says. "That would be unfair." ■



Wish you were here



## Welfare states

## Protection racket

AMSTERDAM AND BUCHAREST

**The EU trumpets its social safeguards, but its member states must deliver them**

EUROPE IS TO the welfare state what Canada is to ice hockey: the birthplace and the summit of the art. The European Union boasts a “unique social market economy” that “protects us against the great risks of life”, Ursula von der Leyen, president of the European Commission, told a summit of EU leaders on May 7th. They had met in Porto, Portugal’s second city, to approve a plan for turning the union into a bulwark of social protection, with targets for raising employment, improving job training and reducing poverty, as well as looser goals such as fighting gender inequality and regulating the gig economy.

Yet Europe’s welfare states are administered by national governments, not by the EU. The European Commission’s powerful regulatory authority rarely extends to social policy. As for EU spending, even with a new €750bn (\$910bn) covid-19 recovery fund added to its regular €1.1tn seven-year budget, it amounts to less than 2% of the bloc’s GDP over the period. That pales in comparison to members’ social spending alone, which runs from 13% of GDP (Ireland) to 31% (France). Pensions, unemployment, health care, minimum wages and collective bargaining are national affairs.

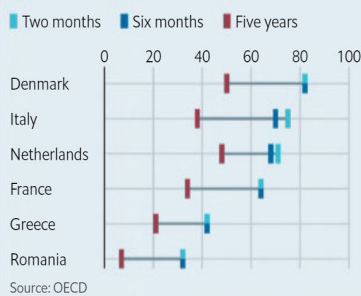
That is why the level of social protection varies so much. In Romania, Emil Iliuta, an unemployed 63-year-old locksmith, has been drawing benefits since December. He gets 140 lei (\$35) a month, along with occasional food donations. In exchange he performs 11 hours a month of community labour such as digging graves.

In the Netherlands, meanwhile, Sascha Blokzijl has been drawing benefits since January after losing her job at a data-analytics company. She gets €2,135 per month after taxes; the minimum for an adult living alone is €1,233. Rather than digging graves, Ms Blokzijl was initially required to report just one work-search activity per week. Having decided to start a business herself, she must now simply get her plan approved by the employment office.

The EU’s new social emphasis marks a reversal from the financial and euro crises between 2007 and 2011, when it required members to enact tough austerity measures. After Britain’s vote to leave in 2016, policymakers concluded that they needed to offer citizens more tangible benefits to stop anti-EU populism. “The whole idea of ‘a Europe that protects’ is linked to that wake-up call,” says Luuk van Middelaar of

**Uneven support**

Unemployment or minimum income benefits  
% of previous income, by time after first payment, 2020



Leiden University. A summit in Gothenburg in 2017 adopted a “European social pillar” with 20 lofty-sounding rights, from lifelong training to work-life balance. The Porto summit was supposed to start achieving them.

Portugal’s Socialist government, which convened the summit as the current holder of the EU’s rotating presidency, is a fan of the social pillar. But other countries are less enthusiastic. Before the summit, 11 members issued a statement warning the commission not to interfere in social policy. They included fiscal hawks such as the Netherlands as well as the Nordic countries, who think EU rules might undercut their own standards.

The new action plan does not promise to equalise benefits. But it does aim by 2030 to raise the EU’s overall employment level to 78% of the population aged 20-64, a level now met only by countries like Germany, and to reduce the number of citizens in poverty by at least 15m. It also pledges annual skills training for 60% of all adults. This may be feasible for countries like Denmark, which pioneered such training and job-search efforts, known as “active labour market programmes”. For Romania and Italy it will be harder.

Backers hope the social pillar will nudge weaker member states to mimic the success of others. “The strength of Europe is in sharing best practices,” says Sofia Fernandes of the Delors Institute, a think-tank in Paris. The targets will become part of the European Commission’s system of scolding members to improve their economies. And money from the €750bn recovery fund can be used for social-pillar goals.

Yet perhaps the most successful new EU social programme is not part of the social pillar. The €100bn SURE programme, launched at the start of the pandemic, helps poorer countries pay their unemployment bills by letting the commission borrow money on their behalf, taking advantage of the EU’s strong collective credit. But making SURE permanent is not under discussion. Nicolas Schmidt, the EU commissioner for jobs and social rights, says that with the economy recovering from covid-19, it is time to focus on employment rather than joblessness.

One measure being discussed is an EU-wide social-security number or ID card. This would help ensure that companies that send workers across borders pay social-insurance premiums to the countries they work in. It would also help workers get the benefits they are entitled to, says Agnes Jongerius, a Dutch member of the European Parliament.

Another candidate for European regulation is the platform economy. Drivers for Uber and programmers on Fiverr tend to fall into a regulatory gap between employees and contractors, and lose out on labour rights. Different national approaches have created confusion, and the European Court of Justice has been forced to step in. The commission aims to come up with a legislative proposal by the end of the year.

Defining platform workers’ social-security status would be just the sort of concrete benefit European officials hope to bring about. But in most areas of social insurance the EU finds it hard to step in, says Bo Rothstein, a Swedish expert on the welfare state. Countries have dramatically different systems with deep local roots. No one thinks they will harmonise them. Ms Von der Leyen is right that Europeans want protection from economic hazards. But the EU may not be their mightiest defender. ■





## Charlemagne | Whatever it took?

*A gathering economic recovery shows the European Union can (eventually) learn from mistakes*



**A**mericans can always be counted on to do the right thing," Winston Churchill is supposed to have quipped, "after they have exhausted all other possibilities." There are two problems with the quotation. First, there is no evidence Churchill ever said it. Second, today the phrase applies better to Europe's leadership than to their friends across the Atlantic.

Take the European Union's recovery from the pandemic. For the first time since last spring, economic optimism is in the air. Across Europe, vaccines are going into arms, summer holidays are being booked and bars are opening up. The European Commission has just jacked up its growth forecasts for 2021 and 2022, citing the bloc's €750bn (\$910bn) recovery fund as one of the reasons why. This cash should start appearing in European treasuries later this year. As a whole, the EU's GDP will be back at its pre-pandemic level by the end of 2021. This is slightly faster than expected and is due to happen only a few months behind America, which has had the benefit of Donald Trump and Joe Biden's blockbuster stimulus packages. In the ten-year gap between their initially bungling response to the euro-zone crisis and the pandemic, European leaders seem to have learned some lessons, even if they still have not learned them thoroughly enough.

Where the European Central Bank was actively making things worse a decade ago, it is now helping governments out of their hole. In the spring of 2011 the bank was raising rates and worrying about a brief flurry of inflation, rather than stagnant growth. It was not treated as a lender of last resort until a year later, when Mario Draghi finally pledged to do "whatever it takes" to save the euro. Then began Mr Draghi's long, slow crusade to make the ECB adopt unorthodox measures, such as quantitative easing. As a result the bank is able today to print money, (largely) ignore inflation hawks and keep interest rates at historic lows. Its official mandate of price stability has been replaced by an unofficial creed of supporting economic growth, reducing unemployment and doing "whatever it takes".

If the technocrats have changed their tune, so, to some extent, have the politicians. Long-held political certainties have been revisited. During the previous crisis common debt was suggested as a necessary step to guarantee the future of the euro, only to be dis-

missed by the likes of Angela Merkel, Germany's chancellor. Mrs Merkel reversed course last May. After a year of haggling, the commission will begin to issue up to €750bn of the stuff, which will be dished out to countries in the form of cheap loans and grants. True, on a continental level, the scheme is tiny. But for some of the individual countries most in need of the cash it is significant. In Germany, it is a piddling 1% of its GDP. For Italy, though, the figure is about 11% of GDP. Greece, meanwhile, is due €32bn of loans and grants—a useful sum for an economy of roughly €170bn.

For rich countries, EU funds are a fiscal aperitif. It is up to national governments to pump up their economies in the post-crisis era. Here, again, attitudes have changed, though not yet enough. In contrast to a decade ago, spending is now more likely to be seen as a solution than a sin. Countries such as Greece endured economic vivisection, forced to slash spending rather than stimulate their economies. This approach failed either to reduce Greek debt or to produce faster growth. These days, advocates of a return to austerity are thinner on the ground.

With luck, political circumstance could embed this new attitude permanently in the EU's own rules on government spending. Although temporarily suspended during the pandemic, EU countries are obliged to keep deficits below 3% and national debt below 60% of GDP. In an age when the national debt of Italy, the third-largest EU economy, stands at about 160% of GDP, these rules can seem quaint. Europe's struggling southern economies have called for an overhaul ever since the previous crisis. Now they may get their wish. France's president, Emmanuel Macron, has long advocated more forgiving fiscal rules. So has Mr Draghi, now the prime minister of Italy. Meanwhile the rise of the Green Party means that the next German government will probably be the most profligate in a generation. It is a rare alignment which could, just possibly, lead to a more permanent shift.

### Here comes the boom!

Boom-mongers have not yet routed the doom-mongers. There is plenty of opportunity to muck things up. Inflation still haunts European politics. While the noises coming from the ECB suggest that a modest rise in inflation this year will be brushed off, this claim will only be properly tested when German politicians start screaming. (The upcoming election will give plenty of excuses for such hysterics.) An improved economic outlook may lessen the pressure on countries to overhaul the EU's spending rules. Rather than turning the recovery fund into a permanent scheme, ready to issue more debt if needed, some governments will try to keep it a temporary one, setting up a needless drama about rebuilding it in the next crisis. The tyranny of low expectations hangs over the EU. In the previous crisis, mere survival was enough, never mind prosperity. Now waddling only slightly behind America's economy—never mind China's—is being held up as an achievement. For a bloc with designs on being a superpower, that is not enough.

Yet the EU is stronger than its critics allow. It can correct its errors, albeit slowly. It took a decade to unpick the mistakes of the previous crisis. So long as the EU is not a state, it will not have the speed, power or flexibility of one. Across the Atlantic Mr Biden can launch a plan to spend trillions, knowing he has the power to do so. By contrast, EU politics is kaleidoscopic. Consensus must be cooked up among a rotating cast of ministers and amid ever-changing alliances. Reluctant countries have to be slowly cajoled. A stronger, more coherent EU is coming, but not for a while. It could still take a lot longer to exhaust the other options. ■





The government

## Winning the peace

**Boris Johnson promises a muscular, interventionist state. Now he must deliver it**

MICHAEL BARBER helped Tony Blair to get stuff done. In 2001 he established a “delivery unit” that translated lofty ambitions into measurable goals—regarding children’s literacy, say, or hospital waiting times—and pursued them relentlessly. This was not always popular. Reflecting a common gripe, one *Daily Telegraph* columnist raged against the “grinding and dehumanising imposition” of targets reminiscent of Soviet central planning.

That columnist, now prime minister, has come round to targets. Following a request from Boris Johnson, Sir Michael has since Christmas been hard at work recreating the delivery unit. Brexit and covid-19 are starting to take up less time, and Mr Johnson wishes to reshape the country to the tastes of his new electorate: northern, non-graduate and Brexit-leaning. In the Queen’s Speech on May 11th, the prime minister promised more housebuilding, more technical education, new train lines, new free ports and a new post-Brexit subsidy regime—brought into being by a more interventionist government.

Covid-19 has left Mr Johnson in charge

of a wartime state. Some £303bn (\$430bn) went on combating the pandemic in the year to March, driving public debt from 84% of GDP to nearly 100%, its highest ratio since the 1960s. A government quite unprepared for the crisis scrambled to build field hospitals, buy protective equipment for medics and devise a vast logistical operation to deliver vaccines. The civil service, pared back under David Cameron, has grown to its largest since 2011.

The success of the vaccine programme helped propel the Conservative Party to victory in a by-election in the once-safe Labour seat of Hartlepool on May 6th. It has also changed ministerial thinking about state capacity. “Six months ago, everyone was taking the piss because we were talking about moonshots,” says a cabinet minister. “Now we’re actually doing it.”

Mr Johnson’s manifesto in the 2019 election promised to improve public services, and to do so in a manner the electorate would notice. The government would build 40 new hospitals, hire 50,000 nurses and fix social care. Now just getting back to pre-pandemic performance levels will be

→ Also in this section

48 Voter ID

48 Political realignment

49 Slaughter in Ballymurphy

50 Bagehot: Labour’s big divide

Read more from this week’s Britain section:  
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tough. The passport office warns of delays from a glut of renewals. Justice is under strain, with a record 58,000 Crown Court cases delayed. Nearly 400,000 people have been waiting more than a year for hospital treatment, up from fewer than 2,000 before the pandemic. This is stuff that loses elections, and solving it is only partly a matter of funding. Doctors and nurses take time to train, for instance. “You can end up putting a lot more money into these things and not end up getting more sausages,” warns a senior Tory.

Mr Johnson’s flagship policy, of “levelling up” Britain’s provinces, aims to address weak productivity, and correct a sense of loss and cultural neglect, by creating proper jobs, done by proud people in purposeful towns. Large sums of money will be used to smarten up high streets, bandstands and libraries—all intended to act as a down-payment to show the Tories’ new voters they are serious.

But while the vision is clear, much of the agenda is still hazy. It lacks a theory of how towns get richer, and measures of progress. As well as Sir Michael, Mr Johnson has drafted in Neil O’Brien, an MP who argues that decline of manufacturing in such towns can and should be reversed, to impose discipline on the programme. Folk close to the process expect a “gradual substantiation” of what the agenda means.

Sir Michael’s delivery unit will help both with long-standing agendas such as levelling up and with the covid-19 backlog. It will employ 30 or so officials under the

## Voter identification

## The end of innocence

New rules to root out electoral fraud may discourage voting

VOTING IN MAINLAND Britain is astonishingly easy. You turn up at a polling station and state your name and address. An official finds your name on a list, draws a line through it, then hands you your ballot. The question must have occurred to many people: couldn't somebody else pretend to be me?

Many Britons believe that happens a lot. In early 2019 Ipsos MORI, a pollster, found that 58% thought personation—pretending to be somebody else—was a serious problem nationally. Asked why they thought that, some said they had heard about fraud in the media while others cited local rumours. A few said it was simply human nature.

Personation was indeed once widespread in Northern Ireland, which is why the province has required identification since 1985. Elsewhere in Britain it is extremely rare. If somebody turns up at a polling station and finds that their name is already crossed off, they are given a “tendered” ballot. Just 1,359 of those were handed out in the December 2019 general election, out of an electorate of 47.5m, and tendered ballots are issued for other reasons too. Personation fraud was alleged 33 times that year, resulting in one conviction and one caution.

Still, the government judges the

threat to the democratic process sufficient to warrant a big change to electoral rules. On May 11th it announced that it will legislate to require in-person voters to show photo ID. This is trickier in Britain, which does not require people to carry ID cards, than in countries which do. Driving licences and passports will be acceptable; so will pensioners' bus passes and the “blue badges” held by disabled people. Anyone without approved photo ID will be allowed to apply for a free card.

Such a change would not block many people from voting. Seven local authorities asked voters for various forms of identification in May 2019, after warning that they would be doing so. On average, 0.4% of would-be voters who were asked for ID failed to show it, were turned away, and did not return to the polling station.

But many more might conclude that voting has become too much of a hassle, and not bother. “Not everyone gets as excited about elections as we do,” says Jess Garland of the Electoral Reform Society, which opposes the change. Any effect is likely to be uneven. A poll for the government found that 10% of non-white people would be less likely to vote in person if they were required to show photo ID, compared with 5% of whites.

command of Emily Lawson, the former head of the National Health Service vaccine programme, and will report directly to the prime minister, providing him with a line of sight into departments. Mr Johnson's broad goals (such as achieving net-zero emissions) will be split into measurable chunks (such as keeping tabs on electric-car charging-points), and will be pursued using his authority to overcome obstacles. Along with net-zero, levelling-up and the covid-19 backlog, the unit will also focus on jobs and skills.

The original delivery unit succeeded in cutting hospital waiting times and raising school standards, and has since been copied by governments across the world, from Canada to Sierra Leone. But it drew opposition from critics like Mr Johnson who saw it as an example of Labour's top-down management style, and others who focused on the potential for poorly designed targets to lead people astray—as when GPs responded to a 48-hour treatment target by denying patients the ability to book appointments further ahead.

Mr Johnson's unit will be given a formi-

dably broad agenda, cutting across departments; something which may cause problems. In his book “How to Run a Government”, Sir Michael admits the original delivery unit initially struggled under the weight of too many targets, too broadly set.

It was also aided by hefty budget increases for the public services under its glare; the trade-off, implicitly, being greater accountability and higher standards in return for more money. Given rocketing public debt, the Treasury may be unwilling to splash more cash. But Mr Johnson does not hanker for tight public finances, and voters oppose cutting spending on public services by a margin of more than two-to-one, according to Ipsos MORI, a pollster.

As the Institute for Government think-tank points out, the prime minister is a year-and-a-half into his term and has so far made slow progress on his trickiest manifesto promises. He has an increasingly coherent vision of the state after Brexit and the pandemic, fewer distractions and, if Hartlepool is a sign of things to come, a chance to shape Britain's future. If he does not make progress now, he never will. ■

## Political geography

## The Chipping Norton reset

CHIPPING NORTON

The Brexit realignment continues

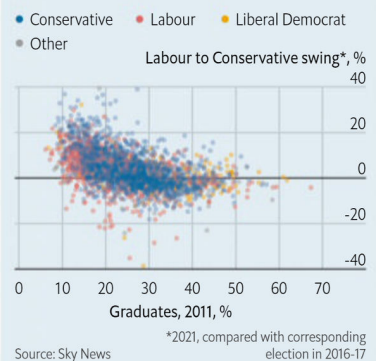
MOST OF HIS supporters, admits Geoff Saul, are fairly middle-class types: liberal professionals, public-sector workers and students. Those on the old council estates, “when not politically apathetic, used to lean UKIP [UK Independence Party] and now tend towards Boris Johnson”. Mr Saul is the newly-elected Labour county councillor for the Oxfordshire market town of Chipping Norton, which bustles with yoga studios and pet spas. Its deep-blue constituency of Witney, with a Tory majority of over 15,000, was once represented by David Cameron, whose circle became known as the “Chipping Norton set”.

As well as being defeated in a by-election in Hartlepool, in the north-east, Labour lost ground in pro-Brexit small towns across the North and the Midlands in this month's local elections. But it also racked up some smaller victories in what had been Tory turf. It won the mayoralties of the West of England, and of Cambridgeshire and Peterborough, from the Tories. Greens and Liberal Democrats also made inroads into Tory areas like Suffolk and Cambridgeshire respectively. The Tories lost control of the council of Tunbridge Wells, the Kent town which serves as a synonym for southern English affluence.

In 2019 the Conservatives won parliamentary seats across northern England and the Midlands, mostly by converting Labour's working-class voters. Mr Johnson has now consolidated those gains. More former Brexit Party and UKIP voters have come onside, giving the Tories control of the councils of Leave-leaning Cannock

## Hard lessons

England, by ward and political party





► Chase, and Nuneaton and Bedworth. Yet the great Brexit realignment means that Labour, Liberal Democrats and Greens are now making inroads in traditional Tory areas that had leaned Remain.

