The Economist

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FEBRUARY 6TH–12TH 2021

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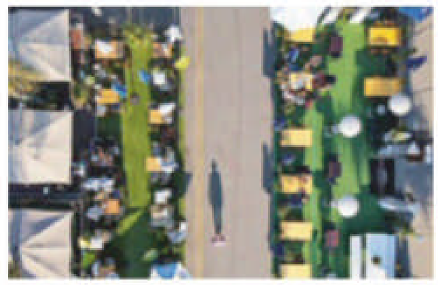

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The army seized power in a coup in **Myanmar** and arrested Aung San Suu Kyi, the leader of the ruling party, the National League for Democracy. It claimed that elections the NLD won by a landslide in November were fraudulent, and that it had to intervene to ensure a fair poll could be conducted. The army said it would return power to civilians within a year. The military authorities indicted Ms Suu Kyi with the bizarre charge of importing some walkie-talkies without the proper paperwork, and the president, Win Myint, also from the NLD, with violating social-distancing rules.

Mori Yoshiro, a former prime minister and the head of the organising committee for the **Tokyo Olympics**, which are scheduled to start in July, complained about how long women talk at board meetings. The comments prompted widespread calls for his resignation. Separately, the International Olympic Committee issued guidelines to help prevent the spread of covid-19. Spectators, it said, could clap but not chant or sing.

Mario Draghi, a former head of the European Central Bank, was asked by the president of **Italy** to try to form a government. The current prime minister, Giuseppe Conte, has lost his majority in a spat over covid-recovery funds. Mr Draghi needs the support of one of the two big populist parties, the Northern League or the Five Star Movement. That may be tricky.

The European Commission took powers to block the export of covid-19 **vaccines** to non-EU countries, though it has not yet used them. This triggered a furious row with Britain, which intensified after the EU threatened to invoke Article 16 of the Brexit agreement, which would create a hard border between Northern Ireland and the Republic of Ireland. After across-the-board criticism, including from the Republic, the commission backed down.

A court sent **Alexei Navalny**, Russia's main opposition leader, to prison for two and a half years. It said he had violated the conditions under which a sentence for embezzlement had been suspended. He says the original case was fabricated; and that he could not attend the parole hearings as he was in Germany in a coma after being poisoned by Russian agents. More than a thousand protesters were arrested.

Police in **Istanbul** arrested 159 students at Bogazici University who were protesting against the detention of four gay activists for depicting Islam's most sacred site with the Pride flag. Turkey's interior minister said the activists were "freaks".

In **Scotland** Nicola Sturgeon reshuffled her ruling national-party government in the hope of galvanising it before a parliamentary election in May that is being presented as a proxy vote on Scottish independence. But the ejection of a frontbencher who disagrees with Ms Sturgeon's independence strategy only amplified the SNP's divisions.

In his first significant trade-policy decision, Joe Biden reinstated **tariffs** on aluminium imports from the United Arab Emirates, which Donald Trump had lifted on his last day in office. Mr Biden, perhaps mindful of his close election margin in the rustbelt states, says imports from the UAE hurt domestic production.

The Senate approved **Pete Buttigieg** as transport secretary in the Biden administration. He is the first openly gay person to be confirmed to a cabinet position in America.

Colombia's "special jurisdiction for peace", which investigates and judges crimes committed during the 52-year conflict between the state and the FARC guerrilla group, issued a damning indictment of the group's leader, Rodrigo Londoño, and seven other commanders. It held them responsible for the mistreatment of hostages, which it said amounted to war crimes and crimes against humanity.

Brazil's "Lava Jato" anti-corruption task-force, which has convicted dozens of businessmen and politicians since 2014, was unceremoniously disbanded. Politicians had turned against it and were joined by the populist president, Jair Bolsonaro, whose son, a senator, is being investigated for money-laundering.

Rebels opposed to the re-election of President Faustin-Archange Touadéra closed in on Bangui, the capital of the **Central African Republic**.

Iran's foreign minister said the European Union should "choreograph" a synchronised return of both **America** and **Iran** to the deal under which Iran curbed its nuclear programme in return for sanctions relief. President Joe Biden has said he wants to re-enter the deal. But he has insisted that Iran must first comply with the accord's directives.

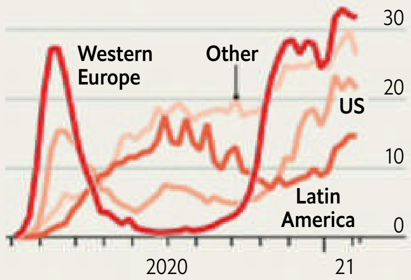
Thousands gathered in Jerusalem to attend the funeral of an ultra-Orthodox rabbi, flouting **Israel's** coronavirus restrictions. Cases and deaths have been rising in Israel, which is still leading the world in vaccination per person. Israel agreed to transfer 5,000 doses of the vaccine to the **Palestinian Authority**, which began jabbing health workers.

Tanzania is not planning to vaccinate the public against covid-19, its health minister said. President John Magufuli has said he does not think the vaccines work. Tanzanians are being urged to to use traditional medicine.

Coronavirus briefs

To 6am GMT February 4th 2021

Weekly confirmed deaths by area, '000



Vaccination doses

	This week, '000	Total '000	Per 100 people
Israel	1,148	5,092	58.83
UAE	701	3,441	34.79
Seychelles	12	31	31.38
Britain	2,620	10,144	14.94
Bahrain	16	174	10.23
United States	8,942	32,781	9.80
Serbia	265	496	7.29
Malta	8	29	6.57
Denmark	49	283	4.88
Ireland	47	200	4.05

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

A non-peer-reviewed study suggested that the **AstraZeneca-Oxford** vaccine can reduce transmissions by two-thirds. Meanwhile, the European Medicines Agency approved the AZ jab for everyone over 18. But officials in France, Germany and Sweden are recommending that it not be offered to over 65s, and in Poland to over 60s, believing there is insufficient data to say it is effective in those age groups. Switzerland refused to license it at all.

Johnson & Johnson reported that its new single-jab vaccine was 66% effective overall in preventing covid-19, and that protection increases over time. As with other vaccines, J&J's trials showed its jab has lower efficacy in South Africa, where a particularly pernicious strain of covid-19 has been observed.

A peer-reviewed analysis in the *Lancet* of Russia's **Sputnik V** vaccine showed it had an efficacy rate of 91.6%.

→ *For our latest coverage of the virus please visit economist.com/coronavirus or download the Economist app.*

Taking markets by surprise, **Jeff Bezos** said he would stand down as Amazon's chief executive later this year, telling his "fellow Amazonians" in a letter that he wants to devote more time to his climate-change project, the *Washington Post* and other business and charity interests. Mr Bezos, who has led the company he founded since 1994, will become executive chairman. The new CEO will be Andy Jassy, who heads Amazon's cloud-computing division, the most profitable part of the company.

King of the retail jungle

Amazon's quarterly sales passed $125bn for the first time in the final three months of 2020. For the year as a whole revenues were up by more than a third to $386bn, almost $100bn more than Apple's revenues for last year.

Google's parent company, Alphabet, also surpassed expectations in the fourth quarter, as sales from advertising jumped by more than a fifth, year on year. Its cloud-services division, however, made an operating loss, for the quarter and for the whole year.

Following a bout of volatile trading, in which the S&P 500 had its worst week since October, **stockmarkets** quietened down. Investors remain nervous about the co-ordinated action of a group of retail traders, through message boards such as Reddit, to drive up some share prices which hedge funds were betting would fall. Those hedge funds have incurred losses worth billions of dollars. There were other casualties from the stock-war battlefield. The share price of **GameStop**, one of the stocks defended by the day traders, has lost more than 80% of its value since the end of the market skirmish.

The effect of lower oil prices was laid bare in the annual earnings of **oil and gas companies**. ExxonMobil and Shell each recorded annual net losses of around $22bn last year. BP's loss, its first in a decade, was $20.3bn. Chevron's second-weakest year for revenues since 2000 pushed it to a loss of $5.5bn.

The **euro zone's economy** shrank by 6.8% last year. Germany's GDP contracted by 5%, France's by 8.3% and Spain's by 11%, the worst economic performance for all three countries since the second world war. The currency bloc's annual rate of **inflation** jumped to 0.9% in January, ending five months of deflation. With activity curtailed by lockdown, the rise in consumer prices reflected factors such as higher shipping costs and a revision to the index's weightings.

America's economy was 3.5% smaller in 2020 than in 2019, though it is growing again at a faster rate than many had expected. The Congressional Budget Office, a nonpartisan agency, thinks GDP will roughly return to its pre-pandemic level by the middle of this year, even without any more stimulus. The economy, however, will lag its potential until 2025, keeping employment subdued.

Britain formally submitted a request to join the **Comprehensive and Progressive Agreement for Trans-Pacific Partnership**, a free-trade agreement among 11 countries, which include Australia, Canada, Japan and Mexico.

Uber expanded its home-delivery business by agreeing to buy **Drizly**, which supplies alcohol to your door, for $1.1bn. One estimate reckons that online sales of alcohol grew by 80% in America last year as a consequence of lockdown.

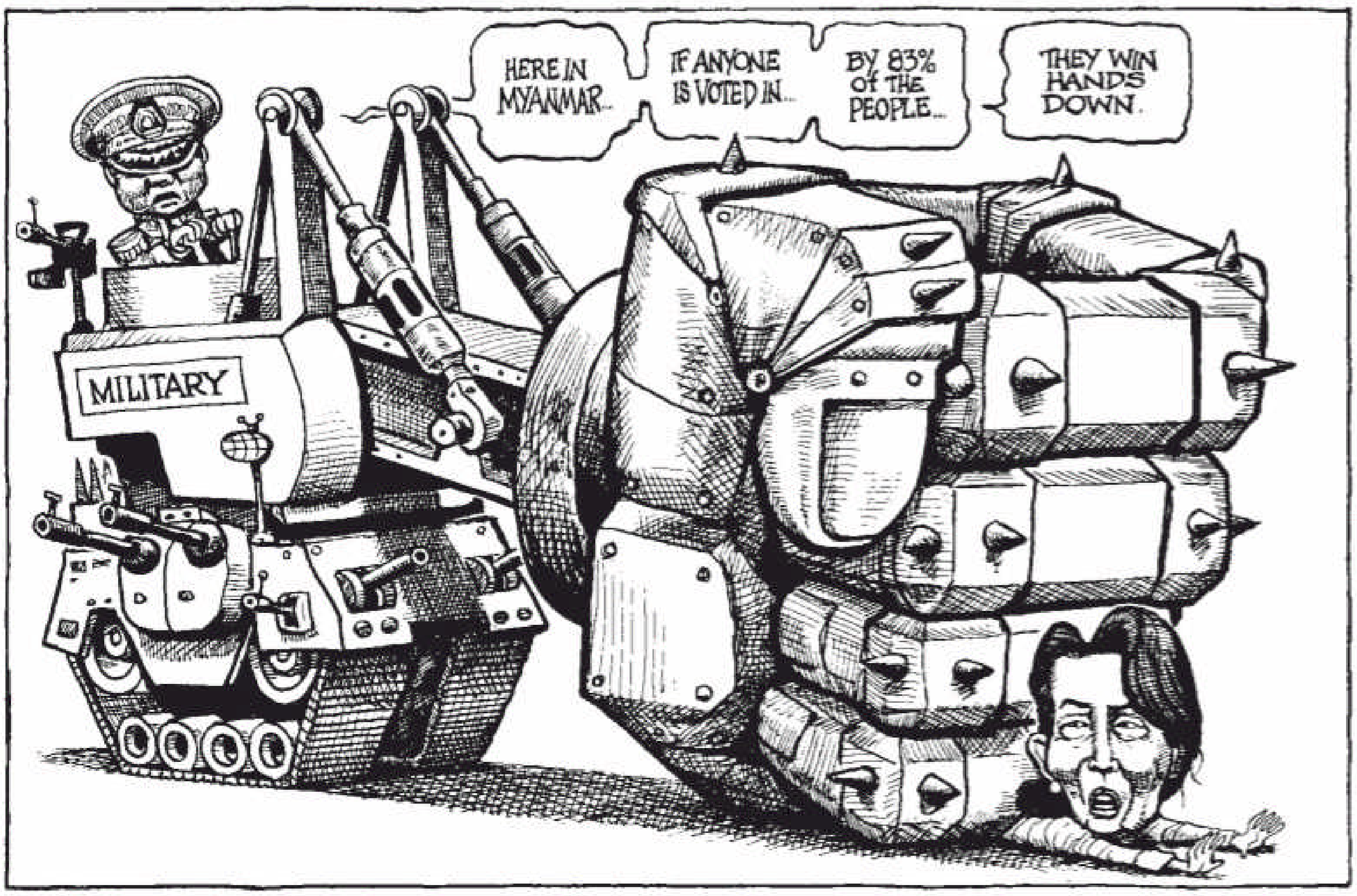
Alibaba undertook a round of dollar bond sales with the aim of raising a reported $5bn, after the Chinese e-commerce giant exceeded quarterly sales forecasts. The company's founder, **Jack Ma**, has fallen foul of the authorities, to such an extent that his name has been omitted from a list of China's entrepreneurial greats published by state media. Ant Group, a fintech firm founded by Mr Ma that is affiliated with Alibaba, is close to securing a deal with officials about restructuring its business.

McKinsey drew up a deal with 47 American states to settle claims that the consultancy firm advised Purdue Pharma to vigorously market its OxyContin painkiller, contributing to America's opioid crisis. It is a rare instance of McKinsey being held legally accountable for its advice to clients.

General Motors' share price retained the gains it made after the carmaker announced that it would phase out production of petrol-fuelled vehicles by 2035 and instead sell only cars and pickup trucks with zero exhaust emissions. GM is investing $27bn in electric- and autonomous-car technology, and promises that by the end of 2025, 40% of its models in America will be powered by battery.

A happy occasion

One of the winners from lockdown, **Moonpig**, had a successful IPO in London. The online provider of greeting cards and gifts saw its share price soar by 17% on its special day, prompting salutations of congratulations and I love yous from investors.



The real revolution on Wall Street

High tech meets high finance. It is a promising, but volatile, combination

Events on Wall Street have become so strange that Netflix is said to be planning a show to immortalise them. But what should be the plot? One story is of an anti-establishment movement causing chaos in high finance, just as it has in politics. Another is how volatile shares, strutting online traders and cash-crunches at brokerage firms signal that a toppy market is poised to crash. Both gloss over what is really going on. Information technology is being used to make trading free, shift information flows and catalyse new business models, transforming how markets work (see Finance section). And, despite the clamour of recent weeks, this promises to bring big long-term benefits.

Don't expect screenwriters to dwell on that, obviously. Their focus will be the 8m followers of WallStreetBets, an investment forum on Reddit, who have invented a new financial adventurism: call it swarm trading. Together, they bid up the prices of some obscure firms in late January. This triggered vast losses at hedge funds that had bet on share prices falling (see Buttonwood). And it led to a cash squeeze at online brokers which must post collateral if volatility rises. Since January 28th the most prominent, Robinhood, has raised $3.4bn to shore itself up.

The swarm seems to have moved on. This week the price of some favoured shares sank and silver leapt. Meanwhile, in many markets the normal rules of play have been suspended. Almost 300 "SPACs" listed last year, raising over $80bn and allowing firms to float without the hassle of an initial public offering (IPO). Tesla has become America's fifth most valuable firm. Bitcoin, having gone from the fringe to the mainstream, has a total value of $680bn. Trading volumes for shares are at their highest in at least a decade and those for some derivatives are off the charts.

Part of the reason for this is that government bail-outs have put a floor under risky debt. Banks have so much spare cash—JPMorgan Chase's pile has risen by $580bn in the pandemic—that they are turning depositors away. Instead of using the lockdown to learn Mandarin and discover Tolstoy, some people have used their stimulus cheques to daytrade. Although the whiff of mania is alarming, you can find reasons to support today's prices. When interest rates are so low, other assets look relatively attractive. Compared with the real yield on five-year Treasuries, shares are cheaper than before the crash of 2000.

Yet the excitement also reflects a fundamental shift in finance. In recent decades trading costs for shares have collapsed to roughly zero. The first to benefit were quantitative funds and big asset managers such as BlackRock. Now retail investors are included, which is why they accounted for a quarter of all trading in January. Meanwhile, information flows, the lifeblood of markets, are being disaggregated. News about firms and the economy used to come from reports and meetings governed by insider-trading and market-manipulation laws. Now a vast pool of instant data from scraping websites, tracking industrial sensors and monitoring social-media chatter is available to those with a screen and the time to spare. Last, new business models are passing Wall Street by. SPACs are a Silicon Valley rebellion against the cost and rigidity of IPOs. Robinhood, a tech platform from California, executes trades through Citadel, a broker in Chicago. In return for free trading, users' trades are directed to brokers who, as on Facebook, pay to harvest the data from them.

Far from being a passing fad, the disruption of markets will intensify. Computers can aggregate baskets of illiquid assets and deploy algorithms to price similar but not identical assets, expanding the universe of assets that can be traded easily. A sharply rising proportion of bonds is being traded through liquid exchange-traded funds, intermediated by a new breed of market-makers, such as Jane Street. Contenders such as Zillow are trying to make housing sales quick and cheap, and in time commercial-property and private-equity stakes may follow.

On paper this digitisation holds huge promise. More people will be able to gain access to markets cheaply, participate directly in the ownership of a broader range of assets and vote over how they are run. The cost of capital for today's illiquid assets will fall. It will be easier to match your exposure to your appetite for risk.

But financial progress is often chaotic. First time around, innovations can cause crises, as the structured-credit boom did in 2007-09. The capacity of social media to spread misinformation and contagion is a worry. It is hard to see how some underlying assets justify the price rises of the past few weeks. Some fear that powerful firms hoarding the data of individual investors will exploit them. Already the Robinhood saga has led politicians on the right and the left to fret about losses for retail investors, mispriced assets and the threat to financial stability if market infrastructure should be overwhelmed as investors stampede from one asset to the next. Tellingly, the only big stockmarket dominated by technologically sophisticated retail investors is China's. Its government employs censorship and an array of price and behavioural controls to try to keep a lid on it.

Although that is thankfully not an option in America, the regulators' toolkit does need to be updated. It must be made clear that speculators, amateur and professional, will still bear losses, even if they attract sympathy from politicians. Irrationality thrives in online politics because it imposes no direct cost. By contrast, in markets losses act as a disciplining force. If today's frothiest assets collapse, the bill could be perhaps $2trn: painful but not catastrophic in a stockmarket worth $44trn.

Don't forget season two

Insider-dealing and manipulation rules also need to be modernised to deal with new information flows. Stupidity, greed and a killer instinct are all perfectly acceptable: deception, including the spread of misinformation, is not. Price-sensitive data need to be kept widely available. And the plumbing must be renovated. America's trade-settlement system works with a two-day delay, creating a timing mismatch that can lead to cash shortfalls. It needs to be able to cope with faster trading in an expanding range of assets so that the system can withstand a crash. Netflix's TV drama will doubtless pitch daytrading heroes like Roaring Kitty against the wicked professionals on Wall Street. Off-screen, in the real revolution in finance, a far bigger cast can win. ■

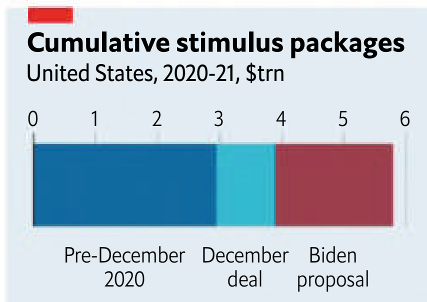
Fiscal stimulus in America

How much is too much?

Targeted relief would be better than indiscriminate spending

America’s economy will recover faster from the pandemic than its rich-world peers, the IMF predicts. Not because it has controlled the spread of disease—it hasn’t—but mostly because of its enormous economic stimulus, which boosted household incomes by more than 6% in 2020 even as the unemployment rate peaked near 15%. Before Joe Biden became president, Congress had already spent $4trn fighting the crisis. Now he proposes $1.9trn more emergency spending, which would take the total to over 25% of GDP in 2019. Republicans think that is too much. A group of the party’s senators has made a counter-offer of a plan worth about $600bn (see United States section).

The right size for the bill is not best judged from the top down. America is not in a normal recession that is best solved by a calibrated slug of government spending. No amount of pump-priming will fully reopen restaurants, nightclubs and offices while the virus remains prevalent—nor would that be desirable. The government must instead fight the crisis from the bottom up.



Congress should spend whatever is needed on vaccinations and on replenishing the incomes of workers bearing the brunt of the crisis. They have lost their jobs through no fault of their own, and if their incomes collapsed, they would slash their spending, spreading the pain to the rest of the economy. Extending a generous top-up to unemployment-insurance benefits beyond its expiry in March should be a priority.

Nobody should fret about the cost of providing what is in effect disaster relief. Prolonging vast deficits, however, does carry a risk. According to official projections released on February 1st, without more stimulus America’s GDP would lag behind its potential by only 1.3% at the end of 2021. Mr Biden’s proposed spending is six times bigger than the shortfall. The “multiplier” effect of government spending on output is hard to estimate, but is small today because many households are saving stimulus money. Yet should vaccinations let the economy reopen fully in the second half of 2021, the pent-up effects of stimulus may cause the economy to overheat, leading to a burst of inflation.

Higher inflation would be tolerable—welcome, even, up to a point. But it would mean any further deficit spending, for example on Mr Biden’s infrastructure plan, would further stoke the fire. Better to preserve fiscal fuel by avoiding unnecessary largesse. Democrats want to send cheques worth $1,400 to most individuals, adding to the $600 they recently received. Universal handouts stop people falling through the cracks of bureaucratic means-tested programmes, but $2,000 is an arbitrary total popularised by Donald Trump. Mr Biden’s plan also includes $350bn for state and local governments. Early in the crisis it looked as if they would suffer a collapse in tax revenues. In fact, their budgets have held up as the federal government’s generous unemployment benefits and a burst of spending on goods have boosted their tax receipts. Neither of these items in Mr Biden’s bill is a priority.

The right fiscal policy would be flexible, providing emergency spending for as long as the pandemic persists and saving a broader fiscal boost for later if necessary. Republicans—and some moderate Democrats—are right to argue that $1.9trn is excessive today. Mr Biden may be willing to trim his proposal. A figure of around $950bn would allow for unemployment insurance, a smaller amount of catch-all universal cheques, Mr Biden’s assault on child poverty and extra spending on vaccines.

Equally, Democrats are right to fear that hawks in Congress could derail the recovery if the crisis worsens. Republicans should pledge to support further spending were that to happen. The Democrats should husband their limited opportunities to circumvent Republican opposition in the Senate. A bipartisan agreement now will raise the odds that the economy will get the right amount of support at the right time. ■

Despots v democrats

The meaning of Myanmar’s coup

Attempts to dress up authoritarian regimes as democracies are unlikely to succeed

Most politicians find winning over a majority of the electorate challenging enough. Imagine, then, the difficulties of candidates in Myanmar, who must secure the approval not only of voters, but also of the army’s top brass. The National League for Democracy, the party led by Aung San Suu Kyi, a veteran dissident, excels at the first task. It has won the past two national elections with landslide votes. But it is not so good at the second. On February 1st, as MPs elected at the most recent poll were about to take their seats, the army arrested them and said that it would run the country instead (see Briefing).

Few outsiders had predicted the coup, despite the snarling statements emanating from the high command in the days beforehand, for the simple reason that the army was already in control of almost everything that mattered to it. Under the constitution, which the top brass itself foisted on the country, the army chief commands all the security services. He appoints his own boss (the minister of defence), as well as several other ministers and a quarter of MPs. That, in turn, gives him a veto over any attempts to change all this by amending the constitution. The system is designed to preserve the army’s interests, no matter what voters say they want. So why would the generals upend it?

Putschists and despots tend to crave at least a veneer of legiti- ▸▸

macy. A semblance of democracy may help keep their subjects quiescent and certainly makes international summits less awkward. Their dream is to create some scope for genuine political competition, the better to appease the masses and their foreign friends, while retaining control over all important decisions. The generals who run Pakistan and Thailand have attempted to devise such systems, as have the autocrats ruling Cambodia, Russia and Venezuela, among others. But few have been as explicit as Myanmar's top brass about seeking to enshrine their authority in perpetuity in what otherwise resembles a democracy.

Such arrangements, however, are inherently unstable. Autocrats dislike being shown up, no matter how negligible the consequences. The regime of Vladimir Putin, Russia's president, this week jailed Alexei Navalny, a prominent critic, after he had the cheek to survive an assassination attempt, and to use his new lease on life to publicise a billion-dollar secret palace he says belongs to Mr Putin (see Europe section). In Myanmar Ms Suu Kyi was always careful to speak politely about the army, but her party repeatedly thumped the one backed by the generals, winning 12 times as many seats in the election in November. The snowflake generals found such humiliation hard to bear.

Unarmed politicians in Potemkin democracies naturally look for ways around the obstacles erected by the men with guns. Myanmar's generals thought they had sidelined Ms Suu Kyi by barring her from the presidency, but she invented a new position, "state counsellor", which she declared was "above the president". Political parties in Thailand that are hostile to the top brass keep winning elections and trying to form governments, forcing the authorities to ban more and more of them.

That hints at the most unpredictable force disguised despots contend with: their citizens. They tend to vote for the wrong people (witness how often the Pakistani army has had to see off tiresome prime ministers). The people can also take to the streets if the system is a hollow pretence. In Belarus, after phoney elections, thousands have been braving brutal repression. So too in Russia where, as Mr Navalny said this week, "Lawlessness and tyranny pose as state prosecutors and dress in judges' robes."

Protests are also possible in Myanmar—as is their violent suppression. The army, after all, has quelled peaceful demonstrations by force plenty of times over the years. But the pariah status that comes with naked repression is precisely what the army was hoping to escape when it concocted the constitution it has just violated. In that sense, the coup, although crushing to Myanmar's democrats, is a defeat for the generals, too. ■

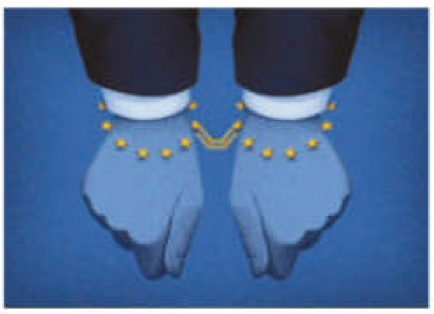
Brexit and the City

The price is wrong

If the EU insists that Britain accept its financial rules in return for market access, Britain should say no

WHEN TALKS between Britain and the European Union about trade went to the wire in December, they nearly collapsed over fishing, which contributes less than 0.1% to British GDP. Financial services, which contribute 7%, were left in the cold. As far as banks, insurance firms and the like are concerned, there might just as well have been no deal at all. American firms now trade with the EU on better terms than British ones do.

Britain's financial-services industry is already counting the cost of the government's negligence. Between the referendum in June 2016 and the end of 2020, around 7,500 jobs and over £1.2trn ($1.6trn) of assets moved from Britain to various European capitals. But as with much about Brexit, the terms of Britain's departure from this market have still to be settled (see Britain section). The two sides continue to negotiate over whether Britain should enjoy "equivalence"—a temporary right to trade on equal terms with EU companies.



Free trade in financial services would benefit both sides. If the EU is prepared to offer it on the basis that both sets of regulators are aiming at similar outcomes—such as orderly and stable markets—then Britain should accept it. However, as with the overall trade deal, Europe expects to extract a price for market access. If the price is that the EU writes the rules, Britain should walk away.

Politics is one of the reasons. When things go wrong in finance the government often has to step in. If the voters' money is used to prop up a system, their representatives will rightly expect to be in charge. Andrew Bailey, who as governor of the Bank of England is responsible for the system's stability, told Parliament earlier this year that being a "rule-taker" would be too high a price for Britain to pay.

The EU is a valuable market for Britain's financial-services industry, making up around a third of its exports. Being bound by the EU's existing rules would be no great burden, for Britain had a big role in designing them. But those rules will probably tighten. Europe's politicians tend to be more interventionist and protectionist than Britain's, and they suspect Britain's light-touch regulation of having contributed to the financial crisis and the euro-zone meltdown. They could also write rules designed to boost their own financial centres by undermining London.

If Britain accepts EU financial regulation, it will be a large dog being wagged by a small European tail in many areas of business. Where Britain is dominant, such as in derivatives and foreign exchange, and in new areas such as carbon credits where it has a good chance of taking a slice of the business, it should be seeking to make the rules alongside big markets such as America and Japan, and forward-looking ones such as Australia and Switzerland.

Although the price of equivalence is likely to be high, the prize is not especially valuable. The EU's share of the global market is shrinking; and equivalence can be withdrawn at 30 days' notice, as Switzerland found in 2014 when it fell out with the EU and stocks listed there were suddenly banned from EU exchanges. The EU has little compunction in using rules as political cudgels, as its threat last month to stop vaccine trade between Ireland and Northern Ireland demonstrated.

Britain would have done better to stay in Europe's financial-services market, and to retain its clout over the rules that govern it. That's no longer an option. Being kicked out of trading European products will hurt. But rather than accept rules set by other governments, Britain should cut its losses and diverge. ■

Disease and development

Africa's long covid

The pandemic threatens to undercut the poorest continent's precarious progress

In the years before covid-19 sub-Saharan Africans were not only the world's youngest people, with a median age of less than 20, they were also some of the most optimistic. Just 12% of Japanese told pollsters they thought their lives would improve over the following 15 years, compared with 78% of Kenyans. Nigerians and Senegalese were even more upbeat.

The pandemic has made it harder to be sunny. When covid-19 first struck, a lot of pundits thought Africans might be spared the worst, because so many are young or work on the land (and would thus be little affected by lockdowns). Yet it now looks as if the virus will leave more lasting scars in Africa than elsewhere. Whereas rich countries can hope for a rapid economic rebound as they vaccinate their people, Africa is years away from jabbing enough to achieve general immunity. The IMF predicts it will be the slowest-growing large region this year. Repeated waves of infection will also disrupt the schooling of millions, putting at risk the educational and demographic trends that are among Africa's best reasons to be hopeful.

Optimism about Africa began before the pandemic, with a long commodities boom in the years to 2014, which fuelled rapid economic growth. The share of Africans who were extremely poor declined from 56% in 2003 to 40% in 2018. And many more children started attending school. In Ethiopia, for instance, almost all children were enrolled in primary school by the time of the pandemic, up from 65% in 2003. Better-educated children earn more as adults. If female, they also go on to have smaller families and devote more effort to educating each child. Africa's demographic transition promised future prosperity.

When the first wave of covid-19 hit, Africa seemed to weather it well. Sub-Saharan GDP fell by 2.6% in 2020, compared with 3.5% for the world. Of the 24 countries that posted any growth at all, 11 were in sub-Saharan Africa. Its official covid-19 statistics look good, too: with 14% of the global population, it has about 3% of recorded cases and deaths. Alas, those statistics are surely misleading. Few African countries have tested enough to have any real sense of how many cases they have suffered. And few record more than a fraction of deaths. If South Africa, which tests a lot, is any guide, cases and deaths in the rest of Africa are much higher than reported.

The greatest harm is likely to come not from the immediate impact of the pandemic, but rather from its lingering effects on economies, households and societies (see Middle East & Africa section). Start with Africa's economies. Before the pandemic, growth was already slowing. Because the region's population is growing by 2.7% a year, about twice the pace of Asia's, Africa needs at least as much economic expansion merely to stand still. Yet GDP has lagged behind population growth since 2016.

What is more, governments entered the crisis with strained balance-sheets. By the end of 2019, public debt was 62% of GDP; in 2020 it rose to 70%. Rich countries can borrow cheaply and pay citizens to stay at home: on average they have spent more than 7% of GDP cushioning the shock of covid-19. African governments have spent only 3% of GDP, and even that was a burden. Fully 46 introduced social-welfare grants, but they did not stop 32m people falling into extreme poverty. To avoid debt crises, many African governments may curtail spending on infrastructure, too. This will stymie growth. Without better ports, roads and power supplies, Africa will reap fewer benefits from a continental free-trade deal that came into effect last month.

Africa is at the back of the queue for vaccines, alas. The Economist Intelligence Unit, our sister organisation, predicts the region will struggle to obtain enough doses to reach herd immunity before 2024. As much of the rest of the world gets back to work, travel and play, Africa could find that covid-19 is, in effect, endemic. The travellers and tourists who help generate almost 9% of GDP will stay away. Lockdowns and curfews will choke markets and bars. Most worrying, schools could close again.

Sub-Saharan classrooms have been fully or partly shut for 23 weeks, above the global average. Since half of Africans are without electricity, never mind laptops and Wi-Fi, remote learning is tricky. Modelling by the World Bank suggests that the classes already forgone will cost close to $500bn in future earnings, or almost $7,000 per child. This is a huge sum in a part of the world where the average GDP per person is less than $1,600 a year.

To make matters worse, many children—mostly girls—will never go back to their books. Many will become child labourers or brides. In one coastal area of Kenya, for example, only 388 of the 946 schoolgirls who got pregnant during the school shutdown last year have resumed their studies. It is too soon to know how many girls will stay away for good, but if large numbers do, Africa's demographic transition may be at risk. In general those with no schooling go on to have six or more children each. This falls to about four for women who finish primary school and two for secondary school.

Two things need to happen urgently to mitigate Africa's covid-induced calamity. First, people must be vaccinated more quickly than on current plans. Many African governments, wary of the cost, have been slow to order vaccines. Yet the returns to spending on vaccination are likely to be far higher than on just about anything else. The approval of new vaccines promises to help ease global shortages. Rich countries, which have ordered more than they need, should donate excess stocks and money to COVAX, the global programme for pooling the purchase and allocation of vaccines.

When the jabbing is done

Even if vaccines come soon, African treasuries will still need help to avoid drawn-out debt crises and growth-choking cuts to spending. Lenders such as the World Bank and IMF should offer more cheap loans, and support proposals by the African Development Bank and others to woo more private capital.

Africa's cries for help—whether in the form of jabs or loans—risk being lost amid the tumult of a truly global crisis. But the fragility of African economies and societies is a reason to act swiftly. It is also in outsiders' interest to help. So long as the virus is rampant somewhere, it can mutate and spread anywhere. ■

Ethiopia responds

The government of Ethiopia condemns in the strongest terms the accusation that it is "Wielding hunger as a weapon" (January 23rd). Your claim is based on unknown accounts and frettings. In fact, the government has mobilised and delivered more than 31,000 tonnes of food, non-food items and medical supplies to Tigray in the past month.

There is a delicate balance between guaranteeing basic necessities and maintaining security in the Tigray region. The defence forces and other security institutions have demonstrated exceptional courage and skill in this regard. Utility companies and other service providers are working at full speed to restore amenities in Tigray. They are doing so in the wake of acts of vandalism against infrastructure carried out by the Tigray People's Liberation Front. Reconstruction will take time.

The people of Ethiopia want peace and the rule of law. The TPLF has been the sponsor of destabilisation, terror and massacres over the past three decades. It has not eased its thirst for power, even after it was unseated through protests and the electoral rules it had itself helped engineer.

The gravest error the article made was its shortsightedness. The past two years have been profoundly painful for all Ethiopians, but the government believes we are heading the right way. Magnifying troubles and echoing accusations of past regimes is a distraction. Ethiopia is reforming and entering a new era. The law-enforcement operation in Tigray is a costly but necessary step in that direction.

In this complicated and high-stakes operation, humanitarian, diplomatic and media agencies will have to endure the inconvenience of heeding to the direction of the government. The success of this operation necessitates that, as Tigray transitions to rebuilding and recovery.

It is regrettable that *The Economist* assumes that leaders in Africa are either evil or incompetent.

AMBASSADOR REDWAN HUSSEIN on behalf of the State of Emergency Media Task Force
Addis Ababa

Two concepts of liberty

Vaccine passports "raise ethical questions", you say ("A marathon ahead", January 23rd). The general adoption of vaccine passports is meant to encourage people who might otherwise resist getting a jab. To abuse Sir Isaiah Berlin's famous distinction, the "negative" liberty of any individual not to be forcibly vaccinated will remain inviolate. But at the same time, the sheer weight of the incentives that the passport system entails will make getting vaccinated seem like the only realistic route to living a good life, or being "positively" free, in Berlin's sense. Instinctive vaccine-dodgers will therefore choose to get it for fear of missing out.

In most circumstances, corralling people towards particular choices (especially choices to do with their bodies) is a dangerous and illiberal use of state or societal power. But in this very peculiar situation, in which the mass exercise by individuals of their negative freedom not to get injected would result in endless further lockdowns, there are good liberal reasons for nudging everyone towards opting for a vaccine.

SAM WILLIAMS
Dubai

Space trash

Trying to clean up space debris is a problem that has been festering for decades ("New brooms needed", January 16th). The legal framework in the context of liability in the event of collision is vague and largely untested in law. Meanwhile, insurers who have quietly supported efforts to tackle the issue have been distracted by a series of unrelated and sustained satellite losses coinciding with declining premiums.

There is, however, some glimmer of hope. Moves towards the serious financial backing of debris-removal technology are under way and efforts to develop a new treaty to address the legal consequences of debris have started among legal academics.

Ultimately, it will take regulation and economic measures, such as performance bonds, taxes and fees. The big question is how to implement the requirements on a global basis. As you pointed out: everybody's business is nobody's business. Getting agreement on an international treaty is not easy, hence all we have are non-binding resolutions and other international guidelines promoting debris-mitigation measures. To be effective a treaty would need to include at the very least all the countries with launch capability in the hopes that they would put pressure on their payload customers.

PHILIP CHRYSTAL
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Checking the facts

Wikipedia's Utopian ideal is also a weakness ("Diderot's dream", January 9th). Being able to make infinite corrections is not the same as being correct. How does one know, when reading a particular article, at what stage of its evolution one finds it? Wikipedia defends its disclaimer of accuracy as comparable to that of authoritative publications, such as "Encyclopedia Britannica". But entries in traditional encyclopedias are signed by their authors and vetted by editors. This is by no means a guarantee of accuracy or lack of bias, but it is a serious and transparent attempt at both. Moreover, readers may judge from its byline whether a "Britannica" entry is slanted towards a particular point of view; the anonymity of Wikipedia's contributors makes such discernment impossible.

Anyone who has ever tried to correct errors in a Wikipedia entry, only to find them repeatedly reinserted by other contributors with a competing agenda, will attest to the site's unreliability. Even counting on Wikipedia as a repository of basic information, such as names, dates and places, is a crap shoot. Perhaps the vast majority of its articles are indeed accurate, but which ones constitute that majority, and at what point in time? Literally no one knows; it has become so vast that moderating its millions of entries in any comprehensive way would be impossible. This is how the site is designed to work.

BARRY EDELSON
Huntington, New York

Wikipedia may be unique online because it "sells no advertising". However, it does provide a free platform for companies to display their corporate messages, written by their marketing departments. Are these true statements vetted by Wikipedia? No. Wikipedia also has a devil's bargain with Google. No matter what you search for on Google, from "cats" to "Catullus", Wikipedia is positioned first. If you do enter "cats", to learn about the animal, you get what reads like a Wikipedia advertorial for the movie "Cats".

PEGGY TROUPIN
New York

Yeovil Town Football Club "toils in obscurity in the fifth tier of the English league", you say. Any article on encyclopedias should strive for complete accuracy, so I must point out that Yeovil Town plays in the National League, which is the fifth tier of the English football pyramid, but is not part of the official English Football League. "Toils in obscurity" is perfectly correct.

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Reversion to type

SINGAPORE AND YANGON

A general's thirst for power has shut down democratic rule

MYAWADDY, A TELEVISION station owned by the Burmese army, is normally so bad as to be unwatchable. But when the residents of Naypyidaw, Myanmar's capital, and Yangon, its largest city, woke on February 1st to find soldiers in the streets and martial music blaring from their radios Myawaddy became "must-see TV". It was a Myawaddy newsreader who announced that the country was in a state of emergency and under the control of Min Aung Hlaing, the head of the army.

Soldiers were stationed in government offices. Airports were closed and, in the cities, the internet shut down. Hundreds of politicians from the National League for Democracy (NLD), which won an overwhelming victory in the country's parliamentary elections last November, were put under house arrest. The armed forces also rounded up chief ministers from all the country's 14 states in addition to democracy activists, writers, three monks and a film-maker, Min Htin Ko Ko Gyi. Aung San Suu Kyi, who became a figure of global renown when she led the NLD from house arrest during the 1990s and 2000s, and who as "state counsellor" was the country's undisputed civilian leader, now finds herself under lock and key again.

The army, known as the Tatmadaw, is used to being in charge. When created through conquest in the 19th century, British Burma lumped together over 100 different ethnic groups. After independence in 1948 many of those groups promptly rebelled against the new government. The army, then as now dominated by officers from the Bamar ethnic majority, began a suppression of such separatism that has gone on ever since. After toppling a democratically elected government in 1962 it stayed in power almost continuously for nearly 50 years, justifying its rule on the basis that it was the only institution capable of holding the country together. In 1988 it savagely quashed a democratic uprising.

In 2011, though, the Tatmadaw amazed the world by making way for a civilian government. There were two reasons. The first was that they were worried about the country's direction of travel. Decades of diplomatic isolation by the West had forced Myanmar into China's orbit, something the generals were uneasy about. They were also embarrassed about the country's economy, which they had driven into the ground. In 1962 Burma had been one of Asia's richest countries. Fifty years later it was one of the poorest. In 2008 the regime's woeful response to Cyclone Nargis, which killed 140,000 people, destroyed any vestiges of credibility it might still have had.