Voters with degrees and those who work in management are gravitating towards Labour, while Tories have made inroads among manual workers and adults without university qualifications (see chart on previous page), according to Will Jennings, a professor of political science and public policy at Southampton University. While the trend can be traced back decades, the fight over Brexit helped accelerate it. In 2017 the Conservatives already had a 17-point lead over Labour among those with no qualifications; by 2019 this had more than doubled, to 36 points.

Unlike many of Mr Johnson's northern gains, Chipping Norton is thriving. It has a new retail park, and 1,200 new homes are planned. Its very success presents Tories with a Catch-22. Homeowners have been a bedrock of Tory support since Thatcher's days, but in the Tory heartlands of southern England affordable homes are in short supply. The government plans to liberalise planning laws, which risks angering homeowners. In Chipping Norton Labour artfully drew support from both from renters frustrated by high house prices and their wealthier neighbours, unhappy about new development. In nearby Witney worries about big housing developments were also key in the victory of a local Green candidate for the district council.

Culture matters too. Mr Johnson has offended the sensibilities of the liberal professionals whom Mr Cameron wooed. A hard Brexit, tougher migration rules that restrict the supply of European au pairs and restaurant staff, and cuts to foreign aid all run against the grain of these areas.

But gains in these areas alone would not provide Labour with a viable path to power. The party needs to gain 128 seats at the next election to get a majority. The graduate vote is concentrated in urban areas, giving it big margins in cities but not elsewhere. Analysis by Onward, a think-tank close to the Conservatives, suggests that changes in electoral geography mean the Tories could gain another 50 seats at the next election, while simultaneously losing 37 mostly in their southern heartlands. Much will depend on whether disaffected Tory voters consolidate around single parties, or whether they split among Labour, Liberal Democrats and Greens.

Mr Johnson's seat of Uxbridge and South Ruislip in graduate-rich London could be within Labour's grasp at the next election. But it will probably be some time before Mr Cameron's former seat goes the same way as Sedgefield, the former constituency of Tony Blair, and ends up in enemy hands. ■

## Northern Ireland

# Slaughter in Ballymurphy

BELFAST

**A coroner concludes that ten people killed in Ballymurphy 50 years ago were "entirely innocent"; at least nine of them were shot by soldiers**

AT 4AM ON August 7th 1971, the raids began across Northern Ireland. In a last, desperate attempt to quell bloody violence from the Irish Republican Army and loyalist paramilitaries, the unionist government in Belfast ordered a mass round-up of suspected gunmen. Hundreds of suspects were imprisoned without trial. But no loyalists were lifted, making the policy seem one-sided, and the intelligence was poor, meaning that many of those arrested were innocent. Nationalist anger boiled over into serious rioting and gun battles. In Ballymurphy, a nationalist area where west Belfast merges into the wildness of Black Mountain, ten people were killed within a radius of about 400 yards over three days.

Half a century after the deaths, joint inquests found on May 11th that at least nine of the victims were shot by soldiers. The coroner ruled that all the dead were "entirely innocent of any wrongdoing", contrary to smears from the army at the time that they had been firing on soldiers or throwing petrol bombs. The same regiment—the Parachute Regiment—shot dead 13 unarmed civilians five months later on Bloody Sunday.

One of the slain was Father Hugh Mulvan, a Catholic priest. He had just given the last rites to another victim, Bobby Clarke, who survived, and decades later recalled the priest's anguished cries as he took 15 minutes to die. Joan Connolly, a mother of eight, had gone out to look for her daughters when she was gunned down. Another victim, John McKerr, a former British sol-

dier, had lost a hand in the second world war. He was killed while standing outside a Catholic church where he had been working as a joiner.

The inquests were the longest in Northern Irish history, running to more than 100 days of oral evidence, and were ordered because the deaths had not been adequately investigated at the time. More than 50 historic inquests are to be held, at an expected cost of £55m (\$77m).

Unlike David Cameron, who immediately made a public apology for Bloody Sunday after an inquiry in 2010 said the deaths were "unjustifiable", Boris Johnson did not apologise for more than 24 hours and when he did, it was in a private phone call with Northern Ireland's first and deputy first ministers. He has infuriated victims' relatives by promising to legislate to make it harder to prosecute soldiers for killings during the "Troubles", but is under pressure from the other side. A month ago the minister for veterans was sacked for protesting that not enough was being done to prevent prosecutions. Theresa May, Mr Johnson's predecessor, has warned that such legislation would mean a general amnesty: "We cannot legislate simply to protect British soldiers from prosecution. Any legislation to protect British soldiers will cover terrorists as well."

Northern Ireland's divided politicians are largely united in their opposition to an amnesty. Mr Johnson is going to struggle to keep his party united without inflaming tensions in Ulster. ■



Vindicated, after half a century





## Bagehot | Uneasy rider

*The Labour Party is being pulled in different directions by its two main constituencies*



**H**AROLD WILSON once said that “if you can’t ride two horses at once you shouldn’t be in the ruddy circus.” To judge from his recent performance, Sir Keir Starmer, the Labour Party’s leader, can’t ride a pet donkey, let alone two horses. He declared that he took full responsibility for the May 6th massacre in local elections and a by-election, only to turn on the party’s popular deputy leader, Angela Rayner. The resulting outcry united the squabbling party against him and forced him to give her several new roles.

With Labour’s two driving forces parting company, equestrian skill is increasingly important in Sir Keir’s job. The Labour Party has always depended on a “progressive alliance” between two very different groups—what were once called “workers by hand” and “workers by brain”. The first provided the numbers and the second the intellectual élan. The party’s founding commitment to nationalisation, Clause Four, was drafted by two professional scribblers, Sidney and Beatrice Webb. Labour’s most radical prime minister, Clement Attlee, was educated at a public school, Haileybury; his cabinet included four old Etonians.

These two groups didn’t always get on. Beatrice Webb confessed to her diary that “we have little faith in the ‘average sensual man’.” We do not believe that he can do much more than describe his grievances, we do not think that he can prescribe his remedies.” Hugh Dalton, Labour’s postwar Eton-and-Cambridge-educated chancellor of the exchequer, once told G.D.H. Cole, the party’s leading intellectual, that Labour needed to do more to appeal to “the football crowds”. Cole “shuddered and turned away”. But the two groups agreed on the essential things: building the welfare state and expanding opportunities.

The relationship is now in ruins. One reason is the shift in the balance of power. The “workers by hand” feel that they have had their party—and indeed their country—stolen from them. In 1951, 70% of voters were manual workers. Today that figure is less than 40%. In 1945 only a few thousand school leavers went to university. Today more than half do. The proportion of Labour MPs who have done a working-class job at some point has declined from 33% in 1983 to less than 10% today. Almost 80% of Labour Party members fall into the official definition of middle-class.

Suzy Stride, who stood for the party and lost in 2015, compares

the attitude of middle-class activists trying to get out the working-class vote to Ryanair passengers “having to stomach a couple of hours’ flight with people they shared little in common with: it could be uncomfortable but it got you where you needed to go.” Now the two groups can no longer agree on the destination. In their recent book “Brexite Land” two academics at the University of Manchester, Maria Sobolewska and Robert Ford, argue that today’s political divide is cultural rather than economic. The university-educated classes define themselves by their cosmopolitan values—their enthusiasm for immigration and fierce hostility to racial and gender-based prejudice. Voters from the old working-class define themselves by their fealty to “traditional values” of flag, family and fireside. And a large new Labour block—immigrants and the children of immigrants—usually sides with the first group despite being more culturally conservative. Originating in long-term changes such as the expansion of the universities and the rise of a multicultural society, the division has been supercharged by Brexit.

What is a leader riding these two diverging steeds to do? Sir Keir’s decision to appoint Deborah Mattinson, the author of “Beyond the Red Wall”, as his chief strategist suggests that he wants to focus on the old working class. But the strategy isn’t working. The progressive vote in the south is fragmenting among Greens and Liberal Democrats while the Conservatives are continuing to make gains in the North.

Many people in the party, from Blairites to young progressives, favour a different approach. They want to embrace the “coalition of the ascendant” in the form of university-educated professionals, young people and ethnic minorities. Tony Blair did exactly this to bring about the longest winning streak in Labour history. Joe Biden defeated Donald Trump by mobilising the same coalition, stretching from Black Lives Matter activists to suburban mothers. The rise of the Greens in Germany suggests that the old progressive coalition is capable of reorganising itself around new problems and new values.

But this strategy is also risky. Mr Blair’s politics had a downside: about 5m mainly working-class voters gave up voting during his long period in power, and many of them are now voting Tory. It is doubtful whether he could win in today’s circumstances. Labour has lost its vote-vault in Scotland and the culture wars are far more divisive than they used to be. Mr Biden won only narrowly, even though he was up against an opponent who had suggested, among other idiocies, that people should fight covid-19 by injecting themselves with bleach. Britain’s constituency-based electoral system also makes it more difficult to pursue a broad realignment because the left’s votes tend to pile up in the cities. Labour already has 20 of the 25 largest majorities in the country while the party’s internal analysis of its 125 “must win” seats shows that more than half of them are in largely working-class areas.

There is a long tradition of predictions that Labour’s internal contradictions will lead to its demise. Plenty of people pronounced the party dead in the Thatcher-Major era only to see Mr Blair ride it to three election victories. But Labour’s internal contradictions have grown since then. The “coalition of the ascendant” is too small to win on its own but too preoccupied by cultural politics to make its peace with the old working class. Perhaps the “coalition of the ascendant” will one day be big enough to canter to victory alone. Perhaps the culture wars will eventually cool down. But for the time being the problem is not just Sir Keir’s horsemanship but the configuration of the whole ruddy circus. ■





## Truth commissions

## The agony of silence

JOHANNESBURG AND PARIS

France is confronting its history in Algeria. As other countries' experiences show, dealing with the past is a complex undertaking

IN MARCH, BENEATH the chandeliers of the Elysée palace, four adult cousins met Emmanuel Macron, France's president. What really happened, they wanted to know, to their grandfather, Ali Boumendjel, a lawyer and nationalist, who died in colonial Algeria after his arrest by French troops in 1957? Officially he committed suicide. In fact, Mr Macron acknowledged, Boumendjel was tortured and killed by the French army. His body was thrown from a window to disguise the cause of death.

The president and the lawyer's grandchildren—all of the same generation—engaged in an “extraordinary dialogue”, says

Benjamin Stora, a historian who was present. The cousins' discomfort, he says, focused on a question: “How can we live in the country that assassinated our grandfather?” Although a French general had confessed 20 years ago to ordering the murder of Boumendjel, the government had never admitted the crime. Algeria's eight-year war for independence ended in 1962. But such questions trouble a younger generation, who feel that France should fully acknowledge the atrocities it committed.

Earlier this year Mr Macron decided to launch a “Memories and Truth” commission on France's role in Algeria, to “look

clearly at the wounds of the past”. While in Algiers during his election campaign, he raised eyebrows by calling colonisation a “crime against humanity”. In 2018 Mr Macron recognised that in 1957 the French state had tortured and executed Maurice Audin, a young communist and nationalist; none of his predecessors had done so. “France”, he declared last year, has “still not resolved the traumas” of its colonial past.

Mr Stora, author of an official report this year into memories of the war, will run the commission, starting this month. Details are still being worked out. Many of the protagonists and witnesses are dead. Mr Stora says it will involve testimony from descendants, historical work and memorials. Mr Macron has ordered the opening of classified archives relating to the time.

Over the past half-century more than 50 truth commissions have been set up worldwide. They have become a tool for countries emerging from traumatic periods of history to confront that past, try to break cycles of violence and move on.

One of the first, in Argentina in 1983, looked into “disappearances” under the military dictatorship. It took evidence from witnesses and produced a bestselling report (“Nunca Más”, or “Never Again”). In 1990 Chile established a commission to look into disappearances and killings under Augusto Pinochet. A second, in 2003, examined torture under his regime. The experience has been mixed, partly because of a fundamental tension between truth and criminal justice, and between the interests of individuals and of a country as a whole. Yet they have not lost favour. Truth commissions are under way in various countries, including Colombia and the Gambia. Britain is considering one to look at the “Troubles” in Northern Ireland.

Their purpose, according to Priscilla Hayner, author of a global study of them, is primarily “to investigate and report on a pattern of past human-rights abuses”. The template involves a temporary body, set up with a mandate from a government or an international institution, to gather testimony and look at past abuse over a defined period. They aim to establish what happened at a time when official histories may have silenced rival accounts, or those who could tell them. A commission generally ends with a report and recommendations.

Yet a truth commission is also a form of reckoning. It officially recognises past atrocities. It may also seek to reconcile former adversaries. Some lead to prosecutions. In Chile and Argentina judges used the reports to unpick previous amnesties. In 2017 a court in Argentina sentenced 29 former military officials to life for, among other crimes, kidnapping and drugging civilians, loading them onto planes and dumping them, alive, in the ocean. »



Others are an alternative to retributive justice. South Africa's Truth and Reconciliation Commission (TRC), set up in 1995, a year after democracy replaced apartheid, could grant amnesty to those who confessed to certain crimes. Dirk Coetzee, a paramilitary commander who confessed to drugging, shooting and burning victims, got it for some of his crimes. "The burning of a body on an open fire takes seven hours," he told the commission; "Whilst that happened we were drinking and *braaiing* [barbecuing] next to the fire."

### And you will know the truth

The French commission comes too late to be about amnesty or criminal justice. Yet, even 60 years on, the thirst for answers is surprisingly strong. "It's absolutely necessary, indispensable," says Nora Hamadi, a French journalist of Algerian origin. She describes "a form of trauma" among the children and grandchildren of victims, and an "anger against France for the lack of recognition and of respect".

Algeria was ruled as part of France from 1830 until its independence. Today, some 7m French residents are linked to this history, as immigrants, former white settlers ( *pieds-noirs*), soldiers (including Algerian *harkis*, who fought for France) or their families. Faïza Guène, a French novelist of Algerian descent, deplores "the transmission of silence". "If we don't talk about this," she says, "we've got no chance of resolving the problem of belonging in France."

The subject was long taboo. Not until 1999 did the French government recognise the conflict as a war. Since 2001 political leaders have taken further steps. Nicolas Sarkozy provided Algeria with a map of 11m landmines laid by the French army. François Hollande recognised as a "bloody repression" the massacre of Algerian nationalists in Paris on October 17th 1961.

Yet many questions remain. "France has been in denial for a very long time," says Mr Stora. "So it's complicated. But we need to find a way to hold a conversation, between all the different parties. Everybody is shut away in their own suffering."

"Time in itself is not a barrier," argues Anna Myriam Roccattello of the International Centre for Transitional Justice in New York. Some form of reckoning, even belated, can be helpful. Belgium last year opened a "special commission" into its colonial past in Congo, Rwanda and Burundi.

More important, suggests Ms Roccattello, is legitimacy and participation. Many point to South Africa's commission. Chaired by Archbishop Desmond Tutu and endorsed by President Nelson Mandela, the TRC began amid great hope. Unlike many commissions in Latin America in the 1980s, victims told their own stories, mostly in public hearings. In two years the TRC heard 21,298 witnesses. Amnesty was given

only to those who disclosed full details of crimes deemed politically motivated.

Yet South Africa also reveals the shortcomings of such exercises. The TRC ended with rancour. Both former president F.W. de Klerk and Mr Mandela's African National Congress (ANC) tried to obstruct the final report. Mr Mandela had to insist on its publication. Mary Burton, a commissioner and anti-apartheid activist, worried that the TRC had facilitated the transition of power rather than helped the victims.

Moreover, no body was set up to enforce the commission's recommendations. It took five years for the government to pay reparations to the victims who testified. Some received about a fifth of the money the report recommended. Some 130,000 people entitled to reparations fell foul of a cut-off date for claims. Subsequent ANC governments have done little to prosecute perpetrators who did not seek amnesty. Under President Thabo Mbeki 20 people denied amnesty by the TRC were pardoned.

"Our experience in South Africa is that truth does not always lead to reconciliation," says Annah Moyo-Kupeta of the Centre for the Study of Violence and Reconciliation. "People felt they were being forced to forgive." The TRC also served to "de-contextualise" apartheid, argues Mahmood Mamdani, a Ugandan academic. Apartheid was not just about death squads; it was a legal and economic system, built on colonial foundations. For Mr Mamdani, the TRC's narrow framing made it easier for white South Africans who benefited from apartheid, but were outside the security state, to deny their complicity.

Yet for all its flaws the TRC has been unfairly maligned, argues Mikhail Moosa of the Institute for Justice and Reconciliation in South Africa. He points out that the report's recommendations were radical—including, for instance, wealth and windfall taxes to tackle the economic legacy of apartheid. It is the fault of ANC govern-

ments, not the TRC, that some apartheid-era criminals got off scot-free, and that South Africa is not better run today.

Besides, the TRC made it impossible for white South Africans to say, "I didn't know." They heard four white policemen confess, for example, to beating Steve Biko, leader of the Black Consciousness Movement, chaining him up and leaving his injuries untreated. Biko died after being transported—naked, handcuffed and unconscious—to a prison hospital halfway across the country. The apartheid state said he died of a hunger strike. The TRC also gave some, if not all, victims, closure. In 2019 a poll found that 66% of South Africans agreed that it "provided a good foundation for South Africa to achieve reconciliation".

Such commissions entail profound trade-offs. Argentina, Chile and Guatemala showed that they can be compatible with prosecutions. But this can be controversial. In El Salvador the promise of a commission helped end civil war. It ran under UN auspices in 1992-93 and documented 22,000 complaints in a hard-hitting report, whose impact was blunted by an immediate amnesty. Usually a choice has to be made upfront. Without amnesty, many South Africans would not have learned what happened to their families. Public exposure itself can be a form of punishment.

### Painful choices

The interests of those who suffered and society's must also be balanced. For some individuals, the process revives old traumas. Nomfundo Walaza, who counselled victims during the TRC, points out that, if national reconciliation is the aim, "then we have to face the unfortunate reality of a conflict between the interests of victims on one hand and those of the nation as a whole on the other."

"Nobody expects a single truth commission to tie up all the issues with a bow," says Ms Hayner, now a consultant on transitional justice. What matters, she says, is whether it changes "a country's ability to talk about something". This is missing in France, where Algeria is the silence underlying so many tensions. "To calm competing memories," says Rachid Benzine, a French researcher, "France needs to acknowledge it is the inheritor of both the Enlightenment and colonialism."

Whatever France does is bound to be criticised, on both sides. The Algerian government may not be satisfied unless France apologises. The French presidency says that will not be necessary. Political expediency may trump historical rigour. Rival memories may be irreconcilable. But to listen to a younger generation in France is to hear a yearning for answers and acknowledgment. "Remembering is not easy," writes Ms Hayner, "but forgetting may be impossible." ■







The space business

## Elon Musk's other company

After revolutionising the rocket business, what next for SpaceX?