The second reason for allowing a civilian government was that the Tatmadaw thought it could do so without really losing power. The generals painstakingly designed a hybrid political system that entrusted the thankless task of governance to civilians but enshrined the Tatmadaw's independence and many of its powers. In the constitution for this "discipline-flourishing democracy", as they memorably called it, the commander-in-chief of the army appoints the man who is notionally his boss, the minister of defence, as well as the ministers of the interior and border control. He thus commands all the organs of state security. A quarter of the seats in parliament are reserved for serving military officers appointed to them, which gives the army an effective veto over all constitutional change. Even as tensions rose over the past few weeks, many believed a coup unlikely simply because the constitution already protects the Tatmadaw's interests so well.

Ms Suu Kyi's NLD boycotted the first elections held under this new constitution in 2010, ushering in five years of rule by Thein Sein, an ex-general, and his Union Solidarity and Development Party (USDP), a proxy for the Tatmadaw. But in 2011, following talks with Mr Thein Sein, Ms Suu Kyi engaged in the process. After success in by-elections the NLD won a landslide victory in the general election of 2015.

The army had tried to ensure that, even if her party won at the polls, Ms Suu Kyi could not herself wield power. The framers of its constitution included a novel clause that bars anyone with foreign relatives from the presidency; it is in no way a coincidence that Ms Suu Kyi has two British sons. It was to circumvent this obstacle that, after the NLD took office in 2016, parliament created the new position of state counsellor.

Best laid plans

The generals were able to take some consolation from the fact that, having achieved power, Ms Suu Kyi did not use it very well. A lacklustre performance was to some extent unavoidable, given the constitutional constraints that stopped her from exerting power over the army and the weakness of all other governmental institutions. But the state counsellor added unforced errors. At first she surrounded herself with ministers whose only credentials were loyalty and grey hair, and though some of the duffers were later replaced with technocrats her management wasted their potential; she brooked no dissent and refused to delegate. The economy was sluggish; the country's precariat grew. Though Ms Suu Kyi continued peace talks with various separatist factions begun under Mr Thein Sein, she alienated many minorities by refusing to take their grievances seriously or to include their representatives in government.

General Min Aung Hlaing had particular reason to hope that this poor record would be reflected in November's vote. He was due to retire from the armed forces this coming July and appears to have harboured hopes of becoming president; he has a hunger for "raw power", says David Mathieson, an analyst based in Thailand. With a quarter of the seats in parliament occupied by loyal officers come what may, a reasonable showing by the USDP would have produced a legislature happy to vote him into office even if the NLD was the biggest party.

It was not to be. Myanmar's system of first-past-the-post constituencies gave the NLD 83% of the elected seats in parliament; the USDP got just 7%. The USDP promptly made allegations of fraud to the electoral commission, which administered the poll. The commission denied them.

There were some problems with the election, and the government refused to allow any voting in some places, citing fears of violence. The same had been done in 2010 and 2015, but this time the no-vote zones in the states of Bago, Kachin, Karen, Mon, Rakhine and Shan were significantly larger. Nonetheless, independent election observers, including those from overseas, agreed that there was no proof of fraud on a scale sufficient to overturn the NLD's landslide victory.

The army, which thought its handcrafted constitution would never see it in the minority, faced the prospect of taking up permanent residence there. And General Min Aung Hlaing's personal ambitions were dashed. He still "needed something to guarantee his legacy, his liberty and his family wealth," says a Western diplomat based in Yangon. But, denied the presidency, "He didn't have a plan B."

In a conscious or unconscious echo of what was going on in Washington, DC, the Tatmadaw took up the USDP's cry of "terrible fraud". By January 26th its spokesman was refusing to rule out the possibility of a coup. At crisis talks on January 28th the army demanded that the new session of parliament, scheduled to start on February 1st, be delayed while a nationwide recount of the vote took place. The government refused, and over the weekend parliamentarians duly gathered in Naypyidaw to get on with things—which made it easy for the armed forces to gather them all up at once.

Forwards to the past

In many ways post-coup Myanmar looks familiar. The army is again in charge, but the reasons it had for stepping aside persist. Ms Suu Kyi is again under house arrest, but remains by far the most popular politician in the country.

Her international standing, admittedly, is not what it was. In 2017 insurgents from the Muslim Rohingya minority attacked an army base in Rakhine. The Tatmadaw, in concert with Buddhist mobs, responded by sacking Rohingya villages, killing at least 10,000 and impelling 720,000 to flee to neighbouring Bangladesh. Many Bamars cheered the army on.

The generals may have hoped that this violence would see Ms Suu Kyi, a Nobel-prizewinning human-rights icon, sacrifice support at home by defending the rights of Rohingyas. She went the other way, refusing to denounce the army's "clearance operations". In 2019 she went to the International Court of Justice (ICJ) in The Hague to defend the generals accused of genocide. Her reputation abroad will never recover; at home it was burnished. Her performance at the ICJ probably helped win the NLD their massive majority in November.

The army's best chance of getting out of the cleft stick into which it has reinserted itself is to delegitimise the NLD and make itself and its proxies more popular. To further the first agenda it argues that its coup was a defence of democracy in the face of the NLD's stolen election, and carried out in a perfectly proper way. The state of emergency was, as the constitution requires, en-

There and back again?

Myanmar, selected events, 1985-2021

Source: *The Economist*

acted by the president—albeit a rather fresh one, as Myint Swe, a retired general, had been elevated from the vice-presidency only minutes earlier, following the detention of the former president, Win Myint of the NLD. Ms Suu Kyi's detention is justified by the charge that she had improperly imported walkie-talkies—a charge which puts her at risk of being barred from office. Most of the other politicians originally detained have since been released.

The commander-in-chief will try to "position [his administration] as a more effective government, relative to the NLD," says Tom Kean, editor-in-chief of *Frontier*, a magazine based in Yangon. General Min Aung Hlaing has said that his government will focus on battling covid-19, boosting the economy and brokering peace with insurgent forces.

International sanctions might put paid to his hopes of economic growth—but they are not a foregone conclusion. Since 2019 America has had specific sanctions aimed at General Min Aung Hlaing and three other officers associated with the pogroms against Rohingyas. President Joe Biden has threatened to reimpose broader sanctions lifted after the elections of 2010. Such sanctions might well, as they did during the years of military rule, hurt the poorest members of a highly unequal society most. Myanmar's army rulers and the business networks and smuggling rackets they patronise, used to such constraints, would be much less affected.

One of those sceptical about a policy of isolation may well be the Indo-Pacific tsar in Mr Biden's National Security Council, Kurt Campbell, who from 2009 on orchestrated America's rapprochement with Myanmar under Barack Obama. On past form he will argue that engagement with Myanmar is the only hope of getting the democratic process back on track.

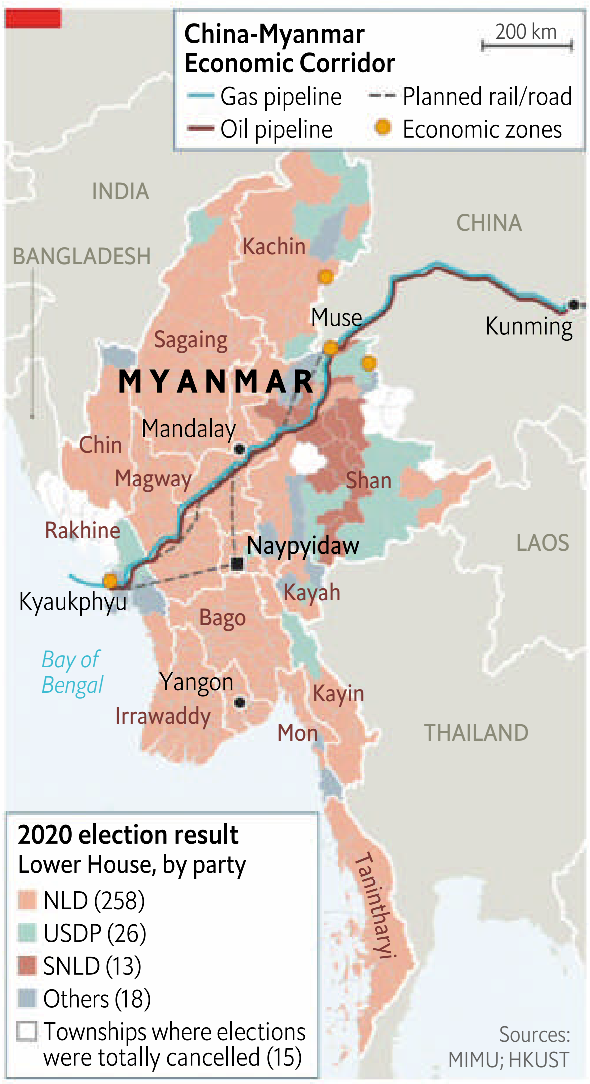
Part of Mr Campbell's strategy in the 2010s was to play on the Tatmadaw's worries about China's power over their isolated country. Those fears, like the other drivers behind that opening-up, are still apparent today. The army is wary of Chinese support for insurgencies along their shared border. Chinese interests are deeply embedded in the country's dysfunctional economy, easily discerned in arms sales, infrastructure projects, an army of small traders and border enclaves that are havens for gambling, smuggling and money-laundering.

The fact that Chinese state media described the coup as no more than a "major cabinet reshuffle" suggests that the Chinese government, which had been wooing Ms Suu Kyi, is keen to be on good terms with the new regime. Myanmar offers it a strategically crucial direct route to the Bay of Bengal and the Indian Ocean beyond—a way for China's imports of oil and gas to bypass the potential chokehold of the Malacca Straits and for exports to be shipped out of its inner provinces. In time it could be a military foothold, too.

The physical manifestation of these strategic desires is the China-Myanmar Economic Corridor, over $21bn-worth of country-spanning projects including a railway, oil and gas pipelines and a deep-water port at Kyaukphyu. These projects were troubled even before the uncertainty injected by the coup. It is far from clear how Myanmar can pay for them all. And the links run through the territories of various ethnic minorities, including, in Rakhine, the territory where the ethnic cleansing of Rohingyas took place. Chinese-backed construction is more likely to inflame existing ethnic conflicts in such places than to bring peace and development.

The wars at home

While outsiders vie for favour and seek to engineer an outcome they prefer, political opposition inside Myanmar may be weak. On February 3rd staff at 70 hospitals in 30 towns went on strike. The following day, a small demonstration took place in Mandalay, Myanmar's second city. The All Burma Federation of Student Unions, which played a role in the seminal protest movement which saw Ms Suu Kyi emerge as a leader in 1988, is planning protests across the country, according to Wai Yan Phyoe Moe, the organisation's vice-chair. But the NLD itself is in disarray. "Without [Ms Suu Kyi's] leadership in the short term, I think it will be difficult for the NLD to respond cohesively to this challenge it now faces," says Mr Kean.



Nay Phone Latt, an activist and political prisoner under the last junta, suspects that at least for the moment people would prefer to express their dissent on social media rather than in the streets, daunted as they are by the twin risks of catching covid-19 and provoking the army. "We saw such brutal crackdowns in the past," he says. After the coup's initial restrictions on internet use were eased (they were too disruptive to business) criticism flooded social media, leading the regime to order internet providers to block Facebook, widely used in Myanmar, for four days from February 4th. In the longer term the Tatmadaw has other weapons at its disposal, like disinformation. Mr Wai Yan Phyoe Moe alleges that the army is already trying to sow doubt about the true identities of protesters in order to foment instability.

As these fights continue online, others will be fought on the ground. General Min Aung Hlaing's talk of reinvigorating peace talks needs to be read in the context of the army's belief that negotiation works best from a position of strength. "[The coup] is a precursor to a much more aggressive [military] approach," says Avinash Paliwal, of the School of Oriental and African Studies in London. He believes that the Kachin Independence Army, one of the more powerful armed groups, has privately warned its rank and file to "prepare for the worst". It may not escape the junta's notice that more intense fighting could offer a pretext for extending the state of emergency.

Attending to health and the economy while refraining from violence in the Bamar heartland may win the new regime the support it needs for the next election to produce a parliament more to the Tatmadaw's liking. To help things along it has already appointed loyalists to a new election commission, and Ian Holliday of the University of Hong Kong suspects that it may seek a way to ditch the first-past-the-post system which has amplified the NLD's parliamentary majorities.

Their aim is not inconceivable. Most Burmese adore Ms Suu Kyi. But their views on democracy are ambivalent. Although 87% of those surveyed in 2019 by the Asian Barometer Survey say that they support democracy, two-thirds believe it neither promotes economic growth nor maintains order. Nearly half support a role for the Tatmadaw in politics—more than in 2015.

But having had a taste of democracy for the past five years, many Burmese will be loth to give it up. "We are afraid of being beaten or killed or shot," says Mr Wai Yan Phyoe Moe. "But we have also seen that many people have sacrificed their lives fighting injustice during the military dictatorship in past decades. This time it is our duty to end the injustice." ■

California v Texas v covid-19

Life, liberty

DALLAS

America's two largest states have taken opposite approaches to fighting covid-19. The results are not as different as might be expected

If crisis reveals character, as the saying goes, it can also reveal contrast. In America, the two most populous states—California (the largest Democratic state) and Texas (its Republican rival)—have adopted strikingly different approaches to managing the pandemic. How well they have fared is significant to the health of the nation, since one-fifth of Americans live in the two states. Their relative fortunes also show how hard it is for states, which are in charge of America's response to covid-19, to get the trade-offs right between lockdowns, economic damage and the spread of the virus—and show the limits of public policy when state borders are porous.

Texas, ever sceptical of government, has taken a lighter-touch approach to public-health measures. Last year Greg Abbott, the governor, was slow to issue a mask mandate and fought cities and counties that wanted to implement stricter rules. Texas did issue a stay-at-home-order, but it was one of the first states to reopen, doing so even earlier than Donald Trump's White House suggested. Cases spiked.

In Texas the trade-off between public health and economic health largely played out in favour of business interests. Last year during lockdown, Dan Patrick, the histrionic lieutenant-governor, summed up this philosophy by arguing that "there are more important things than living" and claiming "lots of" grandparents were willing to die to save the economy. Underscoring the state's view of business, on February 1st Mr Abbott used his state-of-the-state address to declare five "emergency items". The only one related to covid-19 had nothing to do with stopping deaths, but instead was aimed at helping businesses, health-care providers and individuals to avoid covid-related lawsuits.

→ Also in this section

California, in contrast, has taken a more activist role in responding to the pandemic, says Jennifer Tolbert of the Kaiser Family Foundation, a non-profit. This reflects the state's philosophy that government intervention can be a force for good. It was the first state to impose a shelter-in-place order last year and still has some of the strictest guidelines in the country. Until recently, the state banned even outdoor restaurant dining as it grappled with a winter surge of cases, prompting complaints and lawsuits from businesses. Not until January 25th did Governor Gavin Newsom announce that the state would lift, again, its stay-at-home order. Public schools have mostly remained closed for in-person learning, while those in Texas have been open since last autumn—by state decree.

Despite their contrasting approaches, the results have not been as different as expected. Texas has a higher death rate per person—only Arizona and South Carolina have fared worse, according to the CDC. But the gap is not as great as you might expect: Texas has had 127 deaths per 100,000 compared with 104 per 100,000 in California. "People in California are frustrated because they feel like they are experiencing the worst of both worlds," says Ken Miller of Claremont McKenna college and author of the book "Texas vs California". They have endured never-ending lockdowns, and yet deaths are currently higher than ever. Meanwhile, in Texas, the economic benefits of a more libertarian approach are hard to discern. The unemployment rate in both ▸▸

states is higher than the national average.

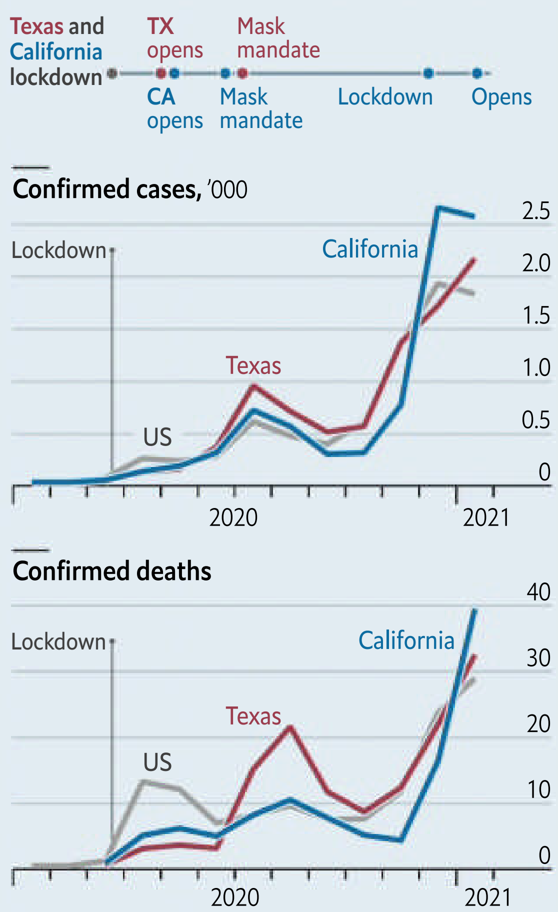
It is still too early to issue a post-mortem on why this is. But there are several factors that may help explain the states' different experiences. First is the role of more infectious mutations. Anne Rimoin, a professor of epidemiology at UCLA School of Public Health, describes variants as "the big x-factor". She thinks a variant may be one cause of the spike southern California saw in cases this winter, but it is too early to say so conclusively, because so little genomic sequencing and surveillance have been done. "As has been shown from the recent surge in California, the virus often wins, no matter what you try to do as a government," says Larry Levitt of the Kaiser Family Foundation.

Lone Stars and lockdowns

A second factor is the length of lockdowns people can tolerate before the policy becomes counterproductive. Most public-health experts believe that Texas was too quick to come out of its lockdown and paid the price with thousands of lives. Yet California has shown the limitations of long-lasting, intermittent lockdowns. The Golden State's most recent ban on outdoor dining in the winter may have simply pushed private gatherings indoors, causing the virus to spread. Jay Bhattacharya, a professor of medicine at Stanford University, calls lockdowns "trickle-down epidemiology policy", because they gave an advantage to the wealthy who could work from home,

No right answer

United States, covid-19, monthly confirmed cases and deaths, per 100,000 people



Sources: CDC; US Census Bureau

whereas poorer Californians had to go work, thereby running the risk of bringing the virus back to their families. That is a strange outcome for America's most progressive state.

Even Mr Newsom got pandemic fatigue, dining indoors at the French Laundry, one of the country's most expensive restaurants, with acquaintances in November after urging Californians to practise social distancing. Disapproval of his action has been mounting, and he is facing a recall campaign, which if it gathers enough signatures, will go on the ballot and could remove him from office. His Texan counterpart has also seen his approval ratings drop, but is not facing a political crisis.

A third factor explaining the pandemic's toll in these two states is access to health care. Texas chose not to expand health-care coverage under the Affordable Care Act. Its share of uninsured adults and children (18%) is the highest in the country and twice the national average (in California, the figure is 8%). Lack of health care is probably one reason why Texan deaths per capita have been higher, although its inhabitants are more spread out. "Because there's such a limited safety-net, you're seeing people seek help and not getting it, but some people aren't seeking help at all," says Lina Hidalgo, county judge of Harris County in Texas. "Incredibly high numbers of people are dying at home."

The pandemic has laid bare the shortcomings of both states. Texas has always been run lean, with few benefits for those who fall on hard times. California makes a point of offering more help to the needy, yet has been unable to deliver on its promises. The state's inability to reopen public schools—which would require breaking with powerful teachers' unions—has saddled the state's neediest families with extra burdens. The administration of unemployment benefits in California has also been a disaster, resulting in delayed cheques to the needy and improperly paid ones to fraudsters, including some in jail. A state audit says the fraudulent claims could amount to as much as $30bn, or $20,000 for every unemployed Californian.

Getting their residents vaccinated will be the next test. The states that are currently doing best on that score, such as West Virginia, tend to be smaller. Texas's roll-out was initially faster. It was early to expand vaccine eligibility beyond health-care workers to all those over 65, which helped speed up the roll-out. But a lack of a centralised booking system has led to many double bookings for shots. At one vaccination site in Dallas that your correspondent visited, 500 people are being vaccinated a day, but there are 100 no-shows, many of whom are suspected of booking elsewhere and forgetting to cancel. By contrast, California focused first on health-care workers and then those over 75. After a slow and chaotic start, California has picked up pace. In the past week California administered around 4 jabs per 1,000 people each day, compared with 2.8 in Texas.

Those Californians and Texans who hope the federal government may step in and fix glitches with vaccinations seem likely to be disappointed. "We thought they were going to bring in the army and the National Guard. Now we realise it was left entirely left to the states, but it doesn't look like the states understood the complexity of what was involved," says Peter Hotez of Baylor College of Medicine. Having muddled through the past year with opposite policies and quite similar results, America's two biggest states must once more find their way back to normality themselves. ■

School enrolment

Vanishing act

BOSTON

A large number of pupils have gone missing during the epidemic

CHILDREN ARE vanishing from public schools. New York City has lost 30,000 pupils this school year compared with the previous one, a 3% decline. Los Angeles Unified's roster decreased by 19,233 (4%), and Boston's by 5% (2,368 pupils). For a variety of reasons, children from pre-kindergarten to high school are disappearing from the rolls.

How worrying is this? Analyses are limited, but a deep dive into preliminary data from Massachusetts' public schools by Thomas Dee of Stanford University and Mark Murphy of the University of Hawaii at Manoa shows that most traditional public districts in the state—274 out of 289—had enrolment declines this year in comparison with last year. Massachusetts experienced a 4% statewide loss in this academic year (37,363 pupils) compared with the year before. Not all districts lost pupils, however; charter, vocational and virtual (completely online) districts saw increases. Two virtual districts gained 611 pupils, a 21% increase over the past year, and charter districts gained 1,277 pupils, a 3% increase over 78 districts.

Some of the decline is no cause for concern. A portion of Massachusetts public-school pupils are probably attending classes out of state, while others are leaving for charter schools, private schools or home-schooling. Some families may also leave districts to move to second homes, explains Mr Dee. He found that some holiday spots like Martha's Vineyard and Provincetown grew by 2-3%. ▸▸

Other pupils are simply missing school, however. Mr Dee and Mr Murphy found that enrolment decreases were associated with smaller, whiter and poorer school districts, mostly in rural areas, where parents are unlikely to have moved to the wealthy beaches of Cape Cod. Although the analysis is preliminary, Mr Dee thinks that disengagement from schools may be more concentrated in these communities.

That echoes a concern heard beyond Massachusetts. David Monaco, head of Parish Episcopal School, a private school in Dallas, saw some pupils leave for more personalised small-group or individual schooling, though his overall enrolment remains steady. By contrast, Michael Hinojosa, the superintendent of Dallas Independent School District, where 85% of all pupils are classified as low-income, explained that while some of his pupils could be sitting at home playing video games, others are taking care of younger siblings while their parents work. "A lot of [pupils] are out there working...to support their families," says David Vroonland, superintendent of Mesquite Independent School District, a small city near Dallas where 75% of pupils are classified as poor.

Pupils missing school are not just a worry for their families (and for the country's future). Since America's schools are funded on a per-person basis, the decline in enrolments also creates financial problems. Whereas some states, like Texas, are allocating school funding based on last year's intake, schools in New York City may need to return money this year because enrolment has declined. And all schools risk losing funding next year if enrolment continues to fall.

Getting missing pupils back to school takes an extraordinary effort. Sara Bonser, superintendent of the Plano Independent School District north of Dallas, lost 6.5% of her pupils (3,883) at the beginning of the year. To find these children, her staff called thousands of families and conducted 115 home visits to get 1,279 pupils back on the books. To encourage attendance, Ms Bonser and her staff have provided support beyond the typical bounds of schooling.

One parent had a job that required leaving home at 6am, and her four children were not waking up for remote classes. Ms Bonser's team found the mother employment closer to home so she could leave later and wake her children for school. Ms Bonser described other types of support, including allowing deadline flexibility to accommodate pupils' work schedules and providing struggling families with food, furniture, clothing and toys. Existing district funds were reallocated so no additional money was needed for the programme. But the district's work with one family hints at what a daunting job finding all those missing pupils will be. ■

Unions and schools

Class warfare

CHICAGO

The struggle over reopening Chicago's schools reflects deeper divisions

In city lore, the Chicago Teachers Union (CTU) is a mighty beast. Its 25,000 members have frequently shut down America's third-largest public-school system. The most recent strike, late in 2019, doubly pleased the 84-year-old group. An 11-day shutdown helped to get teachers a generous five-year pay deal and dealt a blow to Lori Lightfoot, the recently elected mayor. She had vowed that her debt-ridden city would never fund such a "bail-out" for teachers, yet the union forced her hand.

Ms Lightfoot is a Democrat, but she has little love for militants at the CTU. The union had endorsed her rival in the run-off to be mayor. Its members snipe that she and her school director, Janice Jackson (who earlier served Rahm Emanuel, who was even more reviled by many teachers), are "neo-liberals" who supposedly do the bidding of wealthy Chicagoans. Suspicion has only grown since the epidemic abruptly ended in-class teaching in March. The city first tried to order a partial reopening of schools in September, only to be blocked by the union, which called it unsafe for its members to return to their workplaces.

Both sides agree that the effects of home-learning are grim for over 300,000 children, many of whom have lost almost a year of education. Ms Lightfoot says pupils are "falling woefully behind" and wants them back at school; the union talks more of how to do better with remote study. Shutting schools hits hardest in poorer African-American and Hispanic neighbourhoods, south and west of the city, where crowded homes, wobbly wifi and a lack of laptops may make decent distance-learning almost impossible. After the worst infection rates fell from a November peak, Ms Jackson has tried again to get the youngest children back to class. A few trickled in last month. Children aged up to 14 were supposed to follow this week.

The city says teachers will lose pay if they fail to appear in class. In-person teaching looks relatively safe now that everyone puts on masks. The city has spent $100m retrofitting buildings, installing screens and better ventilation, and taking other precautions. Meanwhile hundreds of nurseries and private schools, besides over 90 Catholic-run ones, and others in the suburbs, have been open for long spells with no ill effects. Plenty of studies, including a report last week from the Centres for Disease Control, say younger children in schools have not been virus spreaders.

But again the CTU has balked. This week its leaders staged "teach-ins" at desks in deep snow outside schools. It wants all teachers vaccinated first, which could take months, and says the city's protective gear, promises of tests and other resources are not up to scratch. It worries that schools lack space for social distancing and wants committees with powers to quickly close them again if local infection rates rise. It fears new strains of the virus, too. In late January 71% of its members, urged by its leaders, voted to walk off the job rather than be forced back in.

A strike would look awful, both for the union and the city, so negotiations to avert one have gone on all week. CTU intransigence looks mostly to blame for the prospect of closure. But as Harry Katz, an expert in labour disputes at Cornell University, points out some teachers are genuinely fearful and the union's job is to give them a voice. "It's a mess; health and safety are really difficult to get right," he says.

It is notable, too, how parents shape the debate. The union, called Local 1 at its founding in the 1930s, has repeatedly disrupted school life over generations, yet remains broadly supported in an overwhelmingly Democratic city. That may reflect class solidarity. Racial and social divisions also play a part. A survey of parents in December found only around one-third of Hispanics and African-Americans (who together account for the vast majority of all pupils) were ready to send their children back. In contrast, some two-thirds of white ones would do so.

What explains the gap? Non-whites may have been likelier to have seen covid-19 deaths at close hand, so perhaps fear health risks more. Wealthier whites, in turn, may be more anxious about the long-term costs of missed education, especially if they see others—at private schools—already back in class. ■

Covid-19 relief, episode 6

Stimulating talks

WASHINGTON, DC

Republicans test the precise meaning of Joe Biden's talk of unity

THE SYMMETRY is fearful. Twelve years ago, another freshly elected Democratic president faced an economic crisis and was forced to devote the first month of his term to crafting a stimulus measure to cushion the blow. Joe Biden's experience then, as Barack Obama's lieutenant, informs his calculation now. Mr Obama succeeded in getting his bill, the American Recovery and Reinvestment Act, but at considerable cost. That was not just the literal, gargantuan expense (at least for its time) of $787bn, or nearly $1trn in present dollars, but the steep political cost, too. Opposition to Mr Obama's supposedly spendthrift measure spurred the Tea Party movement, which would eventually morph from deficit hawkery to proto-populism and eventually full-blown Trumpism.

Greater modesty is not the moral Mr Biden seems to have learned from his tutelage in the last recession. Rather, he seems worried about being insufficiently bold. The enormous stimulus plan he unveiled as his legislative priority, the familiarly named American Rescue Plan, costs $1.9trn, nearly twice as much as Mr Obama's hotly disputed rescue measure in 2009. And it comes after Congress had already passed $4trn-worth of fiscal stimulus to counter the economic fallout from covid-19.

Having been poor practitioners of the fiscal stewardship they preach, Republicans have not yet mustered a rebuke as bellicose as in 2009. A counter-offer delivered by ten Republican senators—the number that would be needed to surmount the inevitable threat of a filibuster—costing an estimated $618bn looks modest only on a relative scale. A cordial Oval Office meeting between the group of senators and Mr Biden on February 1st was notable both for its length (close to two hours) and its anti-climactic, non-committal resolution. How the negotiations play out will be significant beyond just the haggling over a few loose hundred billion. They will also determine whether Mr Biden's aspirations for unity and bipartisan dealmaking are workable, or mere happy talk.

The president's opening offer is a maximalist agglomeration of Democratic ambitions—left-liberal provisions with varying levels of plausible justification. Some, like the $160bn to accelerate vaccine manufacturing and distribution, are plainly needed. So too is an extension of the federal top-ups to unemployment benefits, which would otherwise expire in March. A temporary boost to earned-income and child-tax credits, which sounds stultifying technocratic, would dent the alarming increases in poverty and food insecurity that researchers have noticed in recent months.

Some of the administration's other priorities are harder to justify. About a quarter of the fiscal firehose ($463bn) would be aimed at disbursing a third round of direct cheques to most American households. The promised amount, $1,400, is of dubious provenance. In the waning days of his presidency, Donald Trump briefly flirted with rejecting the previous stimulus bill (worth $900bn) because its $600 cheques were too small. He favoured the bigger, rounder number of $2,000—which his own Republican allies in Congress resoundingly rejected. Seeking to make much of this own-goal ahead of critical Senate elections in Georgia, Mr Biden embraced the promise of $2,000 in total (hence a new $1,400 cheque). The president's own economic advisers are reported to be doubtful of its merits.

Democrats have also been attached to sending an enormous cash infusion to state and local governments since the early days of the pandemic, when they (reasonably) feared huge budgetary shortfalls and the resulting vast layoffs of public workers. State and local budgets have in fact done much better than feared—dropping by only 0.7%, according to estimates by the Census Bureau—although this has not much dampened Democratic zeal to provide the funds. So much so that the $350bn on offer exceeds the total estimated shortfall in state tax collections over the first nine months of 2020 by a factor of ten. The long-held ambition of progressive Democrats to raise the federal minimum wage to $15 an hour is dutifully tacked on as well.

The Republican counter-offer treats many of these additions as an editor might treat the flabby copy of a correspondent. There is no proposed rise in the minimum wage and no bail-out for state budgets in more or less fine shape. The proposed spending on vaccinations remains the same, but the direct cheques would be more modest (only $1,000) and, somewhat unusually for Republicans, more aggressively means-tested (limited to people making less than $50,000). The plan discards Democratic proposals for more generous means-tested tax credits that are proven anti-poverty policies. The $20bn allocated to expeditiously reopen schools, which in some parts of the country have been closed for nearly a full year, is a fraction of the $130bn Mr Biden would like.

Precisely how much stimulus the economy needs after the extraordinary measures taken in 2020 remains difficult to determine. Modelling by the Congressional Budget Office projected a faster recovery than before even without any additional spending—real GDP growth is expected to be 4.6% in 2021, and the unemployment rate is projected to drop from 8.1% to 5.7%. Given that rosier trajectory and the general oddities of a pandemic-driven economic slump, the benefits of another large stimulus measure are difficult to predict. One analysis of the Biden plan by the Brookings Institution, a think-tank, suggests that it would increase real GDP by 4% over the current analysis; another respected macroeconomic modeller, the Penn Wharton ▸▸

Going solo

Budget Model, estimates that it would contribute a mere 0.6% of growth.

Unlike Mr Obama, Mr Biden has never been mistaken for a remarkable orator. His choice of one particular word, "unity", as the opening theme of his administration is imprecise. Mr Biden seems to mean not a return to the era of good feelings but a lower-temperature politics where the party in charge still leads but compromise is to be pursued. Some Republicans, tripping over the imprecision, have professed anger and confusion that Mr Biden is in fact pursuing conventional Democratic policies.

Yet for all that, a compromise is now discernable. Senate Democrats have already voted to start debate on a budget resolution, which would allow them to pass a compromise-free stimulus bill through a parliamentary procedure called reconciliation, by which budget bills can pass with 51 votes, avoiding a filibuster. But Mr Biden's team appears open to accept means-testing the $1,400 cheques, which would bring the overall cost of the package down significantly. Mr Obama mustered only 3 Republican votes for his stimulus. Mr Biden could well improve on that. ■

Abortion arguments

Roe-ing back

WASHINGTON, DC

How religious conservatives learned to love anti-discrimination laws

AMERICA'S ANTI-ABORTION campaigners tend not to be noisy champions of racial equality, the rights of women or the disabled. But they intend to change that. In recent months conservative states have introduced bills banning abortion on the grounds of race, sex or the diagnosis of a fetal abnormality. Last week South Dakota became the latest to do so, when the governor introduced a bill banning abortion because of Down syndrome. The aim, besides limiting access to abortion, is to push a case before the Supreme Court justices in the hope that they will use it to overturn *Roe v Wade*, the Supreme Court ruling of 1973 that legalised abortion.

Since Amy Coney Barrett joined the court in October, giving it a 6-3 conservative majority, such an outcome seems likelier than ever. Mary Ziegler of Florida State University reckons the end of *Roe* ("a question of when rather than if"), is likely to come through one of these "reason bans", or a law banning abortions later in pregnancy. Supreme Court rulings allow abortion on demand (that is, for any reason) until a fetus is viable, at around 24 weeks. Polling suggests most Americans think it

Anti-discrimination campaigner

should generally be legal in the first three months of pregnancy, but not thereafter.

In November a federal appeals court upheld a ban in Tennessee on abortion on the grounds of race, sex or a diagnosis of Down syndrome (it struck down another law banning abortions as soon as a heartbeat was detected, around six weeks). The state thus became one of four to have a law banning abortion in cases of fetal abnormality and one of around a dozen to have a bar on terminations on particular grounds including sex or race. Elsewhere, courts have blocked such bans. But in some of those cases, judges have called for the Supreme Court to reconsider them. In January, when a court struck down a ban in Arkansas on abortions because of Down syndrome, two of the three judges thought the ruling failed to adequately consider "the state's compelling interest in preventing abortion from becoming a tool of modern-day eugenics".

The revival of reason bans as a weapon in America's long-running abortion wars is shrewd. Such bans are potent because they are rooted in the argument that abortion can constitute discrimination against a particular group. Melissa Murray of NYU Law points out that though Supreme Court justices rarely overturn earlier rulings they are more likely to do if there is a "special justification". In some cases, that has been the desire to correct racial injustice.

Clarke Forsythe, senior lawyer for Americans United for Life, which has drawn up many successful state-level abortion regulations, says he believes reason bans, especially in the case of Down syndrome, are both emotive and "persuasive as a matter of law". The legal strides made in the prohibition of discrimination in America, he says, means that the anti-discrimination rationale of such bans could override the right to an abortion declared by *Roe* and subsequent rulings.

There is no evidence that women in America have abortions because their babies would be black, Asian or female (as the race and sex bans imply). There is evidence that they do so when the fetus they are carrying is found to have a genetic abnormality: a majority of diagnoses of Down syndrome result in an abortion. But even if it was decided a woman should be deprived of the ability to end a pregnancy for this reason, such bans are impracticable. It is "ridiculous and impossible", says Khiara Bridges, a professor at University of California, Berkeley School of Law, to try to determine the reason for an abortion, even if a woman has received a particular prenatal diagnosis. "She may have also lost her job. There is rarely a single reason a woman has an abortion." State-level bans may also lead to more abortions later in pregnancy as women are forced to look (and then travel) further afield for providers.

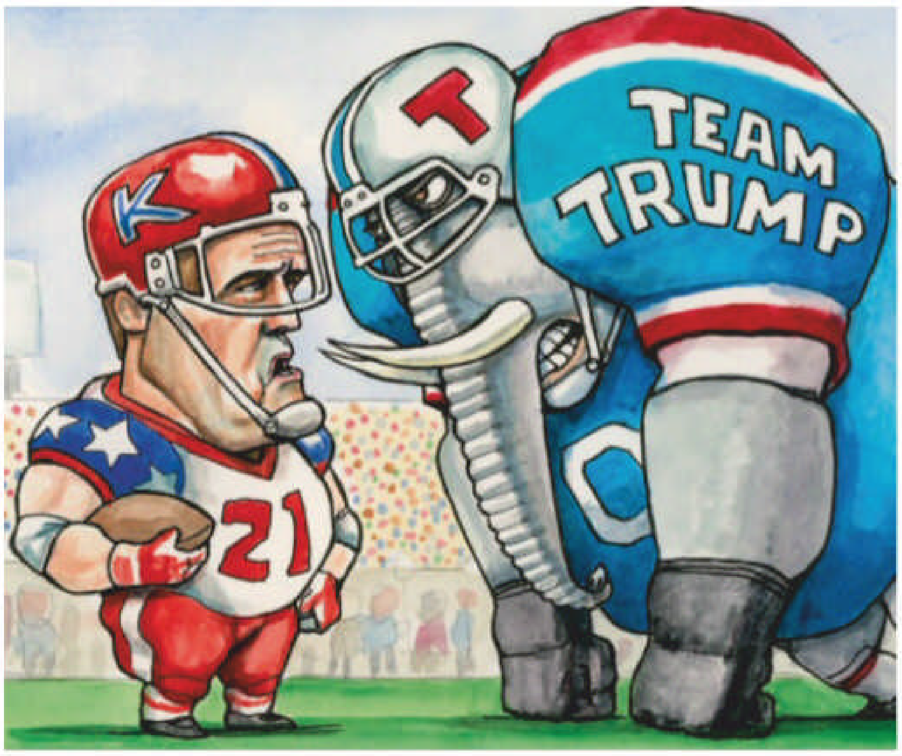
Ellen Clayton, a professor of paediatrics, law and health policy at Vanderbilt Law School in Tennessee, says one of the arguments increasingly advanced by anti-abortionists, that abortion of Down syndrome babies fosters a wider atmosphere of discrimination, is "flat out wrong". She points out that even as prenatal diagnostic tests have improved, increasing the number of such abortions, other medical advances and changing attitudes have meant people born with Down syndrome live longer, have more opportunities, and are more integrated into society than in the past.

Abortion providers, meanwhile, are concerned that the proliferation of such bans will have deleterious effects on women's prenatal health care. Dr Colleen McNicholas, the chief medical officer for Planned Parenthood of the St Louis Region and Southwest Missouri—the last abortion clinic in the state, thanks to regulations that make it impossible for clinics to operate—says it is "ethically questionable if not unethical altogether" to offer prenatal testing without being able to offer interventions. Doctors, she says, may also find it hard to know what is allowable, since such laws are "written to be confusing".

Yet some believe the battling sparked by such bans may not be entirely negative. The arguments that tend to dominate either side of America's polarised abortion debate—that abortion is simply an issue of bodily autonomy on one and plain wrong in every case on the other—makes it impossible to reach any kind of consensus on how abortion laws and practices might be reformed. The introduction of issues that require a more nuanced approach might improve the debate. "Abortion rights activists' refrain of 'my body, my choice' is powerful, but they should also be having conversations about ethical decisions around abortion, including on things like disability rights," says Ms Bridges. "Otherwise, they cede such issues to the other side." ■

Lexington | The courage of Adam Kinzinger

A congressman from Illinois has launched the most full-throated Republican challenge to populism



"Profiles in courage", John F. Kennedy's ghostwritten homage to politicians who stood on principle against their own parties, is a revealingly slim tome. Even in the 19th century, from which most of Kennedy's eight examples were drawn, the social and electoral disincentives to crossing a party line were formidable. With the introduction of the primary system in the 1970s, which made candidates accountable to their parties' most raving loyalists, they have increased. And politicians, who mostly want to be liked even more than the rest of us, are especially averse to such pressures. Depressing as the Republicans' capitulation to Donald Trump has been, history suggests it was on the cards.

This makes the one-man resistance to Mr Trump and all his works latterly launched by Congressman Adam Kinzinger of Illinois all the more remarkable. Mr Trump's few Republican critics have mostly been on the way out, as Bob Corker and Jeff Flake were, or, like the Never Trumpers, already in the wilderness. A couple of others, Lisa Murkowski and Mitt Romney have strong enough home-state brands to get away with criticising the former president selectively. By contrast, Mr Kinzinger, a 42-year-old House member whose good looks and television manner are said to have impressed Mr Trump, is in his political prime, vulnerable to the ruling Trumpists, but now all in against them.