WHAT GOES up must come down. That was certainly true of bitcoin, a cryptocurrency enthusiastically endorsed by Elon Musk which surged in value in February after Tesla added \$1.5bn-worth to its balance sheet. It plunged on May 12th after the carmaker stopped customers using bitcoin to buy its vehicles. Mr Musk worries about the use of fossil fuels to “mine” the cryptocurrency. More gracefully, on May 5th a prototype version of SpaceX’s massive “Starship” rocket—designed to be the biggest since the Saturn V that took the Apollo astronauts to the moon—rose 10km above Boca Chica in Texas, before flying itself back to its launchpad and landing gently on the ground. It was not Starship’s first high-altitude test flight. But it was the first that had ended without a fireball.

It was the latest piece of good news for SpaceX, a rocketry firm founded in 2002 by Mr Musk, who is perhaps better known as the founder of Tesla, an electric-car pioneer. Like Tesla, SpaceX has taken an unloved technology and made drastic improvements, shaking up a complacent industry. While Tesla’s mission—“accelerate the world’s transition to sustainable energy”—is grand, SpaceX’s is even grander. Mr

Musk wants to use its cheap rockets to make humanity a “multi-planetary space-faring civilisation” by establishing a colony on Mars. And like Tesla, SpaceX’s valuation has soared. According to PitchBook, a data-analysis firm, SpaceX’s latest funding round, completed in April, valued it at \$74bn, up from \$46bn in August 2020. CB Insights, a firm of analysts, ranks SpaceX the third-most-valuable startup in the world (see chart on next page).

### Big rocket man

It may seem odd to describe a 19-year-old firm as a “startup”. But most of SpaceX’s swelling valuation comes not from the business it already does but, again like Tesla, its investors’ hopes for its future. To pay for its Martian ambitions, SpaceX plans to transform itself into a globe-straddling telecoms giant. It hopes to repeat Mr Musk’s signature trick of making big improvements to existing technologies. Its Starlink service, currently open to testers in countries including America, Britain and Germany, is building the biggest satellite network ever, in order to beam fast internet access to every corner of the planet.

SpaceX’s advances in rocketry provide

→ Also in this section

56 Bartleby: How working mothers cope

57 Kick-starting Harley-Davidson

57 Europe’s lobbying swamp

58 Musical plagiarism

59 Pharma patents under fire

60 Schumpeter: Bosses’ ballooning pay

the launchpad. Its craft are unusual in that they are reusable, rather than disposable. After launch, the first stage of its Falcon 9 can fly itself back to Earth; and after a refurbishment lasting a few weeks, it can fly again. Along with a focus on cost-cutting and a willingness to experiment and take risks, that has allowed SpaceX to undercut its competitors drastically.

As with Tesla, complacent incumbents have been trying to respond. United Launch Alliance, a joint venture between Boeing and Lockheed Martin, two aerospace giants, has cut jobs and trimmed costs. In November Tory Bruno, its boss, said prices for its Atlas V rocket were down from \$225m per launch to just over \$100m. Arianespace, a European firm, has also cut prices for its Ariane 5, which is thought to cost around €175m (\$213m) per flight. It hopes the Ariane 6, due to make its first flight next year, will be 40% cheaper than its predecessor. SpaceX charges \$62m for a fresh rocket, or \$50m for a used one.

Low prices, a focus on cost control, and a willingness to take risks and iterate rapidly (another signature Musk trait) have helped SpaceX win contracts with everyone from Iridium and Intelsat, established satellite firms, to startups such as Planet and governments, including those of America, Germany and South Korea. On April 16th NASA awarded SpaceX \$2.9bn to develop a lunar lander as part of America’s plan to return astronauts to the Moon by 2024 (though the contract was suspended on April 30th, while a government agency reviews rival firms’ complaints). On September 15th it plans to fly four tourists on a ▶▶



▶ three-day orbital jolly. Morgan Stanley, a bank, describes SpaceX as “mission control” for the fast-growing “emerging space” sector—which, estimates Seraphim Capital, a venture-capital company, attracted \$8.7bn of venture investment in the year to March, up by 95% from the year before.

And it is not standing still. Starship has a carrying capacity more than six times that of the Falcon 9. Despite its vast size, it is fully reusable, and is intended to be far cheaper than SpaceX’s current rockets. Mr Musk hopes Starship could end up costing less than \$2m per launch.

However nifty SpaceX’s technology gets, the launch market, at around \$6bn in 2019, is relatively small, says Simon Potter of BryceTech, a firm of analysts and engineers. Many players are shielded from full competition by governments worried about national security. That will limit SpaceX’s market share. Instead, says Adam Jonas, an analyst at Morgan Stanley, SpaceX sees launch as an “enabling technology” for its other plans. The firm’s next target is the telecoms business. Starlink aims to provide internet access worldwide, including places where other forms of connectivity are poor or non-existent.

This is a much bigger market, at least on

paper. The International Telecommunication Union, a UN agency, reckons 48% of the world’s population was offline in 2019. Gwynne Shotwell, SpaceX’s chief operating officer, said in 2019 that the worldwide internet-access market was worth perhaps \$1trn a year. SpaceX, Mr Musk has said, might aim to capture around 3% of that. Even that sliver would have brought in \$30bn two years ago.

### Tomorrow the stars

Satellite internet is not a new idea. But it is another technology that Mr Musk thinks he can improve. Existing internet satellites fly at high altitude, to maximise coverage. The drawback is that many customers must share a single satellite, limiting capacity. And the time taken for radio signals to travel to high-flying satellites adds unavoidable, and irritating, delays. At the moment satellite internet is usually a last-resort option when nothing better is available—in remote rural areas or on ships at sea, for instance.

Starlink hopes to fix those problems by using its cheap rockets to put thousands of small, cheap satellites in low orbits. In the first quarter of 2021, SpaceX launched more objects, measured by mass, into orbit than

every other rocket operator combined, says Mr Potter. Starlink’s 1,500-odd existing satellites already account for around a quarter of all those in orbit. SpaceX has firm plans for over 10,000 more, and has filed paperwork for up to 42,000—more than four times as many satellites as have been launched since the start of the space age.

The prototype service is undergoing testing by thousands of people. Most seem pleased, reporting fast and responsive connections. But the satellite-internet business has a poor record. Iridium went bankrupt in 1999, the year after its launch (it was eventually bailed out by the American government). Intelsat and Speedcast, two established companies, filed for bankruptcy last year, as did OneWeb, a startup with a similar business model to Starlink’s. Intelsat is currently restructuring and Speedcast is doing business again under new owners. But the fragility of the business makes assigning a future value to SpaceX tricky. Morgan Stanley’s attempt spans two orders of magnitude, from \$5bn to \$200bn, with different assumptions about the viability of Starlink accounting for almost all the difference.

Even with low launch costs, at least two big challenges remain, says Rasmus Flytkjaer of London Economics, a consultancy. One is that most of Starlink’s potential customers are people ill-served by terrestrial internet firms. They tend to live in relatively poor rural areas. Starlink’s price of \$99 per month is not cheap even for rich-country users. The other is the cost of the high-tech satellite dishes needed to make the system work: 23-inch antennas that attach to roofs or walls. Since Starlink’s satellites are in low orbits, they zip quickly across the sky. The aerials must be able to track satellites as they move, and switch seamlessly from one to the next as they disappear below the horizon.

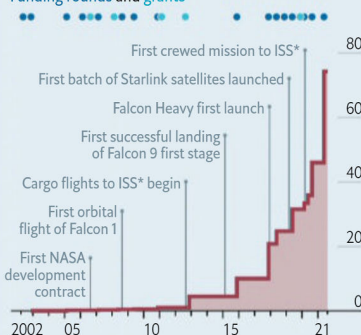
Ms Shotwell said in April that the dishes, which SpaceX sells for \$499, cost around \$1,500 to produce, down from about \$3,000 two years ago. SpaceX hopes that economies of scale will eventually drive manufacturing costs down to “a few hundred dollars”. Part of Iridium’s problem, says Mr Flytkjaer, was meeting the capital cost of building up its network before it could attract paying customers. Mr Musk’s deep pockets, he says, should mean SpaceX is less likely to run out of cash than its predecessor two decades ago.

Such challenges may explain Mr Musk’s uncharacteristic lack of bombast when talking about Starlink. Tesla sells cars with features like “Ludicrous Mode” and “Bio-weapon Defence Mode”. Starlink, by contrast, calls its public-test programme the “Better Than Nothing Beta Test”. At a space conference last year Mr Musk said Starlink’s goal, for now, was simply not to go bankrupt. He has repeatedly tried to assure ▶▶

### Taking up space

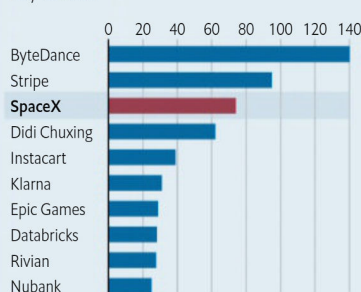
#### SpaceX valuation, \$bn

Funding rounds and grants



#### Biggest startups by valuation, \$bn

May 12th 2021



Sources: PitchBook; BryceTech; CB Insights; Union of Concerned Scientists; company reports; The Economist

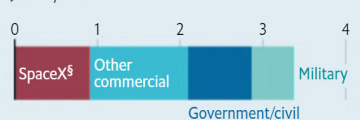
#### Space launches†, by provider

Mass carried, tonnes

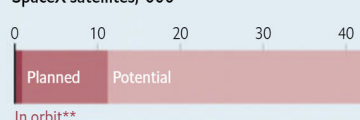


#### Satellites in orbit by primary use, '000

January 2021



#### SpaceX satellites, '000



\*International Space Station †To April 30th ‡Includes unsuccessful launches §Commercial \*\*January 2021



## Bartleby Mothers of invention

*The parallels and differences between two generations of female executives*

BETSY HOLDEN was vice-president of strategy and new products at Kraft, a giant food company, when she became pregnant for the second time. "No one has ever done the job with two children," her male boss worried. "How many children do you have?" Ms Holden asked. "Two," he replied.

This double standard is only one of the barriers that female executives face, as recounted in "Power Moms", a new book by Joann Lublin, a former *Wall Street Journal* columnist. The author focuses on two waves of female leaders. The first group were the baby-boomers, born between 1946 and 1964. These were often the only women in upper management at their firms. They faced a lot of pressure to be hands-on mothers, had little support from their husbands and were reluctant to ask for reduced schedules for fear of not seeming committed to their jobs. The stress for these women was immense, especially as they felt unable to discuss their parenting problems with male colleagues.

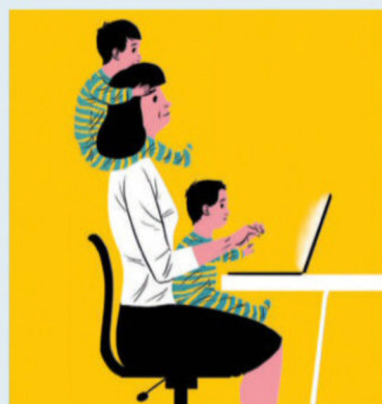
The second wave of women, born between 1974 and 1985, had female colleagues in upper management, expected (and usually received) support from their spouses, and benefited from employer perks, such as maternity leave and flexible working. They were able to be more open with colleagues about their parental duties. This later generation has mastered the "work-life sway" in which they move back and forth between their personal and professional lives in the course of a day, conducting a meeting before taking their children for a check-up and then returning to the office.

The earlier generation, by blazing the trail, made it easier for those behind them. A Harvard Business School study shows that adult daughters of employed

mothers are more likely to hold supervisory responsibility and earn higher incomes while sons are likely to spend more time caring for family members. And companies are now much more willing to promote women, who make up more than a fifth of senior executive positions in American firms, compared with just 10% in 1996. A few are exceptionally accommodating, for example providing rooms where mothers can express milk, sinks to wash the breast pump and even courier services to deliver the milk when they are away on a business trip.

But there is still a long way to go. Only 27% of American employers offered paid parental leave in 2019. That may be up from 17% in 2016, but still leaves a lot of mothers uncovered. Even where leave is available, many women don't take full advantage. A survey of female tech-industry employees in 2018 found that 44% of women who had taken maternity leave had taken off less time than their entitlement because they thought a longer break would damage their careers.

Working mothers are still overloaded.



Mothers who are employed full-time spend nearly two-thirds more of their day feeding, bathing and caring for their children (under six) than their employed husbands do. They still struggle with guilt. One executive was on the phone with an important client in her locked office, only for an impatient toddler to bang on the door and repeatedly scream, "You don't love me." Unsurprisingly, a study found that chronic stress levels are 40% higher in women who are employed and bringing up two children than in childless working women. Worse still, female employees routinely toiling more than 60 hours a week were more than three times as likely to develop heart disease, cancer or diabetes than those on a conventional 40-hour schedule.

Despite the advances made by female executives, things are even more difficult for the vast majority of working mothers. Many work in smaller businesses, where maternity benefits and flexible hours are less likely to be available. Many are in low-paid jobs, or in sectors like health care and retailing, where it has been impossible to work remotely during the pandemic. The author writes that "nothing is more essential to an employed mother's professional success than reliable high-quality child care", and for many women who are not executives, this is a constant headache.

It is good news that many more women have climbed the corporate ladder, not just in terms of fairness, but because an economy should take advantage of all its potential talent. There needs to be a lot more progress made in helping the vast majority of women to juggle their home and work lives, not least by providing affordable child care. There are many more cleaners, cooks and carers than there are chief executives.

► existing telecoms firms that Starlink is not a threat, pointing out that the service is ill-suited to serving large numbers of customers in densely populated cities.

Starlink's test programme is currently available in only a handful of rich countries. Yet the firm said on May 5th that it had collected half a million pre-orders. It has requested regulatory permission for up to 5m users in America alone. In December SpaceX won \$886m from America's government to provide broadband in rural areas; it is said to be in similar talks in Britain. Not all governments will be as accom-

modating, since the internet access offered by Starlink could prove tricky for the authorities to censor.

In poorer countries, says Mr Flytkjaer, Starlink's satellites could connect rural mobile-phone masts to the internet, spreading the cost among many users. SpaceX is running tests with America's armed forces, which like the idea of having internet connectivity on any battlefield. In 2019 the firm showed its ability to provide high-speed, in-flight internet to a military jet.

Mr Musk is not the only billionaire who thinks satellite internet is an idea whose

time has come, despite its unpromising history. After its bankruptcy OneWeb was rescued by the British government and Bharti Enterprises, an Indian conglomerate whose founder, Sunil Mittal, is one of India's wealthiest men. Jeff Bezos, Amazon's founder, is every bit as rich as Mr Musk—and just as much of a space cadet, bankrolling Blue Origin, his own private rocket firm. Amazon itself is planning a low-flying satellite-internet similar to Starlink, called Kuiper. The car industry increasingly dances to Mr Musk's tune. The space industry is going the same way. ■



Harley-Davidson

## Uneasy rider

BERLIN

A German wants to kick-start a motorbiking legend

THE LARGE dealership with the distinctive orange logo in Berlin's Huttenstrasse displays a range of Harley-Davidsons from a spectacular custom machine, "Der Texaner", to the brand-new LiveWire, an electric bike. Yet the Midwestern motorcycle-maker's only shop in the German capital is deserted owing to covid-19 rules mandating a time slot and a negative test result, which deters most bikers.

The shop is usually busy at this time of the year, says a sales assistant. But customers will not return, warns Jochen Zeitz, Harley-Davidson's newish German chief executive, if the European Union goes ahead with the imposition of a 56% tariff on all imported Harley products from June 1st, which is part of the EU's retaliation against tariffs on steel and aluminium imposed by the American government. The tariffs will make it impossible for Harley-Davidson to compete with rivals in Europe, says Mr Zeitz, who lodged a legal complaint against the decision as soon as the plan was made public last month.

Prohibitive tariffs will make Mr Zeitz's challenging job even more difficult. Germany is his firm's biggest market outside America. Around 260,000 Harleys roar down the country's *Autobahnen*. In spite of the pandemic 11,000 new Hogs were registered in Germany last year.

A Harley board member since 2007, Mr Zeitz took over as interim chief executive in February 2020 when Matthew Levatich, his predecessor, quit after five years, having failed to revive the quintessentially American brand. Under Mr Levatich sales in America, where 70% of new Harleys are bought, declined for 12 quarters and the company's shares lost 46% of their value. In May 2020 the bike enthusiast signed on permanently for the firm's top job.

This is not Mr Zeitz's first rescue mission. As chief executive of Puma, he transformed the maker of sports kit from an ailing parochial business in Franconia into a hipster brand. Yet fixing Puma may seem easy compared with a company that is battling declining motorcycle ridership, ageing customers and stiff competition from the likes of Triumph, Polaris and Ducati.

Mr Zeitz has cut costs and slashed 700 jobs as well as cutting the number of models by almost a third and quitting dozens of countries. A strategic plan presented in February includes a focus on more profitable heavyweight bikes and, with an eye on



Revvng up for a revival

the future, electric power. The early signs are encouraging. In April Harley reported better-than-expected profits for the first quarter thanks in part to a revival of demand at home.

Even without looming tariffs the European market is probably Mr Zeitz's biggest worry. European deliveries fell by 36% in

the first quarter compared with a year ago because of lockdowns, shipping delays and the discontinuation of sales of two older models. The launch of the Pan America, a rival to BMW's legendary GS model, may help to revive sales but piling tariffs onto its \$20,000 price tag will deter even dedicated fans of the Harley brand. ■

Lobbying in Europe

## Making money and influencing people

BERLIN

As lobbying grows, politics in the old continent is getting more swampy

EUROPEANS HAVE long assumed that excessive lobbying is only an American problem. But over the past 15 years Brussels has become the world's second capital of the dark arts after Washington, DC, with Berlin not far behind. Both cities have become infested with new arrivals who are pushier and use more sophisticated techniques than old-fashioned associations such as the Federation of German Industry or BusinessEurope. Weak rules in both places are not designed to cope with the explosion of activity.

As international public-relations firms have moved in, big companies have also beefed up their in-house lobbying activities (see chart on next page). Google and Facebook have opened offices in the government district of Berlin, near the Bundestag, Germany's parliament, and in the Quartier Léopold of Brussels, close to the European Commission, the executive body of the European Union.

That adds up to plenty of lobbyists' boots on the ground, according to Transpa-

rency International (TI), a watchdog. In Brussels 25,000 lobbyists with a combined annual budget conservatively estimated at more than €3bn (\$3.6bn) seek to influence EU policy. Approximately 7,500 of them are accredited with the European Parliament, which means they are regularly able to meet with parliamentarians. Berlin is now reckoned to host up to 7,000 lobbyists with over €1bn to throw around every year.

This does not necessarily translate into political clout. "Deep pockets do not equal effective lobbying," says Nick Aiossa of TI. Some companies throw money at in-house lobbyists, consultancies and marketing campaigns without much result. But good lobbyists try to be part of the debate they wish to sway as early as possible, so they can try to shape the agenda. As power at the EU is diffuse and decisions are the result of deals at the commission, the council (made up of the 27 heads of government) and the parliament, good lobbyists who can navigate the decision cycle of these three institutions can be invaluable. ►►



► Though the effectiveness of lobbyists is still debatable, a series of scandals in Brussels and Berlin convinced policymakers to strengthen rules. In 2011 journalists from Britain's *Sunday Times* posing as lobbyists secretly filmed four members of the European Parliament (MEPs) negotiating a deal to propose amendments to legislation in exchange for €100,000 a year. The EU subsequently introduced a register for lobbyists, but it is voluntary. And since 2015 EU commissioners and their cabinet are required to make public their meetings with registered lobbyists, as are senior members of the parliament. That leaves half of 705 MEPs who do not reveal their dealings with lobbyists.