The air-force veteran was one of the first Republicans to congratulate Mr Biden on his win and almost the only House Republican to dismiss Mr Trump's election-fraud conspiracy as dangerous nonsense. After the insurrection it sparked (which Mr Kinzinger claims to have been forewarned of by the threats he received on social media) he was the only Republican to vote for Mr Trump to be removed under the 25th amendment. He was one of the ten who voted for his impeachment. And where the other nine, including Liz Cheney, the third-ranking House Republican, are now mostly lying low, Mr Kinzinger has expanded his critique.

In an interview this week he described Mr Trump as symptomatic of a deeper rot on the right, the politics of nihilism and grievance he encountered on entering Congress in 2011. Though nominally a Tea Partier, he unveiled McCainite views and an interest in governing. His fellow insurgents meanwhile pursued the brainless extremism ("legislative terrorism," he calls it) of the Freedom Caucus, a precursor to Trumpism. Caucus members such as Mick Mulvaney became zealous Trump enablers. Mr Kinzinger considers their belligerent colleague Jim Jordan the de facto House Republican leader. And he has had it with the lot of them.

He says he regrets voting for Mr Trump, is glad Mr Biden won and advocates sweeping Republican reform. The angry pushback he is getting is only making him more critical. After a relation and fellow evangelical Christian accused him of being possessed by the devil, he slammed the slavishness of Mr Trump's Christian fan base: "The devil's ultimate trick for Christianity…is embarrassing the church". This week he announced his intention to lead a "country first" campaign against Trumpism. "It's time to unplug the outrage machine, reject the politics of personality, and cast aside the conspiracy theories and the rage," he said in a promotional video.

He knows he is up against it. The Trumpists are in charge because that is what Republican voters seem to want. Yet he makes a reasonable political and stronger personal case for sticking it to them anyhow. He suggests many Republicans are backing Mr Trump for want of alternative leaders. "People need to be reminded that the Republican Party has this rich history. We used to be optimistic," he says. He then compares the current state of Abraham Lincoln's party to a drunk awaking after a "massive bender". "You're like, what the hell did I do last night? And you have a choice. You can take a delicious Bloody Mary, or actually confront your choices and become a better person." Mr Kinzinger, a former college dropout, speaks with the authority of one who knows what it is to err. He also has logic on his side. Republicans need to expand their support, which post-insurrection Trumpism cannot do. "There's just not enough Proud Boys or far-right fringe groups to compensate for the people we've alienated," he says.

He has probably already guaranteed himself a primary challenge. But so what? he says, before pausing, gunslinger-style, to spit a glob of tobacco into an empty cola bottle. There are worse things than political failure—a truth he says he learned fighting in Iraq. "And it's not like all I ever wanted to be was a congressman."

However Mr Kinzinger gets on, his brave stand is already significant. It shows how beleaguered the Republican mainstream is. He is hardly a front-rank leader and pretty much out on his own. And yet his argument that the moment for a reckoning is now, when Mr Trump's defeat and insurrection are fresh in the mind, is persuasive. The former president's continued grip on the party is strengthening its worst elements, such as the hate-filled Marjorie Taylor Greene. It is also eroding the scope of his likeliest successors, such as Nikki Haley or Marco Rubio, to repudiate them. If they will not turn on Trumpism now, they will struggle to do so credibly later. Mr Kinzinger might even turn out to have been his party's last best hope of a return to sanity.

A zinger from Kinzinger

He will have been a good advertisement for heroic failure if so. Unlike his Trump-beaten colleagues, with their telltale aggressive defensiveness, he exudes contentment. Embracing the possibility of failure is liberating, he says: "If you say, career-wise, I'm already dead and I'm just going to speak the truth, you may end up not getting re-elected, but you can feel pretty good about it."

Kennedy's exemplars must have felt a similar satisfaction in their noble, mostly failed, undertakings to limit the spread of slavery, prevent the civil war and so forth. They were also immortalised for them. That is another consolation Mr Kinzinger might hope for, as he takes his slingshot to the Goliath of Mar-a-Lago. ■

Colombia

The terrible truth

BOGOTÁ

A peace tribunal issues a crushing judgment against the FARC

CRITICS OF COLOMBIA'S peace deal with the FARC rebel group, which in 2016 ended a 52-year war with the government, complain that it lets the guerrillas off too easily. The fault, in their view, lies with the "special jurisdiction for peace" (JEP), an institution set up under the accord to investigate and judge crimes committed during the conflict. The Democratic Centre party, founded by Álvaro Uribe, who fought the FARC as Colombia's president in the early 2000s and is the mentor of the incumbent, Iván Duque, claims that the JEP's purpose is to go after government soldiers while securing impunity for FARC criminals.

On January 28th the JEP proved the critics wrong. In its first ruling since its founding four years ago, it indicted eight FARC leaders for war crimes and crimes against humanity. All were connected with the group's practice of taking hostages and ransoming them to finance its war against the state. Among the alleged culprits are the former top commander, Rodrigo Londoño, known as Timochenko, and two leaders who are now members of Congress. Seven of the eight (one has died) have 30 working days from the ruling either to accept or deny the accusations. If they accept, the JEP will restrict their freedom, perhaps by ordering them to de-mine land or build schools in war-torn areas. If they reject the charges, the JEP's investigative unit will seek to prove them in a trial. If the defendants are convicted, the JEP's judges could sentence them to 20 years in prison.

The 322-page ruling reveals hitherto undisclosed details of the conditions in which the FARC kept some of the 21,396 hostages they took from 1990 to 2016. The guerrillas, who claimed to be fighting for a more just society, seized rich and poor alike. They beat and starved the hostages. Many were forced to urinate in their clothes and not allowed to clean themselves for months. Some were locked in wooden boxes barely larger than their bodies. The rebels ordered some to dig their own graves as a form of psychological torture.

The JEP's revelations show that Colombia's unique "transitional-justice" system can succeed. Most such tribunals have been established by international bodies, such as the UN. The JEP is the first such body for prosecuting war crimes and crimes against humanity to have been created by the warring parties through a peace accord. It adjudicates such crimes through "restorative", rather than retributive, justice. This seeks to reconcile victims with offenders, mostly by uncovering the truth. The tribunal talked to more than 2,500 kidnapping victims. Colombia's ordinary justice system had not done that when it tried some FARC members in absentia during the war. The JEP took testimony from the hostage-takers, who under the peace agreement are obliged to confess. Some spoke for 16 hours.

The FARC's leaders claimed to be shocked by the gruesome accounts, says Julieta Lemaitre, the judge investigating hostage-taking. Commanders like Timochenko say they ordered good treatment for the hostages. In fact, says the ruling, the orders were merely to keep them alive. Under international law, commanders are responsible for preventing subordinates from committing war crimes. The JEP charged them as if they personally had committed the abuses.

The ruling is devastating for the FARC, now a political party. The peace deal guarantees it ten seats in Congress until 2026. So far it has not had enough popular support to win any beyond that. In a congressional election in 2018 it got just 0.5% of the vote. Last month the party changed its name to Comunes, or Common People's party, to distance itself from its violent history. One of its core commitments is to fulfil its part of the peace agreement.

The JEP's ruling will test that promise. If the FARC's leaders deny the accusations the JEP would have to conduct a long trial, delaying rulings on other crimes, says Juana Acosta, a professor at the University of La Sabana in Bogotá. Worse, that would undermine reconciliation with the FARC's victims, which depends on the guerrillas recognising the suffering they caused. A denial would also give new heart to the peace deal's detractors, who have been disorientated by the ruling, says Jorge Restrepo, an analyst.

If the FARC leaders' guilt is confirmed, the JEP will face a difficult decision over whether those in Congress can keep their seats. A decision to let them remain in the legislature would give new ammunition to the JEP's critics and enrage many ordinary Colombians. "The continuity in Congress of those who are responsible for kidnapping offends us all," says Mr Restrepo. Yet banning the FARC's leaders from congressional seats would weaken a pillar of the peace deal: the FARC's agreement to pursue their political aims democratically rather than by force.

In the next few months the JEP will issue rulings on mid-level commanders who had direct contact with hostages and on child-recruitment by the FARC. Perhaps later this year it will issue a finding on what role the Colombian state played in the "false-positives scandal", in which soldiers murdered thousands of civilians, claiming that they were guerrillas killed in combat. If that ruling is as crushing as the one on hostages, former generals could be indicted in the same way as Timochenko and his fellow FARC defendants. Such a finding would change how Colombians view Mr Uribe's offensive against the guerrillas. Now many believe it saved the country.

The JEP's future decisions could polarise Colombians. Underlying the peace deal, however, is the notion that only the truth can heal the country and ensure that such crimes never again occur. So far, the JEP has risen to the challenge of uncovering it. ■

Elections in Latin America

More midgets than Mussolinis

LIMA, MEXICO CITY, QUITO AND SANTIAGO

A series of votes will test the strength of the region's democracies

WHEN ECUADOREANS choose a new president and legislature on February 7th, they will begin a busy political year across Latin America. Chile, Haiti, Honduras, Peru and Nicaragua are due to hold national elections (see chart). Chile will elect a constitutional assembly. Argentina, El Salvador and Mexico will hold legislative and regional votes.

They are a diverse bunch. Chile is a mature democracy. Ecuador and Peru are rowdier ones and Haiti is dysfunctional. Nicaragua's strongman, Daniel Ortega, has stamped out democracy. Nayib Bukele may be doing so in El Salvador. Chile and Peru have managed their economies well. Argentina and Ecuador have recently defaulted on their debts.

Common factors cut across these distinctions. Corruption, inequality, poor public services and price rises provoked mass protests in 2019 and 2020 in Chile, Ecuador, Haiti and Peru. The pandemic quieted the streets, but raised the stress. Economies contracted and poverty rose (see Bello). Recovery is expected to be slow. Parties are weak and discredited almost everywhere. Elections in Central America will strain democracy. In South America, though there are worries about Ecuador, they will probably affirm it.

Who will take charge is more of a mystery than usual. There is a plethora of presidential candidates, a disturbing number of whom have criminal records. Ecuador has 16 presidential aspirants; Peru has 17. In Chile, where two people have alternated in the presidency since 2006, the race is open.

Looming over Ecuador's election is Rafael Correa, the authoritarian left-wing president from 2007 to 2017 who last year was convicted in absentia of corruption. He is making a second attempt to install a puppet in the Carondelet Palace. Lenín Moreno, the current occupant, disappointed him by abandoning his populist economic policies and pursuing corruption cases against members of Mr Correa's regime. Now Mr Correa is backing Andrés Arauz, a little-known economist who has said that Mr Correa will be his main adviser. Mr Arauz frightens business folk, for example by questioning Ecuador's use of the dollar as its currency.

On the left Mr Arauz faces competition from Yaku Pérez of Pachakutik, a party that represents mainly indigenous Ecuadoreans. The split helps Guillermo Lasso, a conservative businessman who is making his third run for the presidency. Though likelier to continue economic reforms than Mr Arauz, he too has bowed to Ecuadoreans' anti-austerity mood, promising to raise the minimum wage to $500 a month from $400.

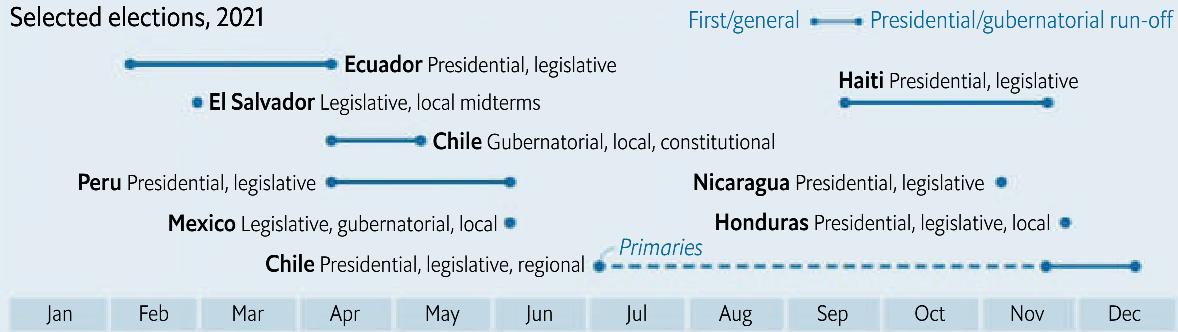
Peruvians face greater uncertainty. The current president, Francisco Sagasti, is the fourth to hold the office since March 2018. His three predecessors were forced out either by scandals or by protests. Peru needs stability, but the aspirants to succeed Mr Sagasti (who is not running) seem unlikely to provide it. The early leader is George Forsyth, a former football goalkeeper and onetime mayor. He has made corruption his main issue, but showed his inexperience by proposing that graft cases be decided by juries "like in the movies", which would require an overhaul of the justice system.

Mr Forsyth's 12% support leaves room for rivals. Keiko Fujimori, the daughter of a former president now serving a prison sentence for human-rights crimes, has spent time in jail while prosecutors investigated corruption charges against her. Daniel Urresti, a nationalist, is on trial for the murder in 1988 of a journalist, Hugo Bustíos, near an army base he commanded. Candidates with less chequered pasts include Verónika Mendoza, the left's standard-bearer, and Hernando de Soto, an economist who advocates strengthening property rights as a way to reduce poverty.

Chile's presidential field looks less colourful. It is likely to narrow after primaries in July. The front-runners are mayors of districts of Santiago, the capital, on opposite ends of the spectrum: Joaquín Lavín, of

The long trail

Selected elections, 2021



Sources: Americas Society/Council of the Americas; *The Economist* the right-wing Independent Democratic Union, and Daniel Jadue, a Communist. Paula Narváez, a spokeswoman for the Socialist government of 2014-18, will probably be the centre-left's candidate. In April Chileans will for the first time vote for regional governors and for members of a constitutional convention.

Chile's temperate political culture, and the need for compromise in the constitutional convention, will push candidates in the later national elections towards the centre, says Kenneth Bunker of Tresquintos, a political-analysis platform. Mr Lavín aspires to lead a "national-unity" government. Mr Jadue would have to strike deals with centre-left parties.

Central America is more worrying. Mr Ortega, though unpopular in Nicaragua, is not budging. A victory by Mr Bukele's New Ideas party in a congressional election will tighten his grip. The probable candidates to succeed Juan Orlando Hernández, whose re-election as Honduras's president in 2017 is widely thought to have been unfair, offer little prospect of improvement. He is likely to back Nasry Asfura, the mayor of Tegucigalpa, the capital. In October prosecutors accused Mr Asfura of embezzling $1m of the city's money. Yani Rosenthal, who may run for the opposition Liberal Party, was serving a sentence for money-laundering in an American prison until August.

In the messiness there are also reasons for hope. Outside Central America there are few budding strongmen. Elections channel discontent, which is better than violent protest. They offer "somewhat of a safety valve", says Christopher Sabatini of Chatham House, a think-tank in London. But massive problems await the winners. Honeymoons will be short. ■

Bello A grand bargain

Debate rages about a new social contract in Latin America

In Mexico City and Lima covid-19 patients are once again being turned away from hospitals with no beds to spare, while in Manaus, in northern Brazil, a new variant of the virus is killing a hundred people a day. The pandemic's recession pushed 33m Latin Americans below the $5.50-a-day poverty line last year, according to the World Bank. Governments in the region are struggling to line up vaccines. So it may seem like a strange moment to be talking of a new social contract—an abstraction.

Yet the term has become a mantra in Latin America. Both the United Nations Development Programme (UNDP) and the OECD, a group of mainly rich countries, are working on hefty reports related to the subject. That is because the pandemic has exposed long-standing fragilities. The region's health-care and social-protection schemes are fragmented and unequal. Its economies have stagnated for the past six years, largely because of low productivity. Political systems are discredited. Citizens are angry. People sense that Latin American democracies cannot carry on like this. The question is how much and how quickly can they change.

For some on the left, a new social contract offers a mirage of turning Latin America into Scandinavia with a snap of an international bureaucrat's fingers. Others think of a new constitution. In Chile an assembly to write one will be elected in April; it is likely to mandate more state social provision. The left in Peru also wants a new constitution, to give a bigger economic role to the state. Some people on the right fear a slide towards socialism.

Some Latin American countries, such as Uruguay and Costa Rica, have broad-based welfare states. In others, Bismarckian contributory social-security schemes, set up in the mid-20th century, have been overtaken. On average half the population works in the informal economy and is outside these schemes. Governments have offered some non-contributory benefits to these people, creating incentives to stay informal. The more sensible ideas for a new social contract stress three things: creating a floor of universal social protection; raising taxes to pay for this; and increasing citizens' involvement in politics in ways that strengthen representative democracy.

The pandemic has highlighted the problem of informality, with workers violating lockdowns to gain their daily subsistence. Reformers argue that all Latin Americans, whatever their status in the labour market, should be eligible for taxpayer-financed unemployment insurance and basic retirement and disability pensions. That would mean reserving contributory financing for top-up insurance and pension schemes. This would encourage formal employment with lower payroll costs. Conditional cash-transfer schemes can offer a minimum income for the poorest citizens.

These changes would cost annually around 3% of GDP, reckons Luis Felipe López-Calva, the UNDP's boss for Latin America. He thinks this could be paid for partly by increasing property taxes, which collect only around 0.5% of GDP in Latin America, compared with around 3% in Europe.

Money will be especially tight for the next couple of years, and there are many pressing needs. These include, immediately, rolling out vaccination programmes and getting schools going again. Many countries need to spend more on transport infrastructure and on education. Governments are piling up debts they will have to service. Reformers propose a plan whereby new social-protection measures and taxes and other reforms take effect in, say, three years.

There will be resistance. Take Colombia. "The upper-middle class is saying 'enough'," says Sergio Clavijo, a Colombian economist. He notes that the top income-tax rate has gone up steadily (to 39%) and that well-off Colombians pay a wealth tax. He argues for closing loopholes through which the rich avoid taxes and expanding the tax base (only 1m Colombians pay income tax). Both steps will take time.

With legislatures and political parties in disrepute in many countries, a broader public debate is needed to set priorities, bringing together politicians, business people, trade unions and other social and civic groups. One such exercise will start soon in Panama. "If we don't get people together to discuss the way forward, the alternative is very chaotic, probably with a lot of discontent," says Mr López-Calva. "This is not easy. But it's the best way to weather the storm."

Defending South Korea

Strengthening the shrimp

SEOUL

The armed forces are preparing for a lonelier future in scarier surroundings

WHEN HE DID his basic military training in 2009, Lee Ju-min was so disconnected from the world for four months that he forgot how to use a computer. Josh Yang got three minutes of phone time during his first six weeks in training in 2016. But by the time Chon Dong-yeong joined the South Korean army in 2019, he was allowed to use his mobile phone every evening, from the end of drilling until lights out. "My experience in the army was very different from that of my friends, even those who started a year earlier," he says.

The easing of restrictions on soldiers has been one of the more visible changes in South Korea's armed forces in recent years. But it is only one of many. The government wants to make the army smaller, more efficient and better able to deal with the changing threats the country faces. At the same time, politicians want it to become more attuned to the increasingly liberal society that it is there to defend.

The reforms are driven partly by demography. South Korea is ageing faster than any other country in the world. Last year the population shrank for the first time since records began. That makes the past reliance on a big army manned by conscripts impossible to sustain, says Sheen Seong-ho of Seoul National University. It therefore provides an impetus to overhaul the command structure, to beef up the navy and air force, and to acquire more advanced weapons.

More modern forces are seen as all the more important because South Korea finds itself in an increasingly alarming geopolitical environment. Security types like to refer to it as a "shrimp among whales". China has shown itself to be hostile: in 2017, after South Korea allowed the deployment of an American anti-missile system intended chiefly as a defence against North Korea, China punished it with a painful economic boycott. Relations with Japan, a fellow American ally, continue to be disrupted by a simmering argument over Japan's obligations to elderly Koreans forced to work in factories and brothels by the Japanese army during the second world war. North Korea, though a fellow shrimp, is still technically at war with the South and is continuing to build up its arsenal of both nuclear and conventional weapons.

The shifting dynamics of the alliance with America are of particular concern. Donald Trump kept demanding that South Korea cover more of the cost of keeping 28,500 American troops in the country, and muttered about withdrawing them altogether. In 2019 he called off joint exercises that had been held with South Korea every year since 1961. Even with a new president in the White House, America will expect South Korea to take on more responsibility and develop its capabilities in areas such as intelligence-gathering, planning, and naval and air defence, says a military officer involved in the defence reforms. "The new

→ Also in this section

administration is going to be more diplomatic and polite about it, so I expect we'll get on better, but their objectives will not change fundamentally," he says.

To some degree, America's aims match those of the South Korean government, which would like more say in the alliance. At present, command of all South Korean forces would be handed to an American in the event of a war on the peninsula. This arrangement dates back to the origins of the alliance, during the Korean war, when the South was considered unable to defend itself alone against an assault from the North. But in the early 2000s the left-of-centre government of Roh Moo-hyun began trying to build the capacity to take back control of the country's own forces. The current government, which is led by Moon Jae-in, who was Roh's chief-of-staff, had hoped to complete the transfer by the end of Mr Moon's term, next year. But it looks unlikely that the armed forces' capabilities will have improved to the degree required in time.