Germany remained a regulation laggard compared with other European countries until last year, when *Der Spiegel*, a weekly newspaper, revealed that Philipp Amthor, the youngest MP in the Bundestag and a rising star of Angela Merkel's Christian Democratic Union, was on the board of Augustus Intelligence, an American startup, and lobbied vigorously for the company at the ministry of economics. Mr Amthor initially denied receiving any compensation from the firm, but subsequently admitted getting share options that he did not disclose. The resulting furore reignited the debate about lobbying regulation.

A law passed in March will require members of the Bundestag to declare regular lobbying work. After further recent scandals involving MPs pocketing substantial commissions from companies making face masks, or receiving money from lobbyists for Azerbaijan in return for voting in favour of pro-Azerbaijani motions, the government has also drafted a bill with stricter ethics rules for parliamentarians that is winding its way through the Bundestag. The bill bans MPs from any lobbying work, accepting cash donations or making paid speeches.

These are steps in the right direction but it is not enough. "The next scandal is just waiting to happen," says Hans-Martin Tillack, author of *"Die Lobby Republik"*, a book sounding the alarm about the growth of corporate lobbying in Germany. "The payments are the problem," he says. Corporate donations to political parties remain untouched by the new legislation. Fabio De Masi, a parliamentarian for the Left party, argues for a complete ban on corporate donations to political parties and an upper limit for party donations from private individuals. Timo Lange of LobbyControl, a watchdog in Berlin, also notes that lobbyists will not have to report meetings with members of the government who are not also MPs.

The EU should consider tightening its rules further, says Mr Aiossa. Policymakers in Brussels will play a bigger role than ever in European business when they come to

### Peddling influence

European Union, biggest corporate in-house lobby organisations, 2020 or latest

Lobby	Industry	Budget, €m
Google (US)	Technology	5.75
Facebook* (US)	Technology	5.50
Microsoft (US)	Technology	5.25
Shell (Netherlands)	Oil & gas	4.25
Bayer (Germany)	Pharmaceuticals	4.25
Apple (US)	Technology	3.50
BP (Britain)	Oil & gas	3.50
ExxonMobil* (US)	Oil & gas, chemicals	3.25
Huawei (China)	Technology	3.00
Volkswagen (Germany)	Automobiles	3.00

Source: Transparency International EU

\*Through European subsidiary

disburse billions of euros in pandemic-recovery funds. Suggestions include requiring policymakers to meet only registered lobbyists, for example, and listing those meetings on a centralised platform rather than, as now, on 88 different websites. An independent ethics body should be set up to monitor potential conflicts of interests and the "revolving door" of EU officials who join the private sector.

Lobbyists making more of a mark in Europe's capitals is not necessarily the route to a swamp. Most lobbying is a legitimate, even necessary, part of the democratic process of balancing competing interests in policymaking. But more transparency will do wonders to the reputation of a profession that is often in the mire. ■

### Musical plagiarism

## Writ parade

### A case against a famous rapper is the latest in a run of copyright claims

"YOU MOTHERFUCKERS OWE ME!" raps Donald Glover, better known as Childish Gambino, in his chart-topper of 2018, "This is America". Yet according to a complaint filed in a New York court on May 6th, it is Mr Glover who is indebted. Eme-like Nwosuocha, a Florida rapper known as Kidd Wes, says "This is America" borrows from his own work of 2016, "Made in America". Mr Glover has not commented.

The complaint, which experts consider thin, is the latest in an outbreak of musical copyright claims. Between 1844 and 2014 no more than eight such cases a year were heard in American federal courts, accord-

ing to George Washington University's law school. The past six years have seen an average of 16, against the likes of Taylor Swift, Katy Perry and Drake.

One reason is a precedent set in 2015, when a jury found that "Blurred Lines", by Robin Thicke and Pharrell Williams, had copied Marvin Gaye's hit of 1977, "Got to Give it Up". The Gaye family's argument that a "constellation of similarities", mostly not individually protected, amounted to copyright infringement was criticised by legal scholars and musicians, 200 of whom filed an amicus brief warning that it would leave artists "with one foot in the recording studio and one foot in the courtroom".

Technology has also encouraged more complaints. Now that every track is online, it is harder for artists to use the defence that they had not heard the song they are accused of copying. Similarities are more likely to surface with armies of fans scouring YouTube. Digitisation has encouraged sampling, leading to more works of "musical collage", says Judith Finell, an expert witness in the "Blurred Lines" case. And the sheer volume of new work means the chance of overlap is higher. As a court observed in 1940, there are many combinations of musical notes, but "only a few are pleasing; and much fewer still suit the infantile demands of the popular ear".

Composers are protecting themselves by hiring "forensic musicologists" to vet their songs before release. Joe Bennett of Berklee College of Music says he is doing more such work since "Blurred Lines". This month, for instance, he advised one record label to tweak a bar of a dance track that resembled the melody of another.

Despite the rash of legal cases, music is evolving in ways that may make it harder for complaints to succeed. "These days music is less and less about melody...[which was] traditionally the bedrock of why two songs were judged to be impermissibly similar," says James Janowitz, a lawyer at Pryor Cashman, who in 1976 organised a courtroom piano rendition to show that George Harrison had copied "My Sweet Lord" from another work. Today, he says, melody takes a back seat to elements such as beat and subject matter, which are harder to claim as original.

The complaint against Mr Glover holds that "This is America" uses the same rhythmic "flow" as "Made in America" and covers the same themes, which include gun violence and racism. The effect on the listener may be that they seem similar. But the "triplet" flow that both employ is not unique. And, as Mr Janowitz points out, "thematic similarity does nothing in terms of copyright infringement".

If more cases stumble, it may be no bad thing for musical creativity. "Some degree of influence should be encouraged," says Mr Bennett. "That's how art evolves." ■



## Pharmaceuticals and innovation

## Less buck for the bang

NEW YORK

Some politicians want pharma patents to be weakened. Is that a good idea?

ONE OF THE first rules of American politics is not to pick a fight with Big Pharma. Its army of lobbyists in Washington, DC, has ensured that presidents from both parties, from Ronald Reagan to Barack Obama, have upheld the industry's stout defence of intellectual-property (IP) rights, including in international treaties. Donald Trump threatened to impose drug price controls, which won bipartisan support in Congress, but intense lobbying ensured that his initiative flopped. That effort to rein in Big Pharma chimed with the industry's global image as arrogant and greedy.

President Joe Biden is throwing his weight behind a proposal at the World Trade Organisation to waive patent protections for covid-19 vaccines. If Mr Biden is willing to rethink IP rights for covid vaccines abroad, he might also have the audacity to take on patent protection for new drugs at home. To judge whether America's industry deserves such treatment, it is worth asking three questions. First, how much innovation is happening? Second, is rent-seeking behaviour—ranging from

price gouging to patent manipulation—declining? Third, what might happen if patent rules were watered down?

Start with innovation. In the 2000s pharma investment fell out of fashion. But since 2010 America's industry has raised spending on research and development (R&D) sharply as a share of revenues, to over 25% (see chart). Venture funding into life sciences in America is booming, hitting a record high of \$36bn in 2020, double the level in 2017. The number of new drugs approved by America's Food and Drug Administration has more than doubled in the past decade. None of these measures is an ideal proxy for future innovation, but they suggest the mood has changed.

On rent-seeking, too, the picture is less dire than it was. Drug prices in America are still the world's highest on average, but the rate of increase has slowed. According to IQVIA, a data firm, once secret rebates offered to big customers are discounted, net drug prices rose more slowly than inflation in 2018 and 2019. Political pressure is only one reason. Consolidation among health

insurers and pharmacy-benefit managers (big middlemen) who pay for drugs gave them more power to negotiate price cuts. It has got harder to mint cash from blockbuster drugs. Deloitte, a consultancy, reckons that the internal rate of return on in-house R&D at a dozen big drugs firms fell from 10% a decade ago to 2% in 2019—below their weighted-average cost of capital of 7%. The average cost to bring a drug to market has increased by two-thirds since 2010, to some \$2bn. And the forecast for peak sales for each new drug has also fallen by half over that period. Often big firms prefer to buy smaller innovative rivals. According to EY, a consultancy, American drugs firms spent \$185bn in the past five years on biotech acquisitions. Roughly a third of revenues at big drugs firms are the result of IP arising from acquisitions.

What would happen if patent rules were weakened? Rent-seeking would fall, but innovation might, too. One way of getting a sense of this is to look at how much innovation happens outside America, where IP rights are often weaker or less well enforced. In most industries innovation is now happening globally, not just in America, but in pharma it still has a powerful American skew. Two-thirds of worldwide biotech venture-capital investment takes place there. Despite China's advances on other fronts, in life sciences it still accounts for only about 15% of the global total of venture-capital funding. Similarly, even as American multinational pharma firms have become more global (earning roughly half their revenues abroad), their preference for domestic R&D has risen, with 88% of it done in America.

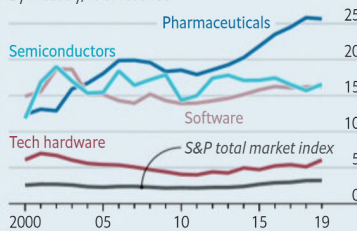
This suggests that America's government will eschew wholesale changes that damage innovation. But it still might loosen the patent regime to reduce rent-seeking from old drugs. In 2019 the Federal Trade Commission, a regulator, found that the industry is relying less than it used to on egregious "pay for delay" agreements, through which it paid generics firms to hold off on launching low-cost rivals to pricey drugs coming off patent. However, Big Pharma is still using other wheezes, such as "evergreening" IP protection beyond the initial 20-year period by filing a thicket of patents on minor modifications. More can be done to rein in such abuses.

The S&P index of big drugs firms has risen by roughly 20% over the past five years while the broader equity market has doubled. Despite miraculous covid-19 treatments, this year the pharma index has declined by nearly a tenth. It is clear that even as spending on innovation rises, presumably reflecting confidence that important IP rights in America will remain intact, investors think the opportunity to print easy money is not as good as it was. That seems about right. ■

## Medical records

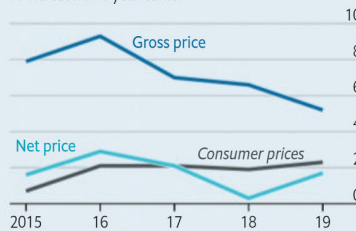
## United States, R&amp;D\* investment

By industry, % of revenue



## United States, patented drug prices

% increase on a year earlier



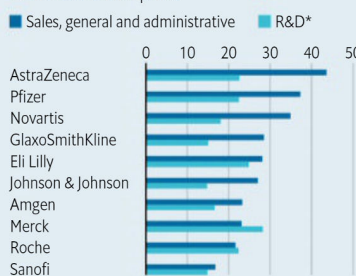
## United States, returns on R&amp;D\* spending, %

Pharmaceutical companies†



## Costs as % of revenue, 2020

Pharmaceutical companies



Sources: Congressional Budget Office; Morgan Stanley; Deloitte; Bloomberg

\*Research &amp; development

†Average of 12 major companies



## Schumpeter | Pay and the pandemic

*For some American CEOs, it was as if covid-19 did not happen*



LAST YEAR was a terrible one for travel of any sort. You would not know it from the way some American chief executives trousered pay. Annual filings show that Larry Culp, boss of GE, whose jet-engine business stalled as aviation nosedived, earned \$73m, almost triple his total pay in 2019. Christopher Nassetta, CEO of Hilton, a hotel chain, enjoyed a 161% pay boost, receiving \$55.9m. Norwegian Cruise Line, which described 2020 as the hardest year in its history, more than doubled the compensation of its CEO, Frank Del Rio, to \$36.4m. All three were among the corporate titans who grandly took cuts in their basic pay and/or bonuses during the pandemic. They pocketed far more than they gave up.

They did so thanks to a nifty conjuring trick performed in boardrooms across America last year. In effect, many boards air-brushed away the impact of covid-19 on performance-based pay either by removing a quarter or two of bad numbers in order to meet bonus targets, changing the metrics mid-course, or—as with Messrs Culp, Nassetta and Del Rio—by issuing new share grants after the pandemic gutted the previous ones. (Mr Culp and Mr Del Rio also got contract extensions.)

The result was a continuation of the inexorable rise of CEO pay in America during a year that, for mere mortals, was one of massive job losses, furloughing and government support. According to MyLogIQ, a data gatherer, the median pay of nearly 450 CEOs running firms in the S&P 500 that have reported so far was \$13.2m last year, an increase for the fifth year running. It said Mr Nassetta and Mr Del Rio were among two dozen bosses in that group who got a pay rise even though their firms lost money.

So now comes the backlash from investors, right? So far this year, shareholders have used “say-on-pay” votes at annual general meetings to censure an unusually large number of America’s biggest firms for gerrymandering pay policies, including GE, AT&T, a telecoms giant, IBM, a tech firm, and Walgreens Boots Alliance, a pharmacy business. Pay consultants report that those CEOs yet to face combative shareholder meetings are “sweating it”. That is no bad thing if it suggests that institutions are so fed up with the stratospheric rewards on offer that they convince boards to put an end to them. But don’t bet on it. Shareholders remain in as much of a muddle over high pay as company directors.

To be fair, it’s a tricky issue. There is a widely held view in America that executive pay, like the stockmarket, always rises. That’s not strictly accurate. During the second world war pay fell, and for 30 years after barely budged. But since then, CEO pay inflation has been a fairly reliable assumption: the average level has risen about tenfold since the mid-1970s, vastly outpacing the income of average workers.

It is a phenomenon that extends well beyond chief executives. Superstars from J.K. Rowling, an author, to Cristiano Ronaldo, a footballer, also earn spectacularly more than their counterparts would have done in ages past, notes Alex Edmans of the London Business School. In such a competitive global market, high pay may be justified to recruit and keep the best people. Yet its merits are undermined when bosses reap the windfalls from extraordinarily good times, such as a stockmarket boom, but are spared the consequences of misfortune, such as a pandemic. As Mr Edmans puts it: “If you’re letting CEOs benefit from the upside, they have to feel the pain on the downside.” Boards tend to ignore that. Perhaps they, too, gain from perpetuating a system that keeps their own salaries high. For whatever reason, they threw around the painkillers last year like smarties.

Pliant boards are not the only problem. Pusillanimous investors are part of it, too. Until the pandemic, the average vote supporting management on say-on-pay proposals was 90% or more, says Semler Brossy, a pay consultancy. That’s a whopping approval rate. By contrast, CalPERS, America’s most outspoken public-pension fund, in 2019 and 2020 voted against more than half of them, usually because the rises were not justified by mediocre market performance. Things appear to be changing. MyLogIQ says that the share of companies in the S&P 500 that have failed say-on-pay votes so far this year is running at 6.1%, almost three times the level for the whole of 2019. Institutions claim that the issue has become more pressing because the “heads-I-win, tails-you-lose” approach to pay screams inequality. Yet their protest votes on pay remain relatively few, they are non-binding, and the number of pay recalibrations last year were unusually high, suggesting their fury on the issue may yet cool. Say-on-pay censure alone will not end America’s fat-cat era.

It is hard to imagine what will. Many shareholders instinctively cringe at the thought of taxation and pay caps, an option floated by left-wing Democrats. Yet their own collective efforts to modify the system are also feeble. Calls to lengthen the period executives hold shares to, say, five or ten years have so far gone nowhere. Efforts to stop boards benchmarking CEOs against lavishly paid members of peer-group companies have also flopped.

### Doing well by doing good

It is quite likely, in fact, that shareholders will focus less on pay in coming years as they prioritise even more emotive issues, such as gender and racial diversity among firms they invest in, as well as climate change. By 2022 environmental, social and governance (ESG) goals are expected to be part of many more CEO pay schemes, especially as the credo grows of maximising value not just for shareholders, but for stakeholders. In the long term, these may help improve stockmarket returns. But in the short run the risk is that, while oversight is lax, some boards will use ESG criteria to distract attention from poor financial performance. One day the world may have cause to cheer the impact of a greater focus on sustainability. But in the meantime some CEOs will no doubt use it as a new way of feathering their own nests. ■





## Inflation

# Jump scare?

## What an inflation surprise tells you about America's reopening

AS AMERICA'S ECONOMY bounces back from the pandemic, aided by trillions of dollars of fiscal stimulus, the main question on investors' minds is if and when inflation will take off. The Federal Reserve has vowed to tolerate a period of above-target price rises so that the economy can get back on its feet; Jerome Powell, its chairman, has said it is "not even thinking about thinking" about raising interest rates. Yet with many asset prices underpinned by rock-bottom rates, investors have been jumpy, fretting that high inflation could force the central bank's hand.

Then came a big inflation surprise. Figures published on May 12th showed that America's consumer-price index rose by 4.2% year-on-year in April, a rate not seen since 2008, and considerably higher than the 3.6% that had been expected by forecasters. The S&P 500, America's main stockmarket index, fell by 2% that day.

By far the biggest factor behind the acceleration relates to the past, rather than the price pressures of today, as last year's oil-price falls depressed the base used to calculate the annual rate. Yet even the monthly increase, stripped of more vola-

tile food and energy prices, was 0.9%, the strongest since the 1980s. Data for a single month cannot tell you whether runaway inflation is around the corner. But the release says something about the realities of economic reopening.

Consumer demand in the world's largest economy is roaring back. Stimulus cheques worth up to \$1,400 were doled out to many Americans earlier in the year. Now

### Spring surprise

United States, consumer prices  
% change on a year earlier



## → Also in this section

62 Buttonwood: The British bull case

63 Is China's population peaking?

63 The Swensen model

64 Taxing multinationals

66 Free exchange: When the Inc runs

a successful vaccination campaign is allowing them to get out and spend and restrictions to loosen. According to a tracker compiled by JPMorgan Chase, a bank, credit-card spending rose from a tenth below its pre-pandemic trend in the six months to March to only just below it by May.

The speed and nature of the post-lockdown bounceback seems to have caught many firms off guard. Not since the mid-1970s have companies been so likely to report delays in supplier deliveries, according to research published in March by Goldman Sachs, a bank. American retailers' inventories, relative to revenues, have plunged to all-time lows, suggesting that shops are running out of things to sell. Many firms, especially smaller ones, had ordered insufficient supplies and are now frantically catching up. (By contrast, the inventories of large listed firms have not declined, either because they were better able to forecast the coming spending binge, or because their supply chains are more diversified.)

Yet surges in demand cannot immediately be fulfilled. Take imported supplies, for instance. Even at the best of times extra demand for international deliveries takes a while to sate; a ship can take a few weeks to sail from China to America. The added complication in 2021 is that firms must also contend with shortages of containers in some ports. Some were stuck in the wrong place during the first wave of lockdowns.

Moreover, workers cannot be hired overnight. Firms are struggling to recruit enough staff to fill open positions—per-



▶ haps a big reason why the jobs report for April, published on May 7th, showed that America had added just 266,000 jobs, well below the 1m or so that many economists had expected. The number of unfilled positions is running at an all-time high.

Take the surge in demand and strained supply together, and you get to higher prices. Used cars and trucks are a good example. Their prices rose by a staggering 10% in April, contributing to the headline-inflation surprise. With people nervous of flying and public transport, more may want to get behind the wheel instead of see rela-

tives in other parts of the country, or to get to work. But a global shortage of computer chips has also constrained the supply of new vehicles.

Assured of sustained demand, other companies may also begin to pass on higher costs to customers. The cost of shipping items from China to America is now three times as expensive as it was before the pandemic, and input prices have picked up in the spring.

What, if anything, can these pressures tell you about inflation to come? In order for it to stay high, such price rises will need

to keep repeating, pushing up wages in turn. But the present phase could reasonably be regarded as temporary, as suppliers adjust to shifting consumer tastes. Even as economies locked down in 2020, for instance, firms quickly found new ways to source material and bottlenecks eased. The current spike would then prove transitory.

Yet as the recovery proceeds, other surprises will come. The combination of a generous Treasury, a tolerant Fed and a reopening economy puts America in uncharted territory. Brace yourself for more inflation scares in the coming months. ■

## Buttonwood Oversold over here

*The bull case for beaten-up Britain*

ONE OF THE vices of Britons is a penchant for mourning the country's decline. To be cured of this, Britain would probably need a different history. It was the first industrial nation. From that starting-point, its influence could only ever go in one direction: downwards. There is a large literature blaming long-term decline on sloth, complacency and amateurism. Brexit is just another opportunity to lament lost relevance.

This sense of decline is felt keenly in capital markets. Sterling was once the global currency but it now accounts for less than 5% of foreign-exchange reserves. Britain's money markets used to stand out in Europe for their high interest rates; but no longer. And Britain's stockmarket is a shadow of its former self. Big IPOs are as rare as rocking-horse dung. This scarcity along with years of share underperformance has seen Britain's share of global market capitalisation shrink markedly (see chart).

So accepted has the narrative of decline become, that it is probably time to bet the other way. The economy is poised for a sharp recovery. London's bourse is stuffed with the shares of companies—miners, banks and energy firms—that ought to do well in an environment of rising inflation. And though fixing the structural deficiencies of Britain's capital markets is a big task, it is not impossible.

On cyclical grounds, there is a strong case for Britain. The immediate outlook for the economy is rosier than almost anywhere. That in part reflects the ground lost to covid-19. The Bank of England reckons that, even after a surge in activity this quarter, GDP will still be around 5% below its pre-pandemic level. But it is also because the vaccine roll-out has been impressively quick. There is a sense, too, that uncertainty is diminish-

ing. Brexit is done. The world has kept turning. And politics is more stable. Even if a fight over Scottish, and possibly Northern Irish, independence still looms, the ruling Conservatives enjoy a handsome majority in parliament.

The FTSE All-Share index is heavy with the kind of cyclical stocks that have been in favour recently. But, lamentably, it is light on the digital champions of tomorrow. This is not for lack of innovation. Britain is rather good at fostering startups. There are various tax breaks to help fledgling companies raise seed capital. Universities have grasped that business spin-offs are to be encouraged, says Anne Glover of Amadeus Capital Partners, a venture-capital firm. Britain has four in the top ranks: Oxford, Cambridge, Imperial College and University College, London.

The country still attracts more venture capital than any other in Europe. London is an asset in this regard. If your ambition is to build a globally relevant technology company, it helps to start it in a global city. Berlin is cool and cheap, but lacks a world-class university. Paris is pretty, but French

labour laws are a pain. London can be an easier place for the footloose entrepreneur to settle—though a lot rests on how post-Brexit visa schemes work.

Where Britain has fallen down is in turning fledgling companies into listed world-beaters. Promising startups reach a certain stage of maturity only to hit a brick wall in terms of funding. They are still too small to be listed, so need private funds to grow. But by and large the bigger cheques are written by American venture-capital firms. Once the board is packed with Americans, it is natural for them to seek an American exit from their investment—either a sale to a bigger company or a listing on the Nasdaq. Many British entrepreneurs are resigned to selling to a foreign buyer.

A recent government-backed review, led by Ron Kalifa, a fintech entrepreneur, proposes a series of reforms to encourage British listings. They include changing London's listing rules to allow for dual classes of shares and smaller free-floats of stock—terms that are offered by New York and Hong Kong. There is also a proposal for a specialist growth-capital fund for pre-IPO businesses, backed by British asset managers. The goal is to turn a vicious cycle into a virtuous one, says Ms Glover. The more tech firms list in Britain, the more local analysts and asset managers will take an interest in them, encouraging further listings.

When Britain says it is "open for business", it is taken to mean that its most promising firms are available to be gobbled up by foreign bidders. If there were local alternatives to such deals, its public markets might begin to look more attractive. Decline might even be reversed. In any event, though, the gloom has gone far enough. The case against sterling assets is oversold.

### Poised for a rebound

FTSE All-Share index, market capitalisation  
% of global total



Source: Bloomberg



## China's census

## Older and wiser

SHANGHAI

China is still the world's biggest country—for now

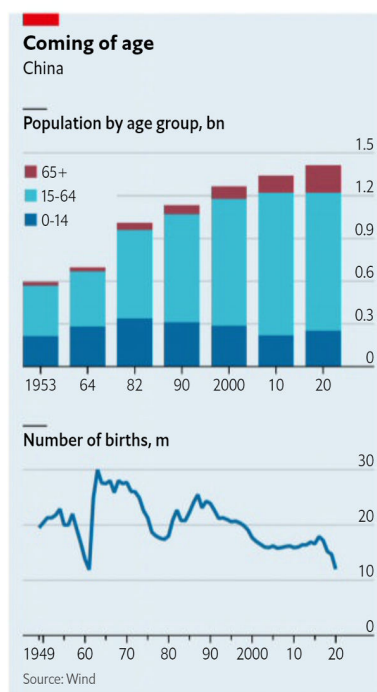
RARELY DOES a census attract attention and controversy—unless the country counting its people is both the world's largest and on the brink of decline, and its statisticians are notorious for fiddling their figures. So the results of China's seventh census, conducted last year and released on May 11th, were big news. According to the data, the population reached 1.41bn last year, up by 5.4% from a decade ago. That ran contrary to a report last month in the *Financial Times* saying that China's population fell below 1.4bn, which would have marked the first decline in six decades.

Adding to the intrigue around the census was its delay. The National Bureau of Statistics had originally promised to publish the figures in the first half of April. As ever with Chinese data, there were some oddities. Taken at face value, the population increase in 2020 when compared with annual birth figures suggested that, miraculously, no one died last year.

For those willing to grant Chinese officials a modicum of trust, the controversies can be explained away. It is misleading to compare China's annually reported population figures, extrapolations based on tiny samples, with its once-a-decade census, in which boffins try to tot up everyone in the country. Demographers said the covid-19 pandemic, during which tens of millions of migrant workers returned to their rural homes, caused delays to the count. And upward revisions to past population data help resolve the death-free miracle (millions did in fact pass away last year).

Beyond the controversies, the census shone a light on the demographic trends reshaping China. For a start, the country is ageing rapidly. The number of people aged 60 and older hit 264m last year, up by more than 80m over the past decade, as China added roughly a Germany's-worth of old folk. Longer lifespans are a marker of development success.

More worrying, though, is the plunge in fertility. Births last year fell to 12m, down by nearly 20% from 2019. When China ended its one-child policy in 2015, the government expected a baby boom. Instead, soaring housing and education costs and other realities of modern life led more women to choose not to marry. China's fertility rate of 1.3 children per woman is about the same as Japan's, and well below the 2.1 needed to keep a population stable. If China's officials are to be believed, its population is



still growing but will peak in the next few years—nearly a decade earlier than some government advisers had expected.

Rapid ageing will change the state's role in society and add to fiscal pressures. For decades, benefiting from a bulge of young workers, officials could focus their spending on infrastructure. Now they will have to spend more on health and social care, and threadbare pension plans. All this raises questions about whether China will grow old before it grows rich.

But the census also showed how demographic changes are making China a more potent economic force. In 2020 it was home to 218m university graduates, nearly double the number in 2010. Even if the working-age population is declining, the dramatic increase in skills makes for a more formidable workforce. Moreover, migration from farms to cities, long a driver of economic growth, has continued. Nearly 64% of the population lived in urban areas last year, up from less than 50% in 2010.

As people move in search of opportunities, they are redrawing China's map. The rust-belt provinces in the north-east lost millions of younger residents over the past decade, while prosperous coastal areas, notably Guangdong and Zhejiang, gained millions. As a whole, China is getting older, more educated and more urban. But that change is not evenly spread. The outside world is understandably focused on the question of when China's population will peak. Within China, the widening gap between haves and have-nots is just as pressing a concern. ■

## David Swensen

## The holly and the ivy

## The legacy of an influential investor

STARTING IN THE 1980s, the endowments of a handful of big American universities began to divert their investments away from publicly traded equities and bonds towards "alternative" assets, such as venture capital and private equity. David Swensen, who died on May 5th aged 67, perfected the approach. Referred to variously as the endowment, Yale or Swensen model, it has since been copied—by family offices, sovereign-wealth funds and, more recently, by big pension funds.

In 1985 Mr Swensen was persuaded by James Tobin, a Nobel-prizewinning Yale economist, to give up a lucrative career on Wall Street to return to his former university to run its investment office. Yale's endowment was then worth around \$1bn. By the middle of last year the figure had risen to \$31bn. Even this astonishing growth understates Mr Swensen's influence. He was responsible for developing a stream of talented asset managers at Yale. And in two best-selling books, he set down his investment philosophy for a wider audience.

Three pillars of this thinking stand out. The first concerns time horizon. Because endowments have obligations stretching far into the future, they can take a long-term view. They can sacrifice the ease of trading in public markets for the better returns promised in private equity. By doing so, they can earn an illiquidity premium—a reward for giving up the ability to sell out easily.

The second pillar concerns information. It is hard to find mispriced stocks in the public markets, because news about listed companies travels fast and is quickly incorporated into prices. But investors in private markets who do their homework are more likely to be rewarded. That is because reliable data and analysis are much harder to come by.

The third pillar is the importance of a contrarian mindset. Mr Swensen had a chance early on to demonstrate his. Following the stockmarket crash in October 1987, he had loaded up on company shares, which had become much cheaper, by selling bonds, which had risen in price. This rebalancing was in line with the fund's agreed policy. But set against the prevailing market gloom, it looked rash. His investment committee was worried. One member warned that there would be "hell to pay" if Yale got it wrong. But Mr Swensen stuck to his guns. The decision stood—and



► paid off handsomely.

These days, the Swensen model is often reduced to an asset-allocation decision: hold alternatives. But as money has flooded into private-equity funds, average returns have converged on the returns in public markets. There is no longer an obvious illiquidity premium. But Mr Swensen's point about information remains relevant. The dispersion of returns—the gap between the best and worst funds—is far higher in private than in public equity. Selecting the right private-equity manager takes expertise. Yale has some advantages: it can, say, tap into its alumni network for access to the better-run funds.

Mr Swensen is given too much credit in one regard. Endowments had a history of innovation before his return to Yale. Harvard's was already changing. And endowments had previously been pioneers in asset allocation: the Ivy League funds shifted markedly from bonds into equities from the 1930s. In other respects Mr Swensen gets too little credit. Star investors are generally not good at mentoring others. But Swensen alumni have regularly turned up in senior jobs at other endowments. "He was a smart player but also an incredibly good coach," says a colleague. In this, as in other matters of investment practice, David Swensen was a true outlier. ■



Corporate tax

## The big carve-up

WASHINGTON, DC

The global system for taxing multinationals is broken. What might replace it?

FOR YEARS governments have grumbled, simmered and raged as multinational companies have shifted profits out of tax collectors' grasp and into low-tax havens. The OECD, a club of mostly rich countries, estimated in 2015 that avoidance robs public coffers of \$100bn-240bn, or 4-10% of global corporation-tax revenues a year. Now the fiscal fallout from covid-19 is adding urgency to governments' efforts to claw some money back—most notably in

America, where President Joe Biden plans to raise taxes on corporate profits, including foreign income.

Mr Biden's proposals will grind their way through Congress. Finance ministers from the G7 group of countries are likely to discuss global tax reform when they meet in London on June 4th-5th. And later in the summer 139 countries will discuss changing the system for taxing multinational companies. The confluence of a political

shift in America and a global push to raise more tax revenue to pay for the pandemic means a degree of optimism is in the air. The proposals under discussion may initially raise only a modest amount of revenue, but they still represent a big break with the past.

The foundations of the global corporate-tax system were laid a century ago. It recognises that overlapping taxes on the same slice of profits can curb trade and growth. As a result, taxing rights are allocated first to wherever profits are produced (the "source") and then to wherever the parent company is headquartered (or "resident"). A multinational based in America but with an affiliate in Ireland, for example, typically pays taxes in both places. Where the company makes its sales is irrelevant. Payments between an individual firm's various legal affiliates are recorded using the "arm's-length" principle, supposedly on terms equivalent to those found on the open market.

These principles, now baked into thousands of bilateral tax treaties, have had two unintended consequences. First, they have encouraged governments to compete for investment and revenue by offering tantalisingly low tax rates (see chart 1 on next page). In 1985 the global average statutory corporation-tax rate was 49%; in 2018 it was 24%. Ireland boasts a statutory rate of just 12.5%; Bermuda, 0%. Second, tax competition has encouraged companies to shuffle their reported profits to low-tax places. In 2016 around \$1trn of global profits were booked in so-called "investment hubs". These include the Cayman Islands, Ireland and Singapore, which apply an average effective tax rate of 5% on the profits of non-resident companies.

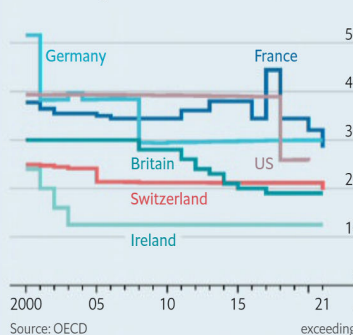
There is a huge mismatch between where tax is paid and where real activity takes place. Analysis by the OECD suggests that multinationals report 25% of their profits in investment hubs, although only 11% of their tangible assets and less than 5% of their workers are based there. Parents can allocate paper profits to affiliates in tax havens by having them hold intellectual property that is then licensed to other affiliates in high-tax places. The problem seems to have worsened over time, perhaps because more firms make money from intangible services, from software to streaming videos. The share of American multinationals' foreign profits booked in tax havens has risen from 30% two decades ago to about 60% today. Most investors and bosses view firms' tax bills as a black box that only a few lawyers and tax experts truly understand.

One way of capturing the scale of manipulation is to examine what would happen if there were a single common tax rate. A recent study by Thomas Torslov of Kraka, a Danish think-tank, and Ludvig Wier and ►►



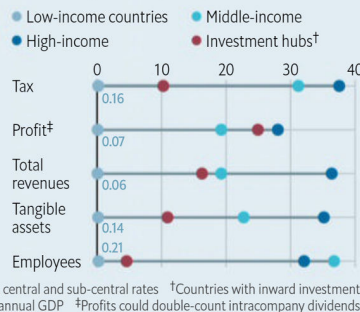
## Seeking savings in the havens

Headline corporate-income-tax rate\*, %



Source: OECD

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



\*Includes central and sub-central rates †Countries with inward investment exceeding 150% of annual GDP ‡Profits could double-count intracompany dividends

► Gabriel Zucman of the University of California, Berkeley, tried to quantify this. A staggering \$670bn in paper profits, which are unconnected to things like factories, would have moved in 2016—almost 40% of multinationals' foreign earnings. Big Western countries are losers from the current system: profits in America and France, for instance, are depressed by around a fifth (see chart 2). By comparison, havens collect more revenue, as a share of GDP, despite their rock-bottom effective rates. Hong Kong collects a third of its corporate-tax receipts by attracting profits from high-tax countries; Ireland, over half.

The rise of Silicon Valley has added fuel to the fire. Some governments gripe at giant firms serving customers without any physical presence in their country and while paying no tax. The problems posed by the tech firms are not in fact new: pharmaceutical companies have long held mobile and hard-to-value intellectual property; exporters do not incur tax liabilities where they sell. Still, digital services have become a target. More than 40 governments, from France to India, are either levying or planning to levy digital-services taxes on the revenue of firms such as Amazon, Google and Facebook.

The growing sense of anarchy over how to tax Silicon Valley, the global desire to raise more tax revenues and a more conciliatory White House all mean the scene is set for a global deal. The OECD's forthcoming summit is not the first time it has tried to orchestrate reforms—it helped pass changes to the transfer-pricing regime in 2015. But this time two more ambitious proposals are under discussion.

The first would reallocate taxing rights so that a slice of profits could be levied according to, say, the location of a company's sales. That right could be incurred even if the company had no physical presence in the country. Mr Biden's negotiators have proposed a reallocation that would apply to the 100 biggest and most profitable com-

panies worldwide; in return, the Biden administration wants all the digital-services taxes to be dropped. The second element would apply a minimum rate of corporation tax, putting a floor on the race to the bottom. The Biden administration is gunning for a global minimum tax rate on foreign earnings of 21%, applied to profits within each jurisdiction separately.

### You say you want a revolution

Could these ideas form the basis for an eventual deal? The proposal for profit reallocation has been broadly welcomed by other big rich economies. Yet there is still plenty of scope for disagreement on the details. Assessing the location of sales made by one business to another, if it then goes on to make sales in a different country, is tricky. Some governments also still want to turn the screws on Amazon, Apple, Facebook, Google and the like: the European Union seems to be preparing to go ahead with a digital levy regardless of the outcome at the OECD. That in turn could cause some American lawmakers to eschew global co-operation. Meanwhile, many tax havens may resist higher minimum tax rates that eliminate the advantage for companies of booking profits there.

As a result any deal will involve compromises. The amount of profit that is reallocated in order to resemble economic reality more closely could be capped. For example, the OECD's blueprint does take the radical step of considering companies as a whole, rather than separated into affiliates. Still, most profits would remain taxed as they are. The right to tax, say, 20% of profits above a routine rate of 10% of revenues would be reallocated according to a formula that could be based on sales. Meanwhile America's preferred minimum rate of 21% is unlikely to be agreed on more widely, as countries sniff about tax sovereignty. A rate of 10-15% is much more realistic.

How much difference would changes of this magnitude make? The reallocation plan, as it stands, aims to raise a puny \$5bn-12bn in annual revenues. The OECD reckons that a minimum rate of 12.5% would raise \$23bn-42bn directly through the higher rate, and another \$19bn-28bn by reducing profit-shifting. These figures are not particularly impressive, although they might let governments crank up domestic tax rates without worrying as much about the danger of capital flight.