Other aspects of the reforms are progressing faster. The number of troops declined to 555,000 at the end of last year, down from 600,000 in 2018. It is supposed to fall below half a million by the end of this year, with the bulk of the cuts made to the army. Mandatory military service is being shortened to 18 months. Wages for conscripts are rising sharply. The government aims to hire more women and more civilians to work for the armed forces, to help bridge the gap between soldiers and the rest of society.

Last summer the country launched its first military-communications satellite. It also secured America's approval to modify past agreements to permit it to use solid fuel in missiles, which allows them to be launched more quickly and easily. That should pave the way for better deterrence against the North, although the South says it plans mainly to launch satellites this way. Defence spending rose by 8.2% in 2019 and by 7.4% in 2020; this year's budget envisages an increase of 5%, despite the intense competition for funds created by the covid-19 pandemic.

Some of the money will be misspent. Last year, for instance, the navy announced that it would soon build an aircraft-carrier—a pointless trophy, in the eyes of many. "It's like having a golden gun," says the defence-planning officer. But the armed forces are also stocking up on drones, submarines and anti-submarine defences, among other sensible purchases.

In public, Mr Moon's administration insists that it is committed to peace with North Korea and does not expect fundamental changes to the alliance with America. The cheery language, however, masks quiet but elaborate contingency planning, in case either expectation is dashed. ■

Insularity in Japan

Home, sweet home

TOKYO

Few young people want to work or study abroad

SAITO CHIHIRO and Saito Seika have a lot in common: they are twins. Now 26, they grew up together in northern Tokyo. They share many interests, including a passion for Hollywood films. But their paths diverged when Chihiro moved to Hungary to study medicine, and Seika enrolled in a Japanese university to pursue art. "I was always interested in the outside world," Chihiro says. Her sister, too, considered studying overseas, but ultimately abandoned the idea. "I could learn a lot of things in Japan," says Seika. "And I wasn't sure if I could actually live abroad."

The rise of "inward-looking youth", with little interest in venturing outside Japan, has caused consternation among Japanese journalists, policymakers and business leaders in recent years. Only 4% of all university students study overseas, says the education ministry. Another government survey from 2019 found that just a third of young Japanese want to study abroad, compared with 66% of South Koreans and 51% of Germans. The Japanese are equally lukewarm about working overseas. A survey by Sanno University in 2017 found that 60% of young employees did not want to work in other countries, up from 36% a decade beforehand.

This inward shift marks a departure. From the late 1980s to early 2000s, the number of Japanese seeking degrees overseas soared. A strong yen allowed many to study abroad without scholarships or loans. Japan's biggest banks shipped out hundreds of their employees each year to business schools in America. "There were dozens of us Japanese in the same classroom at Harvard," reminisces Hiraga Tomikazu of Osaka Seikei University, who attended Harvard Business School. "We would study together and share our notes, so we could all pass the course."


Intrepid explorer in a far-off land

Today Chinese and Indian students abroad far outnumber Japanese. That is partly because of Japan's strong labour market. The unemployment rate hovered below 3% for the three years until the covid-19 pandemic began, when working or studying overseas became impractical anyway. With new graduates easily finding jobs in Japan, there is "little merit" in studying or working abroad, says Yonezawa Akiyoshi of Tohoku University: "In a way, the Japanese labour structure does not discriminate based on academic background." At any rate remuneration for those with degrees from foreign institutions is little different from that of colleagues who studied at home.

By the same token, experience of working abroad is seldom rewarded. Many firms instead prize "Japaneseness" among their employees, laments Kato Etsuko of the International Christian University in Tokyo. Experience abroad no longer seems to increase the chances of promotion. Employees who rotate around offices in Japan, as opposed to foreign branches, may even get promoted faster.

A crippling fear of the outside world deters some young people from going abroad. Many cite their "English allergy"—a shyness about speaking English or other languages—as a reason for their insularity. Their anxiety is not entirely baseless: the Japanese rank low in the index of proficiency in English compiled by EF, a firm that specialises in language instruction and educational exchanges, behind their neighbours from South Korea. Seika, the artist, was apprehensive about studying in a different language. "I wasn't as confident with my English skills as Chihiro was," she says. It does not help that Japan is one of the most convenient and safest countries in the world.

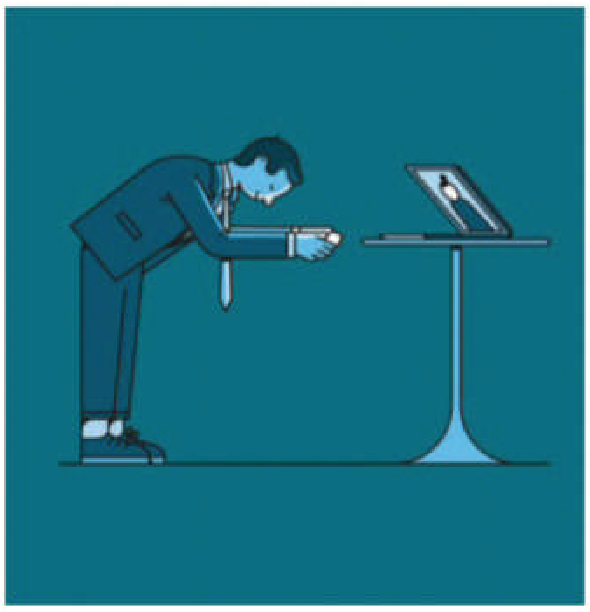
The growing insularity is awkward for the government, which is eager to play a more active role on the international stage. "Japan is falling behind and hasn't even noticed its decline," says Mr Hiraga, who believes that the country's influence is waning in Asia and beyond. For firms, too, the scarcity of cosmopolitan young hires impedes their aspirations to do more business abroad. "There is so much growth and push to go overseas in other parts of the world," says Mr Yonezawa. "That's a wave Japan also needs to ride." ■

Asian corporate culture

Here's my QR code

SINGAPORE

Business cards are going online



In Asia meetings do not begin until business cards have been swapped. It is no mere formality. Accept the card with two hands and carefully examine it, noting the giver's title and other indicators of rank—essential information in any strongly hierarchical business culture. It is so important to master this ritual in Japan (just how deep does one bow?) that numerous books and courses promise to transform bumbling novices into *meishi-koukan* (card-swapping) virtuosos. If a new acquaintance fails to give a card to Glenn Lim of CEO Asia, a Singaporean business-networking company, "it makes me forget them," he says.

Yet the pandemic has put the business card on life support. Networking is difficult when white-collar workers have fled to home offices, business lunches have been cancelled and conferences have migrated online. Orders for business cards from Vistaprint, a multinational printing company, plummeted by 70% in late March and early April and have yet to recover fully. Mr Lim normally hands out about 200 cards a month. In the six months following Singapore's lockdown in March, he reckons he dispensed about five. "I've forgotten what business cards look like," remarks a British banker based in Singapore. "How do you sanitise them?"

But it is still helpful to know who is who at meetings, even when they take place on Zoom. Companies are therefore reimagining the business card for the era of social distancing. Nagaya, a Japanese firm, prints them on face masks (a literal interpretation of a Japanese metaphor that likens business cards to one's face). After the launch of the "Meishi" mask, traffic to Nagaya's website surged by 65,000%.

Sansan, another Japanese firm, allows companies to sort scanned business cards so bosses can see which employees have made new contacts. It also offers "virtual cards". Users receive QR codes which they display as virtual backgrounds on video-conferencing apps. Scanning the code with a phone camera will summon the user's digital business card. Some 4,300 companies have begun using Sansan's virtual cards since they launched in June.

But Mr Lim, who uses Sansan's virtual cards, does not plan on binning the paper version just yet. People tend to exchange virtual cards after meetings have started or as they end, forcing participants to ask who does what during the meeting itself. "That's sometimes a little bit rude," he says. Many others in Singapore are evidently fond of paper cards, too. Sales at Express-Print, a printing company, have picked up in the past two months, as more people resume in-person meetings. Stephen Forshaw, head of public affairs at Temasek, Singapore's sovereign-wealth fund, says that he recently topped up his supply of cards for the "first time in a long time". Even Edward Senju, the head of Sansan's operations in South-East Asia, still keeps some in his wallet, "just in case". ■

Free speech in India

Prevention is better than cure

DELHI

The government has taken to censoring people before they comment

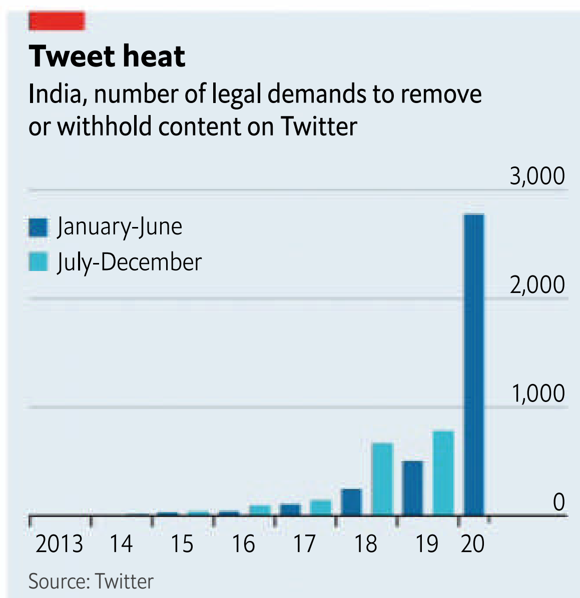
Idi Amin, the late Ugandan dictator, once declared that he respected freedom of speech, but could not guarantee freedom after speech. India's government seems to be taking this concept one step further. Despite running what is often hailed as the world's biggest democracy, it has gained a taste for curtailing freedom before speech.

Just ask Siddique Kappan, a journalist who has been detained since October under the Unlawful Activities Prevention Act. His sin was to have been caught driving towards Hathras, a district in the state of Uttar Pradesh. Other reporters had gathered there to cover the alleged gang rape and murder of a Dalit woman by upper-caste men. Mr Kappan never reached the village of the 19-year-old victim, whose family assert that state police sided with her alleged killers, to the point of seizing and cremating her brutalised corpse to conceal the evidence. On the defensive, police have claimed a wider conspiracy to cause caste conflict. They accuse Mr Kappan, arrested at a highway toll booth, of "intent" to stir up trouble of this sort.

Someone else familiar with such "intent" is Munawar Faruqui. A popular young stand-up comedian, Mr Faruqui is also now behind bars. Along with five associates, he was arrested in the city of Indore, in central India, on January 1st after the son of a politician from the ruling Bharatiya Janata Party (BJP) complained about the content of their show—or rather, content that the plaintiff believed might appear in the show. In fact, there is no evidence that the show did include "derogatory remarks" about Hindu gods or government ministers, as alleged. Nevertheless Mr Faruqui and his friends have repeatedly been denied bail, with one judge commenting that "such people" must not be spared.

These may look like isolated cases, but they reflect a wider trend. In anticipation of popular protests, the government reflexively pulls the plug on internet service, particularly via smartphone. Such shutdowns were pioneered in restive Kashmir, where the revocation of local autonomy and statehood in 2019 was accompanied by pre-emptive arrests and a 213-day internet blockade. Ostensibly for security reasons, mobile connections in much of the former state—now run directly by the national government—remain limited to lumbering 2G service. The authorities now deploy internet-muting as a crowd-control tactic across India, including the capital. During the ongoing stand-off between protesting farmers and police on the borders of Delhi, mobile networks have been shut down for hours at a time to discourage flash mobs. A recent report estimates that the 8,927 hours of internet restrictions imposed by the government during 2020 cost the country $2.8bn in forgone economic activity.

In addition to this scattershot approach, the government is also targeting individuals. One new initiative invites "cyber volunteers" to join police in hunting "anti-national content" on the internet. Twitter reports that during the first six months of 2020, the number of official demands to remove content swelled by 254%, ▸▸



to more than 2,700 (see chart on previous page). On February 1st users of the service erupted in protest after it blocked some 250 accounts, including those of prominent journalists, at the government's request. When it hastily unblocked them, citing freedom of speech, the government replied with a threat to sue it for "disobedience to legal blocking orders". The fingered accounts had shared a provocative hashtag regarding the farmers' protest, but its use in most cases appeared inadvertent. It does not help the government's case that several of the journalists, all among its critics, found themselves charged by police with sedition in multiple BJP-ruled states in similarly worded rapsheets. Their crime was to have raised questions regarding whether one farm protester had been killed in a road accident, as police claim, or by police gunfire, as his family and independent medical experts reportedly believe.

In another move to pre-empt open discussion of touchy issues, the foreign ministry has imposed new rules on academic conferences. In addition to the existing, stringent scrutiny of foreigners invited to conventional events, it will now require state-run institutes and universities to seek prior permission from the ministry for any online conference or seminar "clearly related to India's internal matters". Professors may soon find it harder to travel abroad, too. Police in the state of Uttarakhand have announced that henceforth, anyone they deem to have posted "anti-national" content on the internet will not get a passport. Not to be outdone, police in Bihar say that anyone who joins a protest can forget ever having a government job or contract—a jarring rule in a country that won independence through peaceful protest. ■

Banyan The shock of the old

The new general secretary of the Vietnamese Communist Party is a surprise

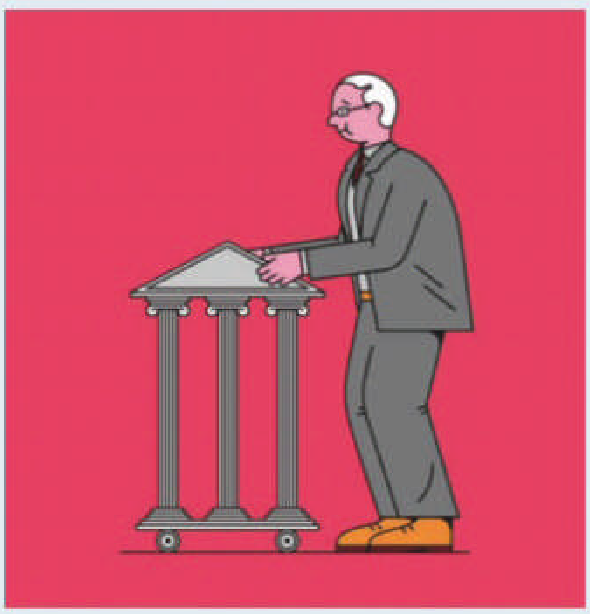
When compared with the vibrant bustle and chaos in the rest of Hanoi—where drag queens perform for rapturous audiences and break-dancers throw down moves on the city's pavements—the five-yearly congress of the Communist Party of Vietnam could not have stood in starker contrast. The exactly spaced potted palms and bouquets; the serried ranks of 1,600-odd delegates (few of them women) all dutifully raising red cards to vote; even the ban on delegates meeting to chat in the evening: everything was arranged to present a narrative of conformity, calm and consensual order within one of the world's most secretive political organisations.

And yet the main outcome of the congress appears, on the face of things, anything but orthodox. The party has tended to disapprove of the kind of personal power that Xi Jinping has gathered next door in China. Rather, authority is spread among the four "pillars" of the government: the general secretary of the party, the prime minister, the president and the speaker of the national assembly. At the previous congress in 2016 it was unusual enough that the general secretary, Nguyen Phu Trong, saw off a powerful reformist rival to secure a second term—especially since he was well over 65, the usual age limit for re-election to the Politburo. He then also assumed the position of president on the death of the incumbent in 2018, compressing four pillars to three.

Almost certainly the outgoing prime minister, Nguyen Xuan Phuc, fancied his chances of succeeding Mr Trong as general secretary, the most important of the top four posts. Mr Phuc has overseen an impressive campaign against the covid-19 pandemic, despite a recent spate of infections. He has extensive executive experience and a broad patronage network. Yet Mr Phuc comes from the centre of Vietnam, when all previous general secretaries have hailed from the communist heartland in the north. Moreover, says Le Hong Hiep of the ISEAS-Yusof Ishak Institute in Singapore, that same patronage network, in Mr Trong's eyes, counted against him. It might have constrained Mr Phuc's ability to continue Mr Trong's "blazing furnace" campaign against corruption, which has brought down party bigwigs, business folk and others. Mr Trong maintains that rooting out corruption is the key to the party's survival.

In the event, Mr Trong and his allies succeeded in blocking Mr Phuc. But Mr Trong's protégé, Tran Quoc Vuong, also failed to win the job of general secretary. Mr Vuong, a party stalwart and former top prosecutor, heads the anti-corruption campaign. But he lacks his own network of allies, which seems to have diminished his standing among members of the party's powerful central committee.

A stinging blow for Mr Trong? Think again. For, having ruled out Messrs Phuc and Vuong as general secretary, and lacking a compromise candidate, the congress voted instead for the white-haired Mr Trong to remain for a third term. That is unprecedented, but it may have been Mr Trong's intention all along. His ability to stay in power is all the more remarkable given that he is thought to have suffered a stroke in 2019. Never, says Tuong Vu of the University of Oregon, make the mistake of underestimating Mr Trong.



Even so, he was no blazing furnace at the congress, appearing frail. Speculation is swirling about whether he might step down midway through his new term. If so, his successor is likely to be either the new speaker of the national assembly, Vuong Dinh Hue, an economics professor and former finance minister, or the new prime minister, Pham Minh Chinh. The promotion of this former police general and head of party personnel and organisation is also unusual. Until now the prime minister has been chosen from among the deputy prime ministers. (The 66-year-old Mr Phuc, meanwhile, has been kicked upstairs to the largely ceremonial post of president, restoring the four pillars.)

For now, the conservative writ of the 76-year-old Mr Trong, a Marxist theoretician, runs in a country of 96m, more than half of whom are under the age of 35. Mr Trong means not only to continue his anti-corruption drive. He also means to crack down further on Vietnam's relatively open social media. His enduring sway suggests the party's intolerance of dissent will continue, says Thao Dinh, a prominent young activist. A tight grip, Mr Trong seems to believe, is necessary to keep the country on course. Lighten up, the drag queens and break-dancers seem to be answering.

Ideological battles

Red Guards, redux

SHANGHAI

Marxist rhetoric is gaining currency among the young and overworked

In the booming realm of short-video apps in China, the most popular clips often feature silly gags or cute animals, or both. Recently, however, a different genre has climbed the charts: criticism of capitalism. In December a user going by the name Zeng Shike posted a video on Douyin, the inside-China version of TikTok. In it he lambasted Jack Ma, an e-commerce tycoon, for being a selfish capitalist. "These big shots are trampling on small merchants," he said in the amateurish production: just a city scene with a voice-over. "It used to be about serving people and making life more convenient. Now they're causing financial trouble and harming society."

Mr Ma's business has been in the government's sights, too. On November 3rd Ant Group, a fintech company that he founded, was forced to halt what would have been the world's biggest initial public offering because of new regulations that will up-end its business model. It was after this that he became a lightning rod for online rants against capitalism. (Mr Ma disappeared from public view for nearly three months, but re-emerged on January 20th to give an online speech to rural teachers.)

In recent weeks netizens' anger has also surged against other private firms and their bosses. Jude Blanchette, whose book "China's New Red Guards" describes a revival of Maoism among Chinese people since the 1990s, argues that opposition to big non-state businesses has long been evident in the margins of public sentiment. The government normally supports firms such as Mr Ma's and tries to dampen neo-Maoist suggestions that China is capitulating to capitalism. But sometimes it gives Maoists more freedom to air their grievances. That appears to be happening now. Officials are targeting China's big tech firms with new antitrust rules aimed at curbing their power. "It looks like they are using public frustration to help give tailwind to this campaign," says Mr Blanchette. (Ant Group has agreed with regulators on a restructuring plan, Bloomberg reported on February 3rd).

Lately netizens have also been attacking Pinduoduo, a discount-shopping app that rivals Mr Ma's Alibaba, of which Ant Group is an affiliate. On January 4th it was revealed that one of Pinduoduo's employees, a 23-year-old woman, had collapsed while walking home after an overtime shift. She died later in hospital. A national debate ensued, focused mainly on the culture of overwork in China. Some pointed to what they saw as a more basic problem. "In China's speed-obsessed tech world, the labour law is treated like a tablecloth or toilet paper. It is never respected," said the narrator of one video about "Capitalist Pinduoduo". It has been watched more than half a million times. In another video a young man in a black hoodie calls on consumers to stop spending money on the company's app: "The capitalists are just squeezing us. They don't see us as people."

Even Huawei, a telecom giant much loved by the government, has not been immune. Specifically, critics have focused on Annabel Yao, the youngest daughter of Ren Zhengfei, the firm's founder. On January 14th Ms Yao released a 17-minute documentary to announce the start of a hoped-for career as an entertainer. She was greeted with scorn. "Controlling our material life is not enough. Capitalists also want to control our cultural life," read the most-liked comment on her account on Weibo, a microblog platform. A flood of short videos derided her claim to be self-made.