Still, an agreement on new principles could leave the door open to bolder changes later. Carlos Protto, one of Argentina's representatives in the OECD talks, says that focusing only on the biggest multinationals helps build consensus now, but also notes that many countries expect the scope of any reforms to be broadened eventually.

What if countries cannot agree? America will forge ahead with reforms to its domestic taxes, including provisions that could unilaterally increase the tax load of American subsidiaries of foreign companies that pay skimpy tax bills globally. Meanwhile digital-services taxes could spread like wildfire—potentially incurring American tariffs in retaliation. On May 10th the United States Trade Representative held a fourth day of hearings on retaliating against foreign digital-services taxes. Overhaul or not, tax bills will rise. ■

## The givers and the takers

Corporate-tax revenue lost/gained from profit-shifting, 2017, %



Sources: Torslov, Wier and Zucman (2019); OECD

Corporate-income-tax revenue, 2019, % of GDP





## Free exchange | When the Inc runs

*Corporate taxes are likely to rise in America. Who will shoulder the costs?*



JOE BIDEN wants to rebuild America, and he reckons that American firms can help foot the bill. Central to the president's grand infrastructure-investment push is a plan to raise the tax rate on corporate income from 21% to 28% (though he has hinted he may settle for less). Although the administration pitches its tax proposals as a way to redress the problem that "those at the top are not doing their part", opponents warn that corporate-tax rises do not simply fall on wealthy shareholders, but also shrink the pay packets of the working people the president claims to champion. In fact, workers often do bear some of the burden of increases in corporate taxes—though understanding just how much is a question that continues to vex economists. Nonetheless, the details of Mr Biden's tax plans suggest that they may prove more worker-friendly than the usual effort to squeeze juice from Apple.

Other things being equal, a tax on corporate profits should hit shareholders—a group wealthier than the population as a whole—by shrinking the money available for dividend payments or reducing share values. But other things are never equal. Firms invariably respond to new taxes in order to minimise their costs. Depending on precisely how they seek to escape the tax, some of its burden may be passed on to others. A seminal paper published in 1962 by Arnold Harberger, an economist, reckoned that such wriggling by owners of capital was unlikely to shift the cost of a corporate tax onto other inputs to production. He imagined an economy with just two sectors, corporate and non-corporate, and then supposed that a tax was placed on the income of the former. Capital, he reasoned, should shift from the corporate sector to the non-corporate (consisting of partnerships and other sorts of business). As a consequence, the average rate of return on capital in non-corporate firms should fall, reflecting the flow of resources to lower-yielding sorts of production made attractive only because of the sector's comparatively favourable tax status. Corporations could shift some of the burden of corporate tax to owners of capital in other parts of the economy, but not pass it on to workers.

Mr Harberger's model made a number of simplifying assumptions, however. He assumed, for instance, that markets were perfectly competitive. In practice, firms may enjoy market power over either workers (in which case some of the cost of the tax may be

absorbed by wages rather than just profits) or consumers (who may face higher prices). Perhaps most important, Mr Harberger assumed that the economy in question was closed. In practice, capital is relatively mobile across national borders—and intangible forms, like intellectual property, extremely so—while other factors of production like labour are not. Increasing corporate tax in one country might then encourage owners of capital to move activity abroad, diminishing the amount of capital per worker at home, and potentially reducing workers' productivity and pay. Indeed, research by Laurence Kotlikoff of Boston University and Lawrence Summers of Harvard University showed that in very small, very open economies the burden of a rise in corporate-income tax could fall almost entirely on labour.

The size of an economy and its openness to capital flows are just two of the five factors that most influence an economic model's conclusions regarding the incidence of corporate-tax changes, argued Jennifer Gravelle Stratton, then of the Congressional Budget Office, in a paper published in 2013. (Size matters because changes in the capital stock of larger economies have a greater influence on the worldwide return on capital.) Another factor is how seamlessly production may be moved abroad in response to tax changes. Similarly, the ease with which labour may be substituted for capital determines how badly workers' economic prospects are affected when capital flees the country (or threatens to). Last, who pays most depends critically on how capital-intensive the corporate sector is: the greater the level of capital per worker, the more each worker suffers if a corporate-tax rise affects where firms choose to deploy their capital.

Sorting out the likely effects of a corporate-tax change, in other words, is complicated and messy. Empirical studies demonstrate exactly that. A paper published in 2015 by Kevin Hassett, later a chairman of President Donald Trump's Council of Economic Advisers, and Aparna Mathur of the American Enterprise Institute, a think-tank, concluded that a 1% rise in the corporate-tax rate is associated with a 0.5% drop in wages: a result that implies that more than 100% of the burden of corporate tax lands on workers. At the other end of the scale, a study of economies in the OECD, a club of mostly rich countries, by Kimberly Clausing, an economist at Reed College who is now a deputy assistant secretary at America's Treasury Department, found no clear relationship between corporate tax and wages.

### Passing the buck

Other studies suggest the burden is shared. An analysis of the German economy published in 2017, which used variations in local business-tax rates to assess how their costs were distributed, concluded that more than half the burden is borne by workers. Economists who summarise the literature often note that labour bears some but not all of the burden of corporate tax—perhaps about 40%—while occasionally allowing that the true figure depends heavily on the context of a given tax measure.

Context, however, is subject to change. Reducing differences in corporate-tax rates across countries gives companies less scope to pass the tax burden on to workers by shifting production abroad. The Biden administration's proposal for a global minimum rate is in large part targeted at firms that use accounting tricks to book profits in tax havens. Yet it should also deter governments' efforts to lure production by undercutting other countries' tax rates. That would ensure that more of the burden of corporate tax falls where it is meant to. ■





### Recycling

## The metals in the car go round and round

### Old electric vehicles are a raw material of the future

CAR SALES have, generally speaking, plunged during the coronavirus epidemic. But there has been one bright spot. Electric vehicles (EVs) continue to grow in popularity. According to IHS Markit, a research firm, almost 2.5m battery-electric and plug-in-hybrid cars were sold around the world in 2020—and the company expects that number to grow by 70% this year. BloombergNEF, another researcher, reckons that by 2030 some 8% of the 1.4bn cars on the road will be electric, rising to more than 30% by 2040. It is not, moreover, just a matter of cars. There will also be electric lorries, buses, motorbikes, bicycles, scooters, ships and maybe even aircraft. And, when all of these machines come to the ends of their useful lives, they will need to be recycled.

This coming avalanche of e-waste will be hard to deal with. When a petrol or diesel car is dismantled and crushed, as much as 95% of it is likely to be used again. Ways to do that are well-developed, straightforward and helped by the fact that, on average, almost 70% of such a vehicle consists

of readily recyclable ferrous metals. EVs, by contrast, contain a far greater variety of materials (see chart on next page). Separating and sorting these is tricky, especially as many of them are locked up inside complex electrical components.

#### Flat batteries

For those who can manage to do so, though, there is good business to be had here. EVs contain lots of valuable stuff. The magnets in their motors are full of rare-earth metals (see box on next page), and their batteries of lithium and cobalt. Rystad Energy, a Norwegian research company, forecasts that as the number of electric vehicles being made rises, lithium prices

will triple by the end of the decade. Cobalt, meanwhile, comes mainly from Congo, a country that is often war-torn and has a dreadful human-rights record.

Generally speaking, electrical waste is shredded in bulk before it is sorted and reprocessed. But lithium-ion batteries, the type used in EVs, are inflammable, so need careful handling. They are shredded separately in special machines filled with liquids or gases that suppress combustion. The result, called “black mass”, is then processed to extract its valuable components.

There are two ways of doing so. The more common at the moment is pyrometallurgy. This treats black mass as an ore, by smelting it in a furnace to liberate a metallic mixture from which pure metals, particularly the cobalt, can be separated. That, though, requires a lot of energy. It also destroys valuable non-metallic components such as the graphite in batteries’ anodes. And it fails to liberate the lithium, which ends up in compounds in the slag that is generated alongside the liquid metal, and must then be extracted separately.

The other approach, hydrometallurgy, works more subtly. It leaches metals, lithium included, out of the shredded material by dissolving them in acids or other solvents. That requires less energy and also permits the recovery of non-metallic materials such as graphite. Hydrometallurgy is more complex than pyrometallurgy, and comes with the added expense of treating the waste water it generates, to prevent

#### → Also in this section

69 Recycling rare-earth metals

70 Gender dysphoria in children

71 Charismatic megafauna

71 A new fuel for hypersonic flight



pollution. But its overall advantages suggest it is the wave of the future.

Li-Cycle, a Canadian company founded in 2016 that is already the biggest recycler of lithium-ion batteries in North America, is one outfit betting on hydrometallurgy. To improve the gathering of its raw material Li-Cycle is testing what it calls spoke-and-hub systems. These collect incoming batteries of all sorts, not just those from EVs, at geographically dispersed receiving stations (the spokes), shred them, and then sort the debris, using automatic separation and sieving systems, into three types of mixture: plastic, copper and aluminium, and black mass. The plastic and the copper-aluminium mix are sold to other recyclers. The black mass is sent to the system's hub, a hydrometallurgical processing plant that serves many spokes.

Kunal Phalpher, Li-Cycle's chief commercial officer, says experience with a demonstration hub at the firm's base in Kingston, Ontario, suggests this approach can recover cobalt, lithium and also nickel (an important ingredient of some non-lithium-ion batteries) in a form pure enough for those metals to be used directly to make new batteries. In all, Mr Phalpher claims, the process recycles 95% of a battery's materials. Li-Cycle will soon complete its first properly commercial hub, in Rochester, New York, and has plans for three more around the world by 2025.

Li-Cycle is not alone, though, in its hydrometallurgical ambitions. One rival is Redwood Materials of Carson City, Nevada, which was founded in 2017 by Jeffrey Straubel, formerly chief technology officer of Tesla, a big maker of EVs. Redwood uses a combination of pyro- and hydrometallurgy in its process, with some of the recovered materials providing energy to drive the pyro side of the equation. It already recycles rejects from the American EV-battery factories of two Japanese firms, Panasonic and Nissan, and is now setting up an operation that will take used batteries from general consumer goods.

Northvolt, another firm started by ex-Tesla-ites (Peter Carlsson, its chief executive, and Paolo Cerruti, its chief operating

officer), makes lithium-ion batteries for European carmakers. It is adding a recycling plant to its factory in Sweden, to process the batteries it produces there when they reach the ends of their lives. Their steel and plastic casings, and copper wiring, are removed manually before they are crushed in an inert environment. Nickel, manganese, cobalt and lithium are then removed by hydrometallurgy. Northvolt has

#### Electric motors

## Hydrogen de-bonding

Researchers find a way to recycle rare earths from magnets

THE MOTORS driving today's electric cars use powerful magnets made from rare-earth metals. Not all rare earths are actually that rare. Neodymium, for instance, is about as abundant as tin. But good, workable deposits are scarce, and many are in China, which has, in the past, imposed export quotas. This, combined with an absence of substitutes, make rare earths pricey enough to constitute more than half of such a motor's cost. Yet virtually none is recycled—a deficiency that extends also to the motors in computer hard drives, cordless tools and domestic appliances, and to the generators (essentially, electric motors in reverse) in wind turbines.

The problem, says Allan Walton, who leads the Magnetic Materials Group at the University of Birmingham, in Britain, is that the process of shredding and separating usually applied to electronic waste makes the recovery of rare earths hard. Rare-earth magnets are brittle, and break into particles which oxidise readily in air. The result is a residue which is of little, if any, commercial value.

Dr Walton and his colleagues hope to change this, using a process developed by Rex Harris, now an emeritus professor at Birmingham, to recycle neodymium, the rare earth most widely employed in electric motors. In Dr Harris's process,

components containing neodymium-based magnets destined for recycling are tipped into a vessel that is then pumped full of hydrogen. A reaction between the hydrogen and the neodymium causes the material of the magnets to expand until it shatters. The result is a demagnetised powder. Once the vessel's contents have been tumbled and sieved, and the hydrogen removed, the extracted powder is of a quality good enough for it to be processed straight back into magnets.

To recycle neodymium in this way, Dr Walton and his team have set up a firm called Hypromag. They say the resulting magnets need 88% less energy to make than equivalents produced from scratch. To help commercialise the process, Hypromag has teamed up with Bentley, a British subsidiary of Volkswagen well known for its luxury cars, which is now developing a range of electric models. Even petrol-driven Bentleys, however, contain lots of electric motors. Some operate features found routinely in other vehicles—power steering, self-winding windows and the multiple loudspeakers in the audio system. Less common in other marques are the motors that pamper the occupants by massaging their backs through the seat covers. All of these, though, will eventually be grist to Dr Walton's mill.

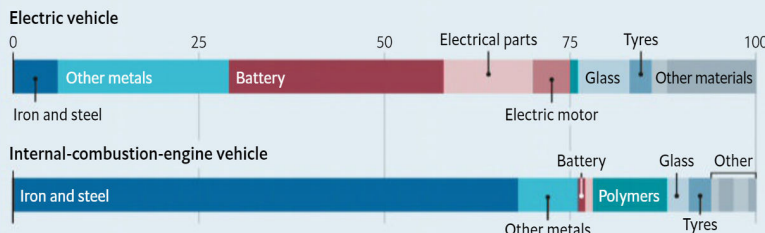
also formed a partnership with Hydro, a Norwegian aluminium producer, to recover that metal as well. The firm hopes that, by 2030, half the materials it uses to make new batteries will have been recycled.

Similar "closed-loop" systems are being developed in other parts of the battery supply chain. For example, American Battery Technology, a firm in Nevada that mines and processes lithium, is adding a recycling plant intended to recover lithium and other metals from expired batteries. It will use the lithium in its own production processes and sell the other materials on.

The biggest battery-recycling operations of all, though, are not Western, but Chinese—not surprising, perhaps, given that China is the world's largest market for EVs, and the country's government has been promoting the recycling of lithium-ion batteries for some time. Brunp Recycling, a subsidiary of CATL, the world's biggest EV-battery-maker, has half-a-dozen hydrometallurgical recycling operations around the country. Brunp says it can recycle 120,000 tonnes of old batteries a year, ▶▶

#### Pick'n'mix

Car materials at end of life, % of total by weight, 2021



Source: University of Birmingham, "Securing Technology-Critical Metals for Britain"



► which it claims represents about half of China's current annual battery-recycling capacity. Meanwhile, American Battery Technology's approach of integrating recycling with primary production of lithium echoes that of Gangfeng Lithium, one of the world's largest producers of lithium for batteries. Gangfeng, which has already installed a heavily automated recycling plant at its base in Jiangxi province, plans to build another as part of its mining operation in Sonora state, in Mexico.

Tesla itself also has trans-Pacific ambitions. It is setting up a battery-recycling facility at its EV factory in Shanghai, to complement one it is developing at its battery factory in Nevada. Nor is Tesla the only vehicle-maker involving itself in the industry. In January, Volkswagen opened a pilot battery-recycling plant in Salzgitter, near Hanover, to recover materials from batteries used in EVs made by its various brands.

Salzgitter is close to the company's battery factory in Braunschweig, which is being expanded to produce more than 600,000 EV battery packs a year. The idea, says Frank Blome, head of batteries for Volkswagen Group Components, is that the firm's battery experts will work with its recyclers to make battery packs easier to dismantle. As Mr Blome observes, "anyone who takes something apart first needs to know how it was put together."

Designing recyclability in from the beginning will, in the long run, be crucial to the effective recycling of electric vehicles—and especially their batteries. Shredding lots of different types of e-waste at the same time inevitably results in contamination. Separating components before doing so would yield greater levels of purity. Some components, such as cathodes, might even be reused in their entirety.

### Deconstructing reality

Easing disassembly is also an important goal for Volkswagen's domestic rival, BMW. According to Frank Weber, a member of the firm's board, BMW will, from the start, be designing its electric vehicles with mass recycling in mind. This will include the handling of the solid-state lithium-ion batteries which BMW hopes to make in volume by the end of the decade. Solid-state batteries, which are able to store more charge than those using existing gel-based electrolytes, could double the range of EVs. They will also be safer to use for, unlike those containing gel electrolytes, they will not be inflammable.

While gel electrolytes continue to persist, however, it would be best if they too could be recycled. In the case of the most common of them, lithium hexafluorophosphate (known as PF6), that does not yet happen. Instead, this valuable chemical is destroyed during processing and has to be resynthesised from any lithium reco-

vered. But a team led by Anand Bhatt and Thomas Ruether at CSIRO, Australia's national science organisation, think they have come up with a way to recover PF6 intact. They use a special solvent to extract it from black mass before any further metallurgical process is applied to it. The PF6 obtained in this way is, they say, good enough to be used to make new batteries without further processing.

Also in Australia, a firm called EcoGraf has developed a process that can extract graphite from black mass with a purity that allows it be reused for making anodes. SungEel HiTech, a scrap-merchant that is South Korea's biggest battery recycler, is now setting up a plant at its factory in Gusan to do just that.

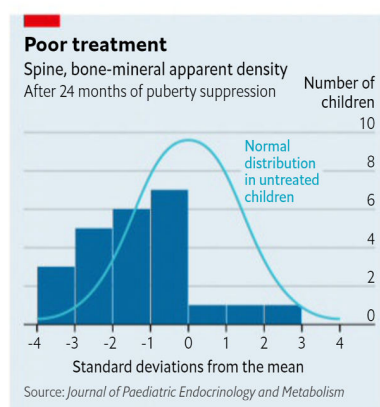
Scrap merchants have to be flexible. SungEel's previous main business was recycling plasma-television screens, which have, these days, largely, been superseded by LED versions. Plasma televisions turned out to be a passing fad. EVs, though, are likely to run and run. ■

### Gender medicine

## Second thoughts

### Doubts are growing about therapy for gender-dysphoric children

GENDER MEDICINE was once an obscure specialty. Patients with gender dysphoria were typically middle-aged men wishing to live as women. Things are different now. First, there are many more patients. Referrals to a specialist clinic attached to the Free University of Amsterdam rose 20-fold between 1980 and 2015. The Gender Identity Development Service (GIDS), England and Wales's only paediatric gender clinic, sees 30 times more people than a decade ago. The patients have changed, too. Most are now female and in their teens.



Many are treated with drugs to block the onset of puberty. These are often followed by hormones to promote development of physical characteristics of the opposite sex, as part of an approach called affirmation therapy.

Last June, though, Finland revised its guidelines to prefer psychological treatment to drugs. In September Britain launched a top-down review of the field. In December the High Court of England and Wales ruled that under-16s were unlikely to be able to consent meaningfully to taking puberty blockers, leading GIDS to suspend new referrals, though a subsequent ruling held that parents could consent on their children's behalf. On April 6th Arkansas passed laws that make prescribing puberty blockers and cross-sex hormones to children illegal. Also in April the Astrid Lindgren Children's Hospital in Stockholm, a part of the Karolinska Institute, announced that it would stop prescribing puberty blockers and cross-sex hormones to those under 18, except in clinical trials.

Those sceptical of affirmation therapy point out two problems. Evidence is lacking, and what exists is not reassuring. A review by Sweden's health authorities in 2019 found little research, mostly of poor quality. Britain's National Institute for Health and Care Excellence found that puberty blockers did little to dispel gender dysphoria or improve patients' mental health (though they do not make such feelings worse). Moreover, existing studies suggest that, without intervention, most children with gender dysphoria end up reconciled to their natal sex as adults.

There is also evidence that the drugs may cause serious harm. One example is described by Michael Biggs of Oxford University in a letter published on April 26th in the *Journal of Paediatric Endocrinology and Metabolism*. Bone-mineral density (BMD) usually rises sharply in puberty. But of 24 GIDS patients who had been prescribed puberty blockers, a third had BMD scores in the bottom 2% of their age groups (more than two standard deviations below the mean, see chart).

One patient, who began puberty blockers aged 12, suffered four fractures by the age of 16. That medical history, says Dr Biggs, would usually be enough to diagnose osteoporosis—normally a disease of the elderly. Animal studies suggest puberty blockers may cause cognitive damage, too. Cross-sex hormones have been linked to heart disease, strokes and sterility.

The combination of rising prescriptions and flimsy evidence leads some doctors to fear a medical scandal is brewing. Others think that the only scandal would be to change course. A bill before Canada's parliament, for instance, would leave affirmation as the only legal treatment for gender dysphoria. The argument continues. ■



## Botany

## Charismatic megafauna

Botanists prefer studying pretty plants to dull ones

WHO WAS responsible for inventing the term “charismatic megafauna” is lost in the mists of time. The words do, though, describe a real phenomenon, which is that big, showy animals tend to get a disproportionate amount of attention from biologists. Whether this reflects the prejudices of the researchers themselves or is a consequence of a wider public interest in preserving showy species, and of the concomitant funding which accompanies that interest, is not clear. Probably a bit of both. But what is true for the animal kingdom is, it now turns out, true for the plant one as well, as Martino Adamo of the University of Turin, in Italy, describes this week in *Nature Plants*.

While conducting research in the mountains near Turin on *Tephrosia balbiana*, a scruffy yellow-flowered ragwort (pictured), Dr Adamo noticed it was easier to track down information about other, more beautiful, species found in the region than it was to discover things about the object of his own research. That led him to wonder if the well-attested preferences of zoologists for the showy also extends to botanists. To find out, he recruited a team of fellow researchers to help him analyse the literature on the matter.

To keep the project within bounds, the team restricted their attention to Dr Adamo's original area of investigation, the south-western Alps. Surveys suggest this is inhabited by 113 endemic plants—a number large enough to be statistically meaningful but small enough to be tractable.

First, the team compiled, for each of these species, a set of data that recorded three types of trait: ecological (preferred elevation, soil acidity, light levels and moisture); rarity (geographical-range size, and also conservation status as described by the International Union for Conservation of Nature); and aesthetic (flower colour, stem height and flower diameter). They then searched a database called the *Web of Science* for papers published since 1975 that included the names of any of the species in question.

They found 280 such papers, statistical analysis of which revealed that certain plants were not only more studied than others, but also shared particular traits more often than would be expected by chance. Foremost of these was flower colour. Plants with blue flowers, such as *Gentiana ligustica*, the trumpet gentian (also



Which would you rather work on?

pictured), were heavily over-represented. White-flowered plants did well, too. And so did those which display their flowers prominently, on long stems.

The other cause of greater-than-expected scientific attention was a plant's range size—the larger the better. That, presumably, is a consequence of ease of study. But in the matter of charisma it seems that, like the insects which flowers have evolved to attract, botanists are lured by the showy, and are therefore just as susceptible as their zoological colleagues to aesthetic bias in their choice of topic. ■

## Hypersonic flight

## The rockets' green glare

A new fuel for jets and missiles is on the cards

THE LATEST buzzword in the world's aerospace skunk works is “hypersonic”. Speed and surprise have always been essential to warfare, and what better way to wrong-foot an enemy than by arriving unexpectedly on his doorstep in the form of an aircraft or missile travelling at Mach 5?

In that context, a notice posted at the beginning of the year by America's navy, soliciting proposals for a new research project, is intriguing. The project's objective is to “determine a form of boron or a boron-based chemical pathway that leads to implementation of boron in energetic compounds, especially fuels (solid and liquid)”. The navy's engineers, it seems, are trying to revive an idea that might make hypersonic flight easier to achieve, but which was tested and then abandoned more than half a century ago. They hope to spice up aviation and rocket fuel with a

long-neglected element.

Boron, atomic number five on the periodic table, is chemically a “metalloid”—meaning that it inhabits the debatable marcher lands between the empires of the metals proper, on the table's left-hand side, and the non-metals, on its right. Compounds of boron feature in washing powders and cleaning products (“borax”), antiseptics and water softeners, and also as additives in fibreglass, but such roles are humdrum. Boron does, though, burn like billy-o, generating a bright, green flame and releasing about 40% more energy per kilogram than conventional aviation fuel.

In light of this, and of reports by spies of green flames emerging from the exhaust of an experimental Soviet rocket, America's air force experimented in the 1950s with stuff nicknamed zip fuel, which was laced with compounds of boron called boranes. The project was abandoned in 1959, for two good reasons. First, boranes proved extremely dangerous. They are toxic, meaning those working with them need special gas masks. They also ignite spontaneously in air, and may even explode. At least eight people involved in the zip-fuel project died in borane-related accidents.

The second reason for zip fuel's abandonment was that the stuff itself proved disappointing. In jets, instead of burning completely, it produced a sticky residue which clung to turbine blades. Boron additives in rocket fuels also failed. The combustion process involved proved unexpectedly complex, and the promised additional energy was not forthcoming.

The navy's notice suggests, though, that boron is back. The boffins behind it think that new physical forms of the element, known as allotropes, may offer ways around both the partial-combustion and the toxicity problems. Allotropes of an element can have very different properties from each other (graphite and diamond, for example, are both allotropes of carbon). The organisers suggest a novel boron allotrope, perhaps interlaced at the molecular level with a suitable oxidising agent, might yield a completely combustible, non-toxic fuel, and they are asking the country's chemists to bring them one.

Whether such allotropes exist remains to be seen. But America is not the only place working on the idea of boron-powered jets and rockets. China is interested, too. A project involving gelled fuel that has particles of boron suspended in it is under way at the National University of Defence Technology, in Changsha. The objective is to develop fuel for ramjets, a type of engine that operates efficiently only above Mach 3. So far, the researchers involved have managed to produce one that is 40% boron and yet burns more or less completely. One way or another, then, it looks plausible that boron-based fuels may get the green light. ■



► nisation and the birth of a cult. Three years after his murder, he was made a saint. For Henry, amid all that, there was no forgiveness—however much he insisted that he had not intended Becket's death. A 12th-century baptismal font, still in use in a small church in southern Sweden, shows Becket kneeling in prayer as the knights fall upon him. A crowned man encouraging the violence is labelled *REX.HRICVS*.

If the king's offhand thuggery became an archetype, so did his belated fear: fear of the man who will not be cowed. Three and a half centuries after Becket's demise, Henry VIII was so wary of his cult's power that he had it suppressed by Thomas Cromwell—like Becket, a commoner elevated by a monarch's caprice, then destroyed by it. In Martin Luther King, Archbishop Óscar Romero (killed as he celebrated mass in San Salvador in 1980) and perhaps, today, Alexei Navalny, Becket's steadfastness in the face of death found modern avatars too. That dual legacy makes the story recounted in this show enduringly gripping. ■

"Thomas Becket: Murder and the Making of a Saint" is at the British Museum from May 20th until August 22nd

### Opioids in America

## Bitter pills

**Empire of Pain.** By Patrick Radden Keefe. Doubleday; 560 pages; \$32.50. Picador; £20

AT 50,000 OVERDOSE deaths a year and rising, America's opioid crisis has never been worse. What began in the late 1990s as an epidemic of prescription pain-pill abuse morphed into a worse one of illicit heroin and, later, fentanyl. Prosecutors and the public have zeroed in on Purdue Pharma, which introduced the blockbuster drug OxyContin in 1996. Of the colossal revenues it generated, some \$13bn was paid to the company's previously low-profile owners, members of the Sackler family, who have recently sunk from honoured arts patrons to society pariahs.

Patrick Radden Keefe's excellent new book tells the story of this now-infamous clan. He traces the empire of the title to Brooklyn in 1920, and a trio of brothers born to Jewish immigrants: Arthur (the eldest and, in Mr Keefe's telling, the "patriarch"), Raymond and Mortimer. Arthur Sackler's business acumen and questionable ethical judgment proved lucrative. He in effect invented the field of medical advertising, creating the first family fortune



Memento mori

after aggressively marketing the sedatives Librium and Valium to doctors, without a serious study of the addiction risks. A fascination with Chinese artefacts led him to bequeath huge sums to prestigious museums. For decades the Sackler name would primarily be associated with that largesse.

Arthur died in 1987, almost a decade before Purdue, which the brothers had acquired in 1952, began selling OxyContin. By the time that happened, his branch of the family no longer held a stake—facts that its members hope will exonerate them from the taint of the "OxySacklers". But after a gripping if lengthy account of the patriarch's career in the first third of his book, Mr Keefe's view is less forgiving. "So many of the antecedents of the saga of OxyContin could be found in the life of Arthur Sackler," he concludes.

For the other two brothers and their descendants, Purdue yielded money beyond even Arthur's imaginings. "The prescription blizzard will be so deep, dense and white," Richard Sackler, son of Raymond, promised at the launch party for OxyContin. His words proved all too prophetic. The plan for mass-market opioids was abetted by misleading advertising, which claimed that less than 1% of patients would become addicted, and a vast salesforce incentivised by lucrative commissions.

The company peddled theories of "pseudo-addiction" (for which the cure was said to be more opioids) and of "opiophobia" among sceptical doctors. The guardrails against harm buckled in the face of Purdue's wealth and the lawyers and lobbyists it could buy. Regulators endorsed ludicrous claims about the drug's safety. A serious case brought by federal prosecutors in Virginia in the early 2000s was watered down by the Department of Justice. Thousands of doctors were given all-expenses-paid trips. Altogether, OxyContin took in \$35bn in sales.

The results were brutal. Other drug

manufacturers soon followed Purdue's lead. When OxyContin was reformulated in 2010 to make it more difficult to abuse, many Americans who were already addicted switched to heroin and, eventually, fentanyl. In 2019 a team of economists rigorously evaluating OxyContin's impact concluded that its introduction and marketing "explain a substantial share of overdose deaths" over 20 years.

Purdue is now the subject of many lawsuits brought by state and city governments. Sifting through the reams of evidence unearthed by court proceedings, Mr Keefe shows how callous some of the remaining Sacklers have been over the destruction wrought around them—blaming the problem on immoral addicts rather than the drug, and regarding themselves as victims of a media witch-hunt. Shiftless third-generation types are rendered with evident loathing, skilfully skewered by their own words in court or by Mr Keefe's (anonymous) sources. One aspiring fashionista wishes an obstreperous journalist would focus less on her last name and more on the hoodies she designs.

The company pleaded guilty to assorted federal charges over its handling of OxyContin in November 2020. No Sacklers, and no executives, were obliged to acknowledge guilt personally, however, "as if the corporation had acted autonomously, like a driverless car", Mr Keefe observes. Still, the Sackler name is mud. Museums and universities refuse their money. The Sackler wing of the Metropolitan Museum of Art, which houses an ancient Egyptian temple, was targeted by protesters chanting "Temple of greed! Temple of Oxy!" Purdue is bankrupt (and may not pay the retirement benefits of its salespeople).

Yet ongoing legal efforts to claw back the fortunes extracted by the owners appear unlikely to succeed. The implosion of the empire of pain, it seems, comes with a golden parachute. ■



## Conflict and culture

## Booty haul

**Plunder.** By Cynthia Saltzman. Farrar, Straus and Giroux; 336 pages; \$30. Published in Britain as *"Napoleon's Plunder and the Theft of Veronese's Feast"*; Thames & Hudson; £25

IN SEPTEMBER 1797 Napoleon Bonaparte's troops stripped a huge 16th-century painting by Paolo Veronese from the wall of a Venetian monastery. Rolled around a wooden cylinder and packed into a crate smothered with tar, "The Wedding Feast at Cana" was shipped to the Louvre. Plundering art was designed "to rattle foes" and "leave a wound close to their hearts", writes Cynthia Saltzman. Her perceptive book traces Napoleon's systematic gathering of artistic treasures as he conquered Italy, focusing on Veronese's masterpiece.

"The Wedding Feast" depicts Jesus turning wine into water at a party in Galilee. Veronese sets his version in aristocratic Venice. Marble columns and balustrades frame a boisterous cast of 130 life-size figures in sumptuous brocade and pearls. Servants swarm around the guests; onlookers throw flowers into the air. At the centre of the dining table sits Jesus, his head encircled by a halo of golden light. For this vast work—a "wonder of the world", as Giacomo Barri put it in 1671—Veronese was paid a third more than Tintoretto was for his "Crucifixion" a couple of years later.

Napoleon engineered his quarrel with Venice. When a French ship tried to sail unauthorised into the lagoon in April 1797 the Venetians opened fire. Several soldiers were killed; war was declared. Venice soon

surrendered. According to a treaty drawn up by Napoleon, the city promised to hand over 3m francs, five warships, 500 manuscripts and 20 paintings. A French art committee selected the works.

Even amid the somewhat excessive detail of battle campaigns and negotiations, the book keeps sight of the rich personalities linked by the painting. Veronese was a "first-draft", speedy painter, rarely making mistakes or alterations (Titian, by contrast, was a ponderous reviser). After meeting Napoleon in 1796, a Venetian governor described him as "a vain man who believes he is superhuman". An envoy saw him as "anything but good-looking". Napoleon's own claims to intellectual prowess—"a singular thing about me is my memory"—are put in perspective; he ranked 42nd out of 58 in his final military exam. Jacques-Louis David's portrait of 1805 obsequiously shows him charging across the Alps on a virile white horse. Ms Saltzman says he rode a donkey on the steepest parts.

She is very good on Napoleon's justifications for theft. The French, he said, were doing Europe a favour by rescuing these Italian masterpieces from neglect and obscurity. Previously only a few could see them; at the Louvre they would be on display to everyone. "Spoils of war" became "a public good", Ms Saltzman writes. Meanwhile Napoleon and his wife, Joséphine de Beauharnais, dipped into the hoard to decorate their properties.

After his defeat in 1815, France returned only half the artworks stolen from Italy. "The Wedding Feast" was not among them, the Louvre's boss claiming it would not survive the journey. Ms Saltzman ends with the painting's life thereafter, including its influence on Vincent van Gogh and John Ruskin, and its concealment from the Nazis in assorted chateaux. Recently it has hung opposite, and in the shadow of, the "Mona Lisa"—a poignant end to an absorbing story of conflict and culture. ■

## Heist fiction

## Acid tests

**How to Kidnap the Rich.** By Rahul Raina. Harper Perennial; 336 pages; \$17.00. Little, Brown; £14.99

"THE FIRST kidnapping wasn't my fault," pleads the narrator, Ramesh Kumar, at the start of this debut novel. "The others—those were definitely me." He recounts waking up on a floor next to the comatose, vomit-streaked teenager in his care, Rudi Saxena. A man wielding a cosh bursts in and takes the pair away. Ramesh loses a finger, Rudi is ransomed for \$6m, and the abduction inspires them to turn from "kidnappees" into kidnappers.

Having snared readers with this gritty opening, Rahul Raina, a Kashmiri-British writer, traces the events that led to his characters' desperate circumstances. Ramesh is an "educational consultant" who sits tests on behalf of the offspring of New Delhi's elite. Rudi's parents request the premium package for their dim-witted, spoilt-brat son, covering exams that are "the gateway to the best universities, the brightest futures, the whitest lives". Ramesh comes top in the whole country.

Overnight, Rudi is transformed into a national celebrity with his own game show; Ramesh assumes the role of his manager and extorts a ten-percent cut. The affection of Priya, an assistant producer on the show, is an added bonus. But gradually his luck changes. Rudi spirals out of control on drink and drugs, an investigator trawls through his poor school results and smells a rat—and a slighted rival and a vengeful enemy swoop in to settle scores.

Like Mohsin Hamid's "How to Get Filthy Rich in Rising Asia", "How to Kidnap the Rich" purports to be a how-to manual but is in fact a rollicking urban adventure and a biting satire of inequality. Mr Raina adds a fast-paced crime caper and a stream of caustic humour. "I know a lie the size of 'the British are only setting up a trading post' when I see one," remarks Ramesh. A man turning pale is "whiter than a Western panel on racial diversity"; a woman is "busier than our civil servants are in January editing government websites to remove any mention of last year's targets".