But the videos go beyond mockeries of this or that wealthy person. One piece about how capitalism works explains that dairy farmers, in order to keep prices high, would rather dump excess milk than give it to poor people. In another, a young presenter, hat on backwards, praises Mao for arguing in 1972 that turning China capitalist would allow global firms to take control and make the country a semi-colony. "This great man's vision has carried through the ages," he says, with a thumbs-up.

Many of the videos lack revolutionary punch. Renditions of the "Internationale", a socialist anthem, garner many clicks but seem more like kitschy nostalgia or funny memes than calls to action. The young people drawn to them are nothing like the Red Guards of Mao's day, who used horrific violence against those branded as "capitalist roaders". Yet their resentment of the business elite appears genuine. A rough indicator is the torrent of comments overlaid on videos carried by Bilibili, another popular app. Videos showing Mr Ma once inspired both respect and humour, with some viewers praising his business acumen and others sarcastically asking for money. Recently the tone has darkened, with comments such as "down with Jack Ma" and "workers of the world, unite!"

Nothing to lose but your memes

The anger is easy to explain. Inequality has soared in China over the decades. The proliferation of social media has made people more aware of the obscene wealth of some of their compatriots. After Ms Yao, the daughter of Huawei's founder, released her documentary, one short video analysed her backdrop to draw viewers' attention to the value of her luxurious home.

Coupled with a sense of unfairness is bitterness about unreasonable work demands. Employees of tech firms complain about what they call the "996" culture: an expectation that they should be in the office from 9am to 9pm, six days a week. Migrant workers from rural areas have it worse, whether grinding it out in factory jobs or rushing around as food-delivery workers (see Chaguan). But overworked young professionals have started referring to themselves as *dagongren*, a term that used to describe those who do menial jobs. Yan Fei, a sociologist at Tsinghua University, describes an emerging class identity among people who are struggling to get ahead. It embraces both white-collar and blue-collar workers.

The attacks on capitalism are, in a narrow sense, consistent with official rhetoric that still describes China's economy as "socialist" even though private business generates 80% of urban employment and 60% of GDP. But why let tech titans be described as money-grubbing capitalists when they are often also hailed as leaders of China's drive to become more innovative?

In part this reflects the Communist Party's ideological ambiguity. It sees big private firms as national champions, but it also regards the preservation of Mao's sanctity as essential to its grip on power (de-Stalinisation was the start of a slide towards the Soviet Union's ruin, say party historians). That gives a bit of leeway to people who wave the banner of Maoism, even if what they say is not entirely in line with the party's current thinking. Having let the anti-capitalist fires burn brightly for a time, censors will douse the flames. ■

Syllabus reform

Young at art

BEIJING

Officials make pupils take sport and art seriously—with exams

In exam-obsessed China, educators have long struggled with the problem of overworked schoolchildren. Attempts to do away with some test-oriented teaching often face resistance from parents, who worry that their offspring could lose out in the race to get into a good university. Some enlightened officials are taking a new tack. In the south-western province of Yunnan they have not only revamped the physical-education test in the *zhongkao*, an examination for entrance to senior secondary school. They have also given it the same weighting in the exam as all-important subjects like maths and Chinese. Eight provinces have joined Yunnan in including art and music tests in the *zhongkao*.

These reforms are in response to demands by the central government for a more well-rounded approach to education. In 2017 primary and secondary schools were ordered to hire only specialists to teach PE and art. In October they were directed to organise daily gym classes; to include PE and art in the *zhongkao*; and to make pupils' graduation conditional on their fitness (it did not say how to assess this). The government says it wants to foster a "lifelong habit of exercise" and, through art, "noble sentiments".

The government worries about how many youngsters are in poor shape. In 2017 officials in the southern city of Guangzhou found that only 2.6% of local children were in "excellent" health. Half of pupils surveyed there had myopia. Today one in five Chinese children is overweight, up from just one in 20 in 1995. Such statistics fan another fear: that today's youngsters, and boys in particular, are over-indulged wimps. The state news agency, Xinhua, grimly summed it up with a headline: "Why good times produce weak children".

In 2018 many parents were upset that a children's show—co-produced by the education ministry, ironically—had featured male pop stars who, with their perfect coifs and eyeliner, were not deemed role models manly enough for their sons. In January the ministry pledged to "pay more attention to cultivating pupils' masculinity" and endorsed a politician's proposal to hire more male PE teachers to prevent the "feminisation" of teen boys. Zhu Weiqiang of East China Normal University, who advises the government on PE reforms, says that teaching a non-aggressive form of kung fu was once commonly proposed. Now officials want children to learn wrestling.

But parents do not want their children to be distracted from their books. They are used to pupils getting full marks in PE with next-to-no effort, partly because examiners have tended to grade generously to avoid "unfairly" penalising hard-working students, says Mr Zhu. Schools often cancel PE and art classes in favour of extra revision-sessions for other subjects.

This will change with the new reforms. But parents are already griping that PE will be just one more source of stress. They fret about how art will be appraised. Some point out that schools in big cities will be able to fork out for boxing gear and trips to calligraphy museums, giving their pupils yet another edge in the *zhongkao*. Mr Zhu laments the use of exam pressure to get people's attention. Still, he hopes it is but a hop, skip and a jump to greater fitness. ■

The painful race to academic success

Chaguan | Of sickness and homesickness

To fight covid-19, migrants are being asked to miss the biggest holiday of the year

No crowd in China is truly anonymous. Subtle badges of class, income and even region mark out individuals in the densest throngs, such as those seen at lunar new year, when hundreds of millions of migrant labourers, white-collar workers and students cram into trains, buses, aeroplanes or cars to visit faraway relatives. China is a country in constant, restless motion. But even in a normal year, it is also a place of hard-to-shed social distinctions.

This is not a normal year. In line with China's ambition of keeping covid-19 infections as close to zero as possible, national health authorities have asked the public to avoid non-essential travel to see in the year of the ox. That is a reasonable request. But the burden falls heavily on those 300m migrant workers, for whom the holiday is often a rare chance to see children and aged parents.

China's transport ministry predicts that a total of 1.7bn journeys will be made during the travel surge either side of new year, which this year falls on February 12th. That is down from about 3bn journeys in 2019, before the pandemic. Millions employed by the government or state-owned enterprises have simply been ordered to stay put. Workers in the private sector being harder to boss about, several wealthy regions are offering bonuses to migrants who abandon plans to return home. These range from cash payments of up to 1,000 yuan ($155), to extra points to help migrants apply for school places or residence papers in the city where they work. Travellers to rural areas with weak health services must take tests for covid-19 and self-isolate on arrival for a week or two.

These various nudges and prods are having a visible impact. On a recent weekday, there was only a thin crowd outside the main railway station in Guangzhou, a southern boomtown of 13m people. Travellers were almost outnumbered by steel-helmeted police officers and guards, as well as health inspectors in protective suits.

Talking to that crowd, it becomes clear that this is no monolithic mass of people. Instead, each individual's decision to return home is shaped by employment status and regional background. Several migrants explain that they are taking off as much as a week earlier than usual. Many private employers have granted flexible holiday dates this year, enabling staff to stagger their departures. That allows all to enjoy emptier trains and roads, and some to get home before the strictest travel rules bite. A fortunate few locals need not worry about interprovincial controls. Chaguan meets one selling noodles part-time outside the station. A university student, she hails from Shantou, a city in the same province as Guangzhou, and plans to pop home by bus. She concedes that classmates from provinces which have seen recent outbreaks, in China's icy north-east, are forbidden to leave college over the holidays. Still, she backs restrictions: "It's best if you stay home and don't cause trouble for the country."

A married couple from Dengzhou county in Henan province are found waiting for their train on a low wall. Fearing infection, they paid for a ride-sharing car to the station to avoid crowded public transport. Both work for the same plastic-tubing manufacturer and are spurning an offer by bosses to pay 1,000 yuan to workers who skip holiday travel—employees' movements can be verified with the help of smartphone health apps that are now ubiquitous in China. Extra money would help: the couple was stuck in their home village for a month on minimum pay when the virus hit around the lunar new year in 2020. But they long to see their daughter, 15, and son, 12, who live in Henan with grandparents. "My parents are getting old, my kids are still young. If we didn't go back, my heart wouldn't be at ease," says the husband.

A group of older workers from Lingbao county, a poor region of Henan, are bracing themselves for 25 hours on hard seats on a slow train home. Earning just 107 yuan a day at a hardware factory, they have brought buckets of steamed buns and fruit to avoid "expensive" train food. They each paid 75 yuan for a covid test and will need another after self-isolating for a week in their mountain homes. "Making money is hard," sighs one. Yet their precarious status gives them some autonomy, too. Their short-term contracts expired before the holiday, so no boss can make them stay.

At one point, Chaguan hears conflicting views. You in the West call China's travel curbs mandatory but they are just advisory, insists a hotel tout. He asserts that China's Confucian culture means that people like to agree with the government. Another man weighs in, declaring that migrant workers are treated worse than city folk. Moreover, he says, once "advice" from national leaders is enforced by grassroots officials it turns into an order. Abruptly, his indignation subsides. He is going home, unable to bear missing new year with his wife and children. "I have to go back, they are waiting for me to set off the firecrackers," he says simply. The Communist Party seems wary of public anger. On February 3rd it warned local officials not to over-egg virus controls.

The ones staying behind

Away from the station, in a suburb of factories and shabby apartment blocks, many migrants are resigned to a holiday alone. A restaurant owner from the north-eastern province of Heilongjiang reports that most fellow northerners are staying in Guangzhou, for fear of getting stuck by a covid outbreak back home.

In a nearby alley a seller of fake Gucci shoes last saw his children half a year ago. He is not going home to rural Henan, in case he is quarantined for too long and his children miss the start of term in their primary school. His children understand, he says. He has sent them toys and their teachers have told them that "everyone has to tough it out a little this year." Actually, Chinese families are not all experiencing the same tough new year. The migrants at the bottom of the social ladder have it worst. The pandemic is teaching the shoeseller's children this harsh lesson at a young age. As village kids in a crowded country that is better at economic than social mobility, they have more such lessons to come. ■

Africa and covid-19

At the end of the line

DAKAR, JOHANNESBURG AND NAIROBI

Africa's recovery from the pandemic will be slow and leave deep scars

AT FIRST GLANCE, sub-Saharan Africa appears to have avoided the worst of the pandemic. It has 14% of the world's population but, even as it is drenched by a second wave, just 3% of known cases and deaths. In 2020 its economy shrank by less than the global average, estimates the IMF. Eleven of the 24 countries that grew at all last year were in the region.

But try telling the finance minister of one of those, Ghana, that African countries have had it easy. Ken Ofori-Atta worries that Africa is "going to lose a decade", if nothing is done to respond to the pandemic's economic shock. He admits to a vertiginous feeling: "It's like sailing down Niagara Falls in an African canoe."

Mr Ofori-Atta has reason to worry. The rich world is expecting a rapid, vaccine-fuelled recovery. But in sub-Saharan Africa the damaging effects of the pandemic will drag on, causing harm in the short, medium and long term. The IMF forecasts that in 2021 it will be the slowest-growing major region. In many countries it will take several years for GDP per person to get back to where it was before covid-19. Governments face the challenge of procuring scarce vaccines and, in many cases, dealing with financing crises that threaten basic services.

All of this—as well as widespread school closures—will leave lasting scars. Africa has a young and fast-growing population. The median age is 19.5; by 2035 it will be adding more people of working age to the global population than everywhere else put together. A long, sluggish recovery would make it harder for the largest-ever generation of young Africans to find jobs, heaping pressure on ageing leaders.

The shock of the pandemic arrived when much of sub-Saharan Africa was already vulnerable. In 2014 a commodities supercycle driven by Chinese demand for oil, metals and minerals came to an end. In most African countries commodities account for at least 80% of goods exports, so lower prices hurt. From 2000 to 2014 sub-Saharan Africa's GDP was expanding almost twice as fast as its population. But since then, GDP per head has fallen.

There are big exceptions. Countries that depend less on mining or pumping oil, such as Benin, Ethiopia, Ivory Coast, Kenya and Senegal, have been among the fastest-growing economies in the world. "But the rest had not recovered from the commodities shock when covid hit," says Albert Zeufack of the World Bank. Since many governments kept spending and borrowing, they had higher debts than they did before the global financial crisis.

When covid-19 spread across the world, African countries felt a triple whammy. Global demand plunged. Trade slowed. Travel and tourism, which are huge generators of jobs and hard currency in several African countries, collapsed. Lockdowns choked domestic commerce.

Having a young population has somewhat protected the continent from the virus. Officially fewer Africans have died of it than Americans or Europeans. The true scale, however, is hard to gauge. In South Africa, one of a few African countries that track whether more people are dying than would be expected, there have been 132,000 "excess deaths" since May—a higher rate ▸▸

WHAT IS AVAXHOME?

per person than that recorded in countries in western Europe.

Even countries that dealt well with the first wave are struggling with the second. In Senegal, for instance, the main public hospital in Dakar, the capital, is asking NGOs for basic items such as masks and gloves. Doctors believe that the case count is many times higher than the official tally. "We are afraid," says a clinician.

The economic impact is also worse than it looks. Because sub-Saharan Africa's population is growing at 2.7% a year, GDP needs to grow at least as fast, or people will become poorer. Last year the area's economy shrank for the first time in 25 years. Some 32m people fell into extreme poverty (earning below $1.90 a day), erasing five years of progress against want, says the World Bank. Millions more may have lost their place in the nascent middle class.

Countries that rely on tourism were devastated. GDP fell by 12.9% in Mauritius and 15.9% in the Seychelles last year, as beach-lovers stayed at home. Botswana's economy contracted by almost 10% as foreigners went without diamonds or safaris. International bookings at camps in the Okavango Delta fell by 95%. Game-poaching is rising as locals struggle to get by.

Oil-exporting countries were walloped, too. In 2020 their economies shrank by an average of 4%, versus 0.4% among oil importers (excluding South Africa). In Angola, sub-Saharan Africa's second-largest oil producer, bottles of Château Pétrus costing $3,000 can still be found in supermarkets—relics of the 2000s, when high oil prices made Luanda one of the world's most expensive cities. But in 2020 Angola's economy slumped for a fifth year in a row.

Covid-19 has exposed the weakness of Africa's biggest economies, Nigeria and South Africa, which generate almost half of sub-Saharan GDP. Nigeria, the continent's largest oil producer and home to one-fifth of sub-Saharan Africans, faces an "unprecedented crisis", says the World Bank, which seldom uses such blunt language. More than two in three households are poorer than a year ago. By 2022 the number of Nigerians who are extremely poor is expected to rise by 20m, to 100m.

South Africa was in its second recession in two years before the pandemic, as a result of low commodity prices, corruption, power cuts and scant investment. In 2020 its GDP shrank by 7.8%, as joblessness rose above 30%. The poor, women and the least-educated have been worst hit.

Letsha Lekota (not her real name) lost her job in March. In her village she signed up to get government food parcels. They never arrived. She suspects they were stolen—a common problem in a country where even funds for personal protective equipment and tablets to help kids study at home have been looted. "What happened to the food parcels?" she asks. "Councillors tell us a different story every day."

Not all the news is bad. Some 46 sub-Saharan countries have introduced a total of 166 social-protection policies, such as cash transfers or free electricity, though most are still very small. The pandemic has spurred several to digitise faster. Ethiopia has adopted a law giving electronic documents legal force. Togo has issued welfare payments using mobile money.

Another hopeful development is the African Continental Free Trade Area, which was launched on January 1st. It should eventually ease trade within Africa. That could boost manufacturing, the importance of which the pandemic has stressed. The lack of domestically made surgical masks and drugs made Africa "very, very vulnerable", says Akinwumi Adesina, president of the African Development Bank. "We must be more self-reliant," says Amadou Hott, Senegal's economy minister.

However, when it comes to cushioning the economic shock of covid-19, sub-Saharan governments have fewer options than rich countries do, mostly because they cannot borrow as cheaply. On average they spent just 3% of GDP to respond to the crisis, compared with about 5% in the IMF's group of "emerging markets" and more than 7% in rich countries. Whereas central banks in advanced economies have pursued radical policies, those in Africa have stuck to orthodox ones, lest they endanger their macroeconomic stability. Only about half have cut interest rates. The difference is between doing "whatever it takes" and "whatever is possible", argues Abebe Aemro Selassie of the IMF.

In the next few years governments in sub-Saharan Africa will face two huge challenges: vaccines and finance. A few have not fully grasped the urgency of the situation. South Africa, for example, is spending a fortune bailing out the national airline while dawdling over buying vaccines. Tanzania's president, John Magufuli, casts doubt on whether they even work. "If the white man was able to come up with vaccinations," he said, "then vaccinations for AIDS...malaria and cancer would have been found." He told the health ministry not to adopt a vaccine until it has been certified by Tanzanian experts.

Most African governments, however, are eager to get vaccines as fast as possible. The biggest problem is that it will take time for the world's vaccine-makers to churn out enough for everyone. Under COVAX, a global vaccine scheme largely funded by donors, governments are trying to get enough for 20% of people in poor countries by the end of this year. The African Union has separately secured 670m vaccine doses, roughly enough for a further 25% of Africans, from Pfizer, Johnson & Johnson and AstraZeneca, though it is unclear when they will arrive. Some countries are also negotiating directly with suppliers, including Chinese and Russian ones.

Whereas rich countries aim to vaccinate most people by the middle of this year, John Nkengasong, the head of Africa CDC, a public-health body, is aiming for 60% of Africans to be jabbed by the end of next year. Even that may be optimistic. The Economist Intelligence Unit, our sister organisation, estimates that in most African countries most people will not be inoculated until mid-2023 or early 2024 (see map).

So Africa may suffer waves of infection after the disease has ebbed in the rich world. This will cause more death and suffering as well as economic pain. It may also allow new variants to evolve, which could endanger people in rich countries, too.

Repeated waves would worsen the financing crises in many African countries. This is the second big issue in the medium term. To understand the scale of it, the IMF has totted up what the region would need to pay to meet its external debt obligations, fund its current-account deficits and mount a modest response to the pandemic. It estimated a shortfall of between $130bn and $410bn, equivalent to 8%-25% of regional GDP, for 2020-23. If that gap is not filled, it will be hard for some countries to avoid defaulting on debt or slashing spending on public services—or both.

Sub-Saharan governments are on average spending more than 30% of the revenue they raise on paying debts, up from about 20% before the pandemic. Public debt as a share of GDP rose by eight percentage points to 70% last year. It will rise higher still in 2021. Over half of low-income sub-Saharan countries are in "debt distress" or at high risk of it, says the IMF. It is

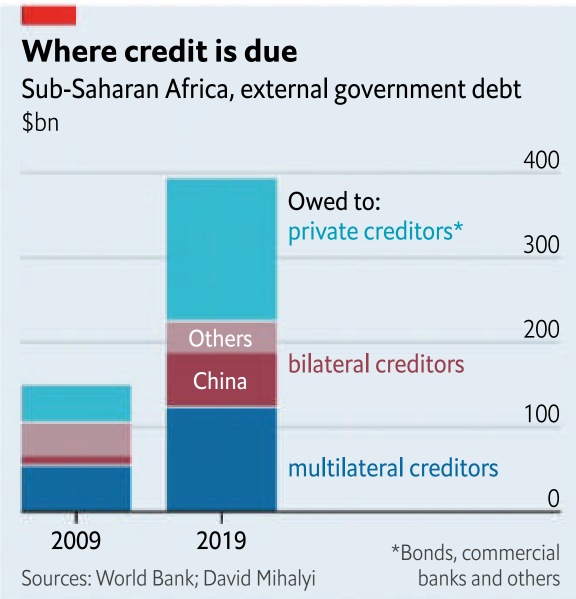
Waiting game

Covid-19, when will widespread vaccination coverage be achieved?

Forecast*

*At Jan 22nd 2021

Source: Economist Intelligence Unit



hard to get out of these holes. It will be especially difficult in countries that have more dollar-denominated debt to pay back than they have dollar reserves. In January Moody's, a credit-rating agency, highlighted the risks faced this year by Zambia, Ghana and Ethiopia, in particular. The latter two were among the world's fastest-growing economies over the past five years. Yet all three face trouble paying their foreign bills—in Ethiopia's case, aggravated by war.

The picture for the two biggest economies is slightly different. Nigeria's debts are relatively low, but an acute lack of foreign currency—and a graft-ridden regime of multiple official exchange rates—is pushing inflation up and risks provoking a balance-of-payments crisis.

In South Africa most government debt is owed in rand to local borrowers. But debt service is nevertheless swallowing an ever-larger share of government revenues: 40% by the end of the decade, according to the country's treasury.

Talk of debt crises in Africa can provoke a sense of déjà vu. Two decades ago 30 African countries had big chunks of their sovereign debt forgiven. This time around, things are more complicated. They owe large sums to commercial creditors (roughly 43% of all government debt) and to China's government (16%), not just to rich governments and multilateral lenders.