Some of the jokes fall flat. Ramesh's moving back-story, and a farcical sequence in which he and his partner in crime disguise themselves in saris, belong in different books. Despite its over-exuberance, though, this is a highly entertaining first novel from a writer to watch. ■



Ghosts at the feast



**Economic data**

	Gross domestic product				Consumer prices			Unemployment rate	Current-account balance	Budget balance	Interest rates		Currency units			
	% change on year ago				% change on year ago			%	% of GDP, 2021†	% of GDP, 2021†	10-yr gov't bonds latest, %	change on year ago, bp	per \$ May 12th	% change on year ago		
	latest	Q1	quarter*	2021†	latest	Q1	2021†									
United States	0.4	Q1	6.4	5.5	4.2	Apr	2.1	6.1	Apr	-2.7	-13.5	1.7	100	-		
China	18.3	Q1	2.4	8.5	0.9	Apr	1.6	5.3	Mar‡§	2.7	-4.7	2.9	\$§	94.0	6.44	
Japan	-1.4	Q4	11.7	2.2	-0.1	Mar	0.1	2.6	Mar	3.0	-9.4	nil	-8.0	109	-2.0	
Britain	-6.1	Q1	-5.9	5.3	0.7	Mar	1.5	4.9	Jan††	-4.2	-12.1	0.9	54.0	0.71	14.1	
Canada	-3.2	Q4	9.6	4.8	2.2	Mar	2.1	8.1	Apr	-2.0	-9.2	1.5	95.0	1.21	15.7	
Euro area	-1.8	Q1	-2.5	4.2	1.6	Apr	1.3	8.1	Mar	3.1	-6.6	-0.1	39.0	0.83	10.8	
Austria	-5.7	Q4	-5.6	3.4	1.9	Apr	1.7	5.6	Mar	3.4	-7.1	0.1	22.0	0.83	10.8	
Belgium	-1.0	Q1	2.4	3.8	1.2	Apr	1.0	5.8	Mar	nil	-7.0	0.1	7.0	0.83	10.8	
France	1.5	Q1	1.8	5.4	1.2	Apr	1.3	7.9	Mar	-1.8	-9.0	0.2	20.0	0.83	10.8	
Germany	-3.0	Q1	-6.6	3.5	2.0	Apr	1.9	4.5	Mar	6.8	-3.6	-0.1	39.0	0.83	10.8	
Greece	-5.9	Q4	11.1	2.5	-0.3	Apr	nil	15.8	Dec	-5.8	-5.9	1.0	-112	0.83	10.8	
Italy	-1.4	Q1	-1.6	3.4	1.1	Apr	0.7	10.1	Mar	3.0	-10.5	1.0	-93.0	0.83	10.8	
Netherlands	-2.8	Q4	-0.5	3.1	1.9	Apr	1.9	3.5	Mar	9.0	-4.2	-0.2	13.0	0.83	10.8	
Spain	-4.3	Q1	-2.1	5.8	2.2	Apr	0.8	15.3	Mar	1.5	-8.7	0.5	-32.0	0.83	10.8	
Czech Republic	-4.8	Q4	-1.2	3.8	3.1	Apr	2.2	3.4	Mar‡	1.7	-5.5	1.8	80.0	21.2	18.9	
Denmark	-1.4	Q4	2.7	3.0	1.5	Apr	0.7	4.5	Mar	7.4	-1.3	0.2	45.0	6.16	11.4	
Norway	-1.4	Q1	-2.5	2.6	3.0	Apr	1.6	5.0	Nov††	2.4	-1.7	1.5	106	8.32	22.0	
Poland	-2.7	Q4	-2.0	4.1	4.3	Apr	3.2	6.4	Mar‡	2.0	-6.9	1.8	40.0	3.76	11.4	
Russia	-1.8	Q4	na	2.7	5.5	Apr	4.6	5.4	Mar‡	4.0	-1.7	7.3	125	74.4	-1.8	
Sweden	-0.8	Q1	4.5	2.4	2.2	Apr	1.4	10.0	Mar‡	4.0	-2.3	0.4	48.0	8.41	15.6	
Switzerland	-1.6	Q4	1.3	2.6	0.3	Apr	0.3	3.1	Apr	7.0	-2.3	-0.1	33.0	0.91	6.6	
Turkey	5.9	Q4	na	3.9	17.1	Apr	11.9	13.1	Mar‡	-2.3	-3.1	17.4	469	8.44	-17.2	
Australia	-1.1	Q4	13.1	3.4	1.1	Q1	2.1	5.6	Mar	1.9	-7.3	1.6	66.0	1.29	18.6	
Hong Kong	-3.0	Q4	0.7	3.5	0.5	Mar	1.8	6.8	Mar††	3.7	-3.8	1.2	57.0	7.77	-0.3	
India	0.4	Q4	42.7	10.4	4.3	Apr	5.2	8.0	Apr	-1.0	-7.0	6.0	-15.0	73.4	2.9	
Indonesia	-0.7	Q1	na	3.3	1.4	Apr	2.8	6.3	Q1‡	-0.3	-6.4	6.4	-151	14,198	5.0	
Malaysia	-0.5	Q1	na	4.4	1.7	Mar	2.4	4.7	Mar‡	4.6	-6.0	3.1	29.0	4.13	4.8	
Pakistan	0.5	2020**	na	1.7	11.1	Apr	8.8	5.8	2018	-1.9	-6.9	9.5	†††	120	152	5.3
Philippines	-4.2	Q1	1.2	6.6	4.5	Apr	4.0	8.7	Q1‡	-1.0	-7.4	4.0	62.0	47.8	5.2	
Singapore	0.2	Q1	8.3	4.8	1.3	Mar	1.8	2.9	Q1	16.7	-4.1	1.6	68.0	1.33	6.8	
South Korea	1.7	Q1	6.6	3.2	2.3	Apr	1.5	4.0	Apr‡	4.3	-4.7	2.1	71.0	1,125	8.9	
Taiwan	8.2	Q1	12.9	4.5	2.1	Apr	1.6	3.7	Mar	15.1	-0.5	0.4	-8.0	27.9	7.0	
Thailand	-4.2	Q4	5.4	3.3	3.4	Apr	0.8	1.5	Dec‡	4.0	-6.0	1.7	67.0	31.2	2.9	
Argentina	-4.3	Q4	19.4	6.2	42.6	Mar‡	45.9	11.0	Q4‡	2.4	-6.0	na	na	94.0	-28.2	
Brazil	-1.1	Q4	13.3	3.2	6.8	Apr	6.7	14.4	Feb‡††	0.5	-7.9	9.3	154	5.24	10.3	
Chile	nil	Q4	30.1	6.3	3.3	Apr	3.5	10.4	Mar‡††	-0.3	-7.2	3.5	86.0	708	16.0	
Colombia	-3.5	Q4	26.5	4.8	1.9	Apr	2.6	14.2	Mar‡	-3.3	-8.9	7.4	136	3,732	4.0	
Mexico	-3.8	Q1	1.6	5.7	6.1	Apr	4.5	4.4	Mar	2.0	-2.8	7.0	100	20.1	19.9	
Peru	-1.7	Q4	37.9	8.0	2.4	Apr	3.2	13.9	Mar‡	-0.7	-7.3	4.9	96.0	3.74	-8.6	
Egypt	2.0	Q4	na	2.9	4.1	Apr	5.7	7.2	Q4‡	-3.3	-8.1	na	na	15.7	0.5	
Israel	-1.5	Q4	6.5	4.0	0.2	Mar	1.3	5.4	Mar	3.4	-8.8	1.3	50.0	3.29	6.7	
Saudi Arabia	-4.1	2020	na	2.9	5.0	Mar	2.4	7.4	Q4	2.8	-3.2	na	na	3.75	0.3	
South Africa	-4.1	Q4	6.2	2.0	3.2	Mar	3.7	32.5	Q4‡	-1.6	-9.2	9.1	-25.0	14.0	29.9	

Source: Haver Analytics. \*% change on previous quarter, annual rate. †The Economist Intelligence Unit estimate/forecast. ‡Not seasonally adjusted. §New series. \*\*Year ending June. ††Latest 3 months. †††3-month moving average. ‡95-year yield. †††Dollar-denominated bonds.

**Markets**

	Index	% change on:	
In local currency	May 12th	one week	Dec 31st 2020
United States S&P 500	4,063.0	-2.5	8.2
United States NASComp	13,031.7	-4.1	1.1
China Shanghai Comp	3,462.8	0.5	-0.3
China Shenzhen Comp	2,271.8	-1.2	-2.5
Japan Nikkei 225	28,147.5	-2.3	2.6
Japan Topix	1,878.0	-1.1	4.1
Britain FTSE 100	7,004.6	-0.5	8.4
Canada S&P TSX	19,107.8	-1.1	9.6
Euro area EURO STOXX 50	3,947.4	-1.4	11.1
France CAC 40	6,279.4	-0.9	13.1
Germany DAX*	15,150.2	-0.1	10.4
Italy FTSE/MIB	24,452.9	nil	10.0
Netherlands AEX	694.8	-2.7	11.2
Spain IBEX 35	9,007.7	0.4	11.6
Poland WIG	62,214.1	2.1	9.1
Russia RTS, \$ terms	1,548.0	0.8	11.6
Switzerland SMI	11,033.9	-0.7	3.1
Turkey BIST	1,441.3	1.5	-2.4
Australia All Ord.	7,281.1	-0.9	6.3
Hong Kong Hang Seng	28,231.0	-0.7	3.7
India BSE	48,690.8	nil	2.0
Indonesia IDX	5,938.4	-0.6	-0.7
Malaysia KLSE	1,582.5	0.4	-2.7

	Index	% change on:	
	May 12th	one week	Dec 31st 2020
Pakistan KSE	45,174.7	0.5	3.2
Singapore STI	3,123.3	-1.0	9.8
South Korea KOSPI	3,161.7	0.5	10.0
Taiwan TWI	15,902.4	-5.6	7.9
Thailand SET	1,571.9	1.5	8.5
Argentina MERV	51,020.2	3.8	-0.4
Brazil BVSP	119,710.0	0.1	0.6
Mexico IPC	48,748.4	0.7	10.6
Egypt EGX 30	10,767.8	2.4	-0.7
Israel TA-125	1,697.2	-1.8	8.2
Saudi Arabia Tadawul	10,322.7	0.7	18.8
South Africa JSE AS	67,424.3	0.1	13.5
World, dev'd MSCI	2,876.8	-1.9	6.9
Emerging markets MSCI	1,315.2	-1.3	1.9

**US corporate bonds, spread over Treasuries**

	latest	Dec 31st 2020
Basis points		
Investment grade	120	136
High-yield	358	429

Sources: Refinitiv Datastream; Standard & Poor's Global Fixed Income Research. \*Total return index.

**Commodities****The Economist commodity-price index**

	2015=100	May 4th	May 11th*	% change on	
				month	year
<b>Dollar Index</b>					
All items	184.9	200.9	19.7	90.7	
Food	141.2	145.5	14.3	54.7	
<b>Industrials</b>					
All	225.6	252.6	22.9	118.1	
Non-food agriculturals	179.6	179.1	12.8	109.4	
Metals	239.3	274.5	25.1	119.8	
<b>Sterling Index</b>					
All items	203.3	216.8	16.2	66.3	
<b>Euro Index</b>					
All items	170.4	183.2	17.4	70.6	
<b>Gold</b>					
\$ per oz	1,777.6	1,829.7	5.0	7.1	
<b>Brent</b>					
\$ per barrel	69.0	68.7	7.6	128.3	

Sources: Bloomberg; CME Group; Cotlook; Refinitiv Datastream; Fastmarkets; FT; ICCO; ICO; ISO; Live Rice Index; LME; NZ Wool Services; Thompson Lloyd & Ewart; Umer Barry; WSJ. \*Provisional.

For more countries and additional data, visit [Economist.com/indicators](https://www.economist.com/indicators)



## Parks and procreation

### A curiously strong predictor of changes in birth rates during the pandemic

AS LOCKDOWNS FORCED couples to “Netflix and chill” every night, it seemed plausible that covid-19 might lead to a baby boom. Instead, it has caused a bust. The 21 countries that have published data for January—the first full month in which babies conceived during the first wave were due—report, on average, 11% less births per 1,000 people than in January 2020, and 12% less than you would expect based on each country’s fertility trend in 2009-19.

Data are not yet available for poor countries, where most births occur. And rich-world fertility rates may rise soon, as pregnancies that began in the mid-2020 lull in covid-19 cases come to term. But it would take only a 7% drop in global fertility for a year—just over half the decline in the data from January—for the pandemic to have resulted in 10m fewer births. Such a reduction would equal our estimate of excess deaths caused by covid-19 (see Briefing).

There are lots of ways the pandemic could have cut fertility. Birth rates tend to track economic growth. Lockdowns have made dating difficult. And couples may have delayed having children to avoid hospitals or clinics that treat covid-19 patients.

Disentangling these factors’ impact is tricky. Some places, such as Chile and Israel, saw stark declines in fertility; others, like Switzerland and Finland, eked out gains. In general, the worse a country’s covid-19 infection rate was, the more its birth rate fell. The same was true of lockdown stringency and of economic contraction.

However, one measure tracked fertility unusually well: the change in attendance at parks in January-April 2020, as reported by Google. This link is hard to interpret. Rather than park traffic itself raising birth rates, something else must be influencing both park visits and conceptions. Yet once you account for footfall at parks, neither infection rates nor GDP nor other mobility data improve predictions significantly.

One theory is that park visits reflect dating, because parks were the main places people could go during lockdowns. However, only babies conceived within weeks of a first date would appear in January data.

Another explanation is that park traffic measures fear. In places where people were too afraid even to go to parks, or where parks were closed, couples may also have been likely to be too scared to have children. But more data are needed to identify the means by which covid-19 has shrunk future as well as present generations. ■

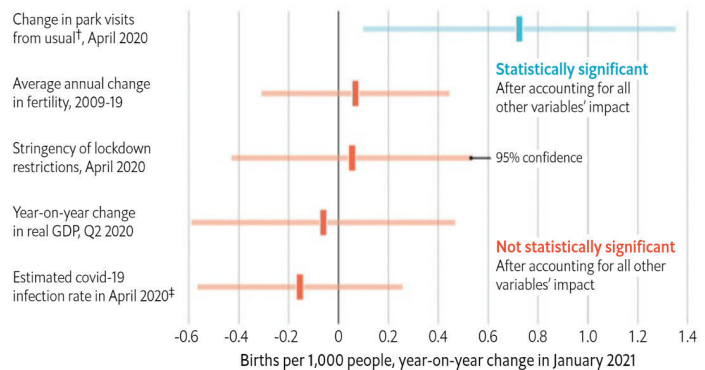
### → Fertility fell far below expectations nine months after covid-19’s first wave

Births per 1,000 people, difference from 2009-19 average\* for given month  
% points, average of 21 countries with available data

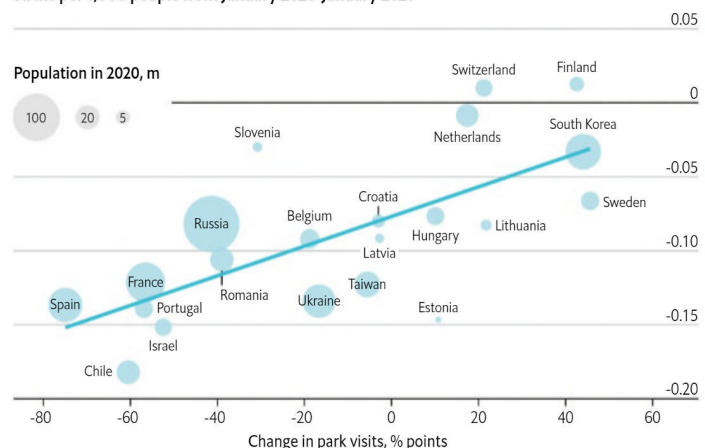


### → Visits to parks predicted changes in birth rates remarkably well

Impact of one-standard-deviation increase in variable on year-on-year change in births per 1,000 people in January 2021, 21 countries



Change in park visits in April 2020 from usual† v change in births per 1,000 people from January 2020-January 2021



\*Adjusted to account for long-run pre-pandemic trend †Median by day of week from January 3rd-February 6th 2020  
‡Using statistical model based on serosurveys Sources: Federal Reserve Bank of St Louis; Google; humanfertility.org; OECD; Our World in Data; Statista; Trading Economics; World Bank; national statistics; The Economist





## The bookseller of Bangalore

**T. Sarvotham Shanbhag, proprietor of Premier Book Shop, died of coronavirus on May 4th, aged 84**

ON DAYS WHEN he was working, T.S. Shanbhag kept to the same routine. He would drive in from the west of the city and park near M. Chinnaswamy stadium by 8.30am. From there he would walk to the centre, to Koshy's restaurant on St Mark's Road, where he had his morning coffee: the best in Bangalore, proper south Indian, milky yet strong. It was hard to resist the breakfasts on offer, appam with vegetable stew, potato smileys and the rest, served by waiters who glided about with the deference of English butlers. But he preferred just to banter with his old friend Prem Koshy, who would greet him with a hearty "How are you, my dear Sir?" and later, repaying the favour, might well drop in to buy books.

Premier Book Shop stood diagonally opposite, on Church Street, a modest place shaded by a *honge* tree. His place and Koshy's were relics of the sleepy Bangalore of the past, before it became tech city and the malls and multiplexes moved in. Increasingly now the corner swarmed with traffic, hooting motorbikes and swerving autorickshaws, but he dodged neatly between them. He was limber from all his crouching and stretching to retrieve this or that book, daily acrobatics in the service of good reading.

The shop was about 15 feet wide and 25 feet long, fine for his purposes when he moved in in 1971. He had been working at his uncle's Strand Book Stall in Mumbai, the best job he could find as a village boy from near Kundapur, but for various reasons it was best after a while to start up on his own. This place had been a clothing store, but had been burned out; he paid 900 rupees to rent it, and gradually filled it with five lakh (500,000) books. They not only lined every wall but were piled in an eight-storey mountain in the middle. If you dug to the bottom of it, you would discover the reading habits of Bangaloreans three decades before. He had made the mountain carefully, placing each volume in a slanting position, so that by an apparent miracle it did not fall down. Round it his customers moved clockwise and sideways, as if in a temple of words.

His own little den was just inside the door, behind a desk stacked so high with books and invoices that only his head was visible. From there, with his quiet smile, he greeted the customers in English or Kannada and fetched what they could not find. Some liked to stand and read for hours, leaving without buying, but that was fine. Others rifled through the stacks, pulling them out of all order (for there was a system, in his mind at least), knowing that you could turn up older and cheaper editions under the newer ones, and special treasures, Borges or Fellini perhaps, from the lower right-hand stack near the window. He placidly wiped and sorted after them. Children were parked in the shop while their parents went off somewhere, and that was fine too; there was a little stool in a corner where they could sit, and a pile of abridged Penguin Classics. When his child visitors flowered into writers, poets and historians, he took a modest pride in that.

His grown-up customers were treated with the same care. His shop was intellectually serious: few novels, thrillers, or that best-selling kind of thing, but instead a feast of new books in English on history, biography, science, economics and world literature (his own favourite author was Camus). He provided food for minds, as Koshy's provided it for bodies. And every book was at a discount, the first at a bookshop in Bangalore, of 10% off everything. If he saw an impoverished student sighing over a volume, then putting it back, he would let them borrow it instead. When orders were needed urgently, he would drive across the city to deliver them in person. No action gave him so much joy as putting a book that was wanted into someone's hand.

He also knew what his regulars wanted before they knew themselves. He kept a psychological track of their purchases, not on any computer (since he disliked all that, filling out his invoices by hand or on a sturdy ancient typewriter), but in his brain, as good exercise. That brain already contained all the titles of a crowd of authors, as well as the whereabouts of any book in the shop; it also contained the comics customers had bought, years ago, with their first pocket money, and their shifting interests since. Armed with this he would softly approach, in his leather slippers, and say to a browser, "Why don't you try....?" Customers often complained of leaving with many more books than they had meant to buy; or coming in for a book on cricket, and leaving with one on Marx.

In return, the customers cared about him. They nagged him, though kindly, to take credit cards, which he did with great reluctance, and to expand his business when the restaurant closed next door, though he had no ambitions that way. He saw himself as a friendly local librarian, rather than a businessman. When a huge increase in rents around Church Street threatened the shop, it seemed that most of Bangalore helped him with donations. Those kept him going for two years, but in 2009 he had to shut it down.

He was perfectly sanguine about it. He had been at Premier for 38 years, and was getting old. His eyes, with all that reading, were not so good. Besides, change was part of life; there was no need to get emotional. He sold the books at 60% discount, and gave the rest to libraries all over the city. Even the name-board was recycled, and the shop became a fancy bar. His walks now took him to the other bookshops in the city, where he was just one more customer browsing.

The passing of Premier was much mourned; but his own death seemed to affect the city more. At first sight, this seemed strange. On that day, 161 Bangaloreans died of the virus. He was probably among the most unassuming of them. But what had also died with him, many felt, was a rare part of old Bangalore, an unhurried place far distant from the slick and booming version, together with an old-fashioned style of quiet full-hearted service. In that small corner of the city he had made a sanctuary, along with Prem Koshy, whose coffee had kept him and the browsers going. Koshy's was open as usual; the metal blinds came down only for lockdowns or personal bereavements. But inside Mr Koshy sighed for "the angel of my books". ■