The rest of the world is offering support. Last year the IMF provided $16bn in loans, mostly with few strings attached, to help African countries respond to the pandemic and prevent liquidity crises. The World Bank disbursed another $10bn. But most countries will soon exhaust their emergency allocations. And the Washington-based lenders' pockets are not bottomless.

The G20, a group of the world's largest economies, has helped poor countries put off debt repayments until July. Yet this is just "kicking the can down the road", says Mr Zeufack. This is the year, says Mr Ofori-Atta, to "sit down with the West and China for a much more comprehensive debt-restructuring and debt-cancellation programme." To pretend otherwise, given the numbers, he adds, "is to be disingenuous with ourselves".

The reality, though, is fiendishly difficult. Unlike in the 2000s, getting all the interested parties in the same room would require a huge table, or at least a premium Zoom subscription. They need to trust that if one creditor grants debt relief, the debtor will not use that money to pay off another. African governments worry that if their private debt is restructured, rating agencies will downgrade them, making it harder for them to borrow in the future.

Finance ministers may put off asking for help, hoping for a miracle. If so, that will prolong the pain. Around the middle of the decade a wall of commercial-debt repayments looms.

Africa's fiscal woes could cause long-term harm. When revenues are tight "the first thing to go is the development budget," says Benno Ndulu, a former governor of Tanzania's central bank. More than half of African countries cut capital spending last year—a big worry when roads are dire, ports are bottlenecks and more than half of Africans still do not have electricity.

The damage caused by the widespread closure of schools may be even worse. This can be glimpsed in Korogocho, a slum in Nairobi. Outside 13-year-old Grace Emiloyo's house, the peak of a dump site towers over residents. Every morning, instead of going to school as she did before the pandemic, Ms Emiloyo wakes up, prays, then braves her way through the stench and men's catcalls to the dump's summit where she collects plastics and metals to sell.

Last year Kenya closed classrooms for nine months. Ms Emiloyo and her ten-year-old brother, Nurdeen Tawfiq, are among the 40% of students in Korogocho who have not gone back to their books. Ms Emiloyo's mother, Maureen Kasandi, previously made a living going door-to-door to clean people's houses. But during the pandemic many families opted for live-in housekeepers for fear of infection. Nobody could take care of Ms Kasandi's children if she went away to work, so she has sent the older ones out to make money.

When children drop out of school to work, it helps families put *ugali* (a starchy staple) on the table in the short term. But it blights those children's future prospects. Without education, they will struggle to escape from a life of drudgery.

Similar stories are playing out elsewhere across the continent. Almost all of Africa's 253m pupils live in countries that at some point closed schools. About seven months of closures could cost African children $500bn in lifetime earnings, warns the World Bank.

The effects could last more than a generation. Most of the dropouts will be girls, since many families favour sons when they can afford to send only some of their children to school. The girls who drop out will not only earn less but are also likely to start having babies sooner, and to have more of them. In Kilifi County, on Kenya's coast, only 388 schoolgirls out of the 946 who got pregnant during the closure last year have reported back to school, according to Terre des Hommes, a charity.

The link between female education and family size is strong everywhere. Women with no formal schooling tend to have about six children, whereas those with secondary education have roughly two. This matters because better-educated mothers tend to lavish education on their smaller broods. Before covid-19 hit, Africa was in the middle of a demographic transition. Girls were going to school for longer. Wolfgang Lutz of the Wittgenstein Centre for Demography and Global Human Capital in Vienna predicted that this would soon translate into smaller families. That benign shift is at risk if the pandemic disrupts too many young girls' schooling.

So the stakes are high. By damaging their health, wealth and education, covid-19 endangers the future of Africa's largest-ever generation. On the plus side, vaccine roll-outs may accelerate once rich nations have inoculated most of their people. Commodity prices may rise again as the global economy recovers. Investors' appetite for risk may be big enough to enable African governments to keep borrowing.

But the weight of evidence points towards further waves of the virus hitting beleaguered health systems, adding to an economic "long covid" across Africa. Though some economies are well placed to rally as the pandemic fades, more of them, including the biggest, will struggle to recover. Africans have shown remarkable resilience in response to the virus. But the toughest years are yet to come. ■

Light in the lockdown

Israeli politics

A sea of trouble

JERUSALEM

Will his alliance with the ultra-Orthodox doom Binyamin Netanyahu?

HE WAS HARDLY a household name, but the funeral of Rabbi Meshulam Dovid Soloveitchik on January 31st may prove a turning-point in Israel's election campaign. The event drew some 20,000 ultra-Orthodox mourners, in defiance of a nationwide lockdown to combat covid-19 (see picture). "It's wrong to break the lockdown, but when a man like this passes, there is an uncontrollable urge to demonstrate our respect for the life he led," says Chaim Walder, an ultra-Orthodox writer.

For more secular Israelis, the funeral was yet another reminder of the government's failure to enforce covid-related restrictions on the ultra-Orthodox, who are 12% of the population. The devout continue to pray in packed synagogues and hold big weddings. Some ultra-Orthodox schools and yeshivas remain open, despite all other schools being closed. Many of those angry about the disparity have blamed Binyamin Netanyahu, the prime minister, and thrown their support behind the party of Yair Lapid, a secularist.

Mr Netanyahu's coalition relies on the backing of two ultra-Orthodox parties, so he goes easy on the group. "There are gatherings on all sides, in all communities," he said after the funeral. The prime minister would rather talk about how Israel leads the world in vaccination per person. Over a third of the population have been jabbed. Still, covid-19 cases and deaths have been rising. The main reason appears to be the arrival of a more infectious variant. But the ultra-Orthodox account for nearly a quarter of the new cases.

In a recent poll, 61% of Israelis said they did not want ultra-Orthodox parties in the next government. Many voters believe Mr Lapid is the only contender who would definitely leave them out. His own party, Yesh Atid, has moved up to second, behind Mr Netanyahu's Likud, in the polls. The vote is on March 23rd. "I don't want my campaign to focus on [ultra-Orthodox] against secular," says Mr Lapid. "It's about a return to normalcy versus a sense of chaos, which is what most Israelis are now feeling."

Mr Lapid, a former television talk-show host, created Yesh Atid in 2012. He served as Mr Netanyahu's finance minister from 2013 to 2014. But for years he was seen as lacking the experience and gravitas to be prime minister. He seemed to acknowledge that in 2019, when he teamed up with Benny Gantz to create the Blue and White list of candidates—led by Mr Gantz. It battled to a virtual draw with Likud in an election last year, but split after Mr Gantz broke his promise not to serve under Mr Netanyahu, who faces charges of bribery and fraud.

Early in this campaign it seemed as if the main threat to Mr Netanyahu would come from his right. A former ally, Gideon Sa'ar, formed a party for disgruntled Likudniks. But Mr Sa'ar is also wary of antagonising the ultra-Orthodox, whom he would like to draw away from Mr Netanyahu. Mr Lapid is better placed to capitalise on the prevailing mood—and, perhaps, to put together a coalition that does not include Likud or the ultra-Orthodox parties. ■

Algeria's car shortage

Broken-down country

CAIRO

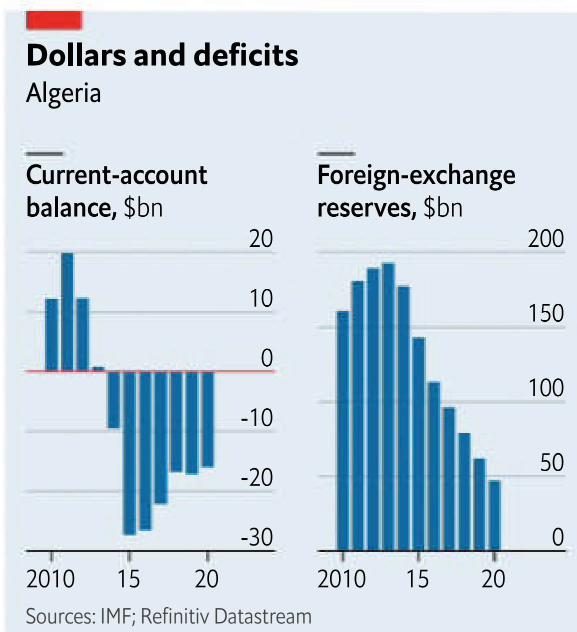
Why Algerians cannot hitch a ride

IN MOST PLACES a new car is a bad store of value. Its resale price plummets the moment it is driven out of the dealership. But not in Algeria. Hassan Houicha has been getting offers to buy his Volkswagen for the same sum he paid for it in 2013. Still, he refuses to sell. "What if I can't find another car?" he says.

Algeria has a problem. It does not produce cars. Yet, in an effort to keep hard currency in the country, it banned car imports in 2016. To no one's surprise, this caused a shortage. Such shoddy policies are typical of how the government is handling a stubborn current-account deficit and resulting hard-cash crunch (see chart). Its capricious actions increase volatility in a country that toppled its autocrat in an uprising two years ago, and where the economy shrank by 5.5% in 2020.

Over 90% of Algeria's foreign-currency receipts come from oil and gas exports. But receipts have been on a downward trajectory for years. (A slump in energy demand because of the pandemic has not helped.) Meanwhile, over the past decade Algeria has spent more than 28% of its GDP each year on imports. As a result, its foreign reserves have fallen from almost $200bn in 2014 to under $50bn today. Economists say they could run out in two years.

So the country has been trying to spend less hard cash. It significantly cut its import bill in 2020. Sonatrach, the state energy firm, which does much of its business in foreign currency, has been told to slash spending for this year by half. The government has levied tariffs of up to 200% on everything from chocolate to mobile ▸▸



phones. In January it suspended the import of red meat. Two weeks earlier, President Abdelmadjid Tebboune sacked the transport minister and the boss of Air Algeria, the national carrier, for using hard currency to buy catering supplies.

The ban on foreign cars, though, has proved more controversial. Last year Ferhat Ait Ali, the minister of industry, said they were "not a priority". But growing public anger over the shortage has prompted Mr Ali to change tack. In January he said that $2bn would be allocated for car imports by vetted dealerships. The allocation is meant to cover everything from passenger cars to commercial trucks. "They are trying to avoid another uprising," says Zine Ghebouli, an analyst. "But at a certain point people will recognise that $2bn is not enough." The car-import bill in 2013, when there were no restrictions, topped $6bn.

Algeria has long tried to diversify away from energy, build up manufacturing and reduce its reliance on imports. After banning car imports in 2016 it set up partnerships between foreign producers and Algerian businessmen with the aim of assembling cars locally. The government hoped to create a motor industry as hefty as that of Morocco, Algeria's neighbour, which ships cars to Europe and across Africa.

Algeria's plan drew foreign partners such as Renault, Volkswagen, Hyundai and Kia. The partnerships were given free land and subsidised energy for their plants, and breaks on taxes and custom duties. In return, they were required gradually to increase their use of local materials. But building a local supply chain is difficult in a country with no history of carmaking. Critics say the new plants used more foreign parts than they were supposed to, and the cars they produced cost more than the imported cars they replaced, while still eating up hard currency.

Algerians saw it as yet another example of regime insiders lining their pockets at the public's expense, a defining feature of President Abdelaziz Bouteflika's rule. Since he was pushed out in 2019, there has been some accountability. On January 28th a court upheld prison sentences for two former prime ministers convicted of awarding contracts to cronies and costing the state hundreds of millions of dollars. Two former industry ministers and several businessmen have also received jail time.

Still, Algerians complain that the old elite remains in charge—and the people still need cars. The assembly plants had their import licences revoked and were closed. The government says it is seeking to establish new partnerships between foreign firms and local businessmen, and that this time it will ensure that more production happens locally. But no new deals have been announced. And Algeria is still running out of cash. ■

Honour killings

Murder, plain and simple

Male-dominated governments are doing little to end the killing of women

KUWAIT'S NATIONAL assembly is so rowdy that debates sometimes descend into fisticuffs. But on one issue, at least, the MPS have little to say. Sheikha al-Ajmi, a parliamentary employee, was killed by her brother in December. Some say he didn't like her working as a security guard; others say he was angry that she wanted to marry outside their clan. The chamber offered no condolences. MPS may have feared the wrath of her tribe. Some probably approved. "They think what happens at home, even murder, is a private matter," says Nour AlMukhled, a Kuwaiti activist.

No country in the Middle East and north Africa releases an official count of "honour killings", which typically involve men murdering female relatives for actions they consider immoral. Activists say such killings are still common in the region, despite years of campaigning against them. Most states treat them more lightly than other forms of murder. Take Kuwait, where a man who catches his wife committing adultery or a female relative in the presence of a man and kills her (or him) faces at most three years in prison for what is considered a mere misdemeanour.

Activists have tried to shame leaders into changing such laws. Abolish 153, a group in Kuwait, aims to get rid of Article 153 of the penal code, which sets out the lax punishments for honour killings. Last summer the hashtag #Ahlam's_Screams trended in Jordan after a man was filmed in public using a brick to smash the skull of his daughter, Ahlam. (He then sat down next to her body, drank tea and waited for the police to arrive.) Elsewhere, groups arrange hideouts for women in danger.

To their shame

Respondents who consider honour killings to be "acceptable", by age group, 2019, % of total

Source: Arab Barometer

There has been some progress. Several governments have passed laws against domestic violence and abolished ones that allowed rapists to dodge prosecution by marrying their victims. Jordan, which used to put women seeking refuge in jail, opened its first shelter for women in 2018. But only Lebanon, Tunisia and the Palestinian Authority have abolished laws that treat honour crimes leniently. In November the United Arab Emirates said it had, too, though it has yet to publish the provisions.

Critics dismiss the measures as lip service. Enforcement by judges, officials and police—mostly men—is patchy, they say. Local authorities sometimes register honour killings as suicides or disappearances. The legal system is superseded by tribal codes in some areas. And rulers find it easier to stop peaceful female activists than murderous men. When women in Saudi Arabia tried to register a charity to set up shelters in large cities, Muhammad bin Salman, the crown prince, had them jailed.

Arab opinion is difficult to gauge because polling is forbidden in many places. But in 2018 and 2019 a survey of six countries in the region (and in the Palestinians' West Bank) by Arab Barometer, a pollster, found that more people thought honour killings were acceptable than thought so of homosexuality. In most places, young Arabs were more likely than their parents to condone honour killing (see chart).

The results are reflected on the Arab street and on social media, where opponents of honour killings are accused of promoting adultery and Western norms. A year ago thousands of protesters rallied in Hebron, the West Bank's largest city, after the Palestinian Authority signed the UN's Convention on the Elimination of All Forms of Discrimination Against Women.

Worse, the scope of what is deemed a punishable breach of honour is widening. In the past year women have been murdered for such offences as wearing make-up and chatting online. Last month a Saudi woman was killed by her brothers for having a Snapchat account. (When her sister wrote on social media that her body had been dumped in the desert, the police detained her.) More generally, during lockdowns to contain covid-19, violence against women has increased. "No woman feels safe," says Ms AlMukhled. "Men are getting away with murder." ■

→ Also in this section

Italy

Send in the technocrats, again

ROME

Mario Draghi is summoned to form a government

In certain countries, when the politicians are considered to have failed, it is time for an unsmiling general to appear on television to announce he has seized power. In Italy, the procedure is more benign: a man in a well-cut suit, usually one with a successful career as a central banker behind him, is called to the presidential palace to get the nod.

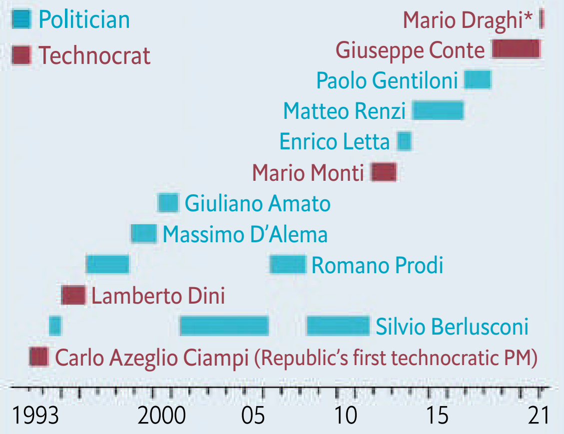
On February 3rd just such a man, Mario Draghi, arrived at the palace on the Quirinal hill to be asked by the president, Sergio Mattarella, to head a new government. Mr Draghi accepted, conditional on the support of a parliamentary majority. Mr Mattarella called in the former boss of the European Central Bank after Matteo Renzi's Italia Viva group torpedoed hopes of a deal between the parties that had supported the outgoing prime minister, Giuseppe Conte, and his left-leaning coalition.

Markets rejoiced. The Milan bourse leapt nearly 3% at the opening. The yield gap between Italian and German government bonds, which widens as doubts grow about Italy's ability to repay its vast debts, shrank by 8% to just over 100 basis points.

The reaction was understandable. As Mr Draghi noted, with bankerly understatement, Italy faces a difficult moment. Not only is it in the midst of a pandemic; in March, a ban on firings is due to be lifted, unleashing a wave of job losses. And by the end of April, the government has to agree on how to spend more than €200bn ($240bn, or 4.3% of GDP) in grants and loans from the EU's recovery fund; the grants alone are more than half what in real terms it got from the Marshall Plan after the second world war. Other member states want it to use the money in a way that reverses two decades of dismally low growth that has threatened the stability of the EU's single currency. Few are better equipped to tackle the economic challenge than "Super Mario", the man whose decisive action saved the euro in 2012.

Who needs politicians?

Italy, prime ministers, 1993-2021



Source: *The Economist* *Not yet confirmed by parliament

The outcome of the crisis that erupted when Mr Conte resigned on January 26th represents a triumph for Mr Renzi, himself a former prime minister. He has brought down a coalition whose policies, including its plans for the allocation of the EU's funds, he increasingly deplored. He has unseated a popular prime minister who threatened to challenge him in the middle ground of politics. And both outcomes have been achieved without an election that could have destroyed Mr Renzi's tiny party. Italia Viva had enough seats in parliament to have been crucial to Mr Conte's majority, but polls suggest it now has the support of less than 3% of the electorate.

Mr Renzi's victory was scarcely a win for Italian democracy, however. Something is wrong in a country where a party as tiny as his can oust a government, let alone one that has had as frequent recourse as Italy in the past 30 years to political outsiders.

The first was Carlo Azeglio Ciampi—like ▸▸

Mr Draghi, a former governor of the Bank of Italy. Mr Ciampi took office in 1993 as the country's post-war order, dominated by Christian Democrats and Communists, was falling apart. He remained at the helm until an election the following year. But after the winner of that election, Silvio Berlusconi, was ousted in 1995, another Bank of Italy alumnus, Lamberto Dini, was tapped to head a government composed mostly of technocrats like himself. The country's next existential trauma, an effect and a cause of the wider euro crisis, wafted a former European commissioner, Mario Monti, to power in 2011. Then, after the 2018 elections, when the leaders of the hard-right Northern League and the anti-establishment Five Star Movement (M5S) were unable to agree on who should get the top job, they gave it to Mr Conte, an obscure law professor. He survived to lead a second government that yoked the M5S to the centre-left Democratic Party (PD).

The alternative to a technocratic prime minister, and the normal response in most democracies, is the ballot box. Mr Mattarella argued, with some justification, that the challenges facing Italy are too urgent to allow for an early vote. But, in doing so, he highlighted another shortcoming: Italy's cumbersome procedures for transferring power. The president recalled that it had taken five months to install a government in 2018 and four months in 2013.

Mr Mattarella says he wants a high-profile administration that "ought not be identified with any one political formula". That does not necessarily mean the next cabinet should be purely technocratic. Italy's non-party prime ministers have not all headed non-party governments: Mr Ciampi's cabinet and Mr Conte's two governments were made up of politicians.

All, however, have suffered from two shared weaknesses. Their leaders have been new to the roughhouse of Italian domestic politics. And, however technocratic, they have depended for their survival on the goodwill of politicians in what are often ill-assorted parliamentary coalitions.

The first signs were that Mr Draghi could win the support of Italia Viva, the PD and Mr Berlusconi's Forza Italia, but that he faced opposition from the M5S and from the two most radical groups in parliament: the Free and Equal party on the left and the Brothers of Italy on the right. It was unclear whether the League would back him explicitly, or implicitly by means of abstention. But Mr Draghi risks finding himself dependent on the support of two parties, the PD and the League, with fundamentally different ideas on how best to govern Italy. It is a problem with which his technocratic predecessors became wearily familiar and one that helps to explain the brevity of their governments. On average they lasted for a year and four months. ■

Russia

A mockery of justice

MOSCOW

The sentencing of Alexei Navalny to prison may yet weaken Vladimir Putin

JUDGING BY THE security measures, you would have thought Moscow was experiencing a terrorist attack. Police in riot gear surrounded the capital's main court and blocked the approaches. Muscovites suspected of being protesters were whisked away and bundled into police vans. By lunchtime 350 people, including journalists, had been detained, adding to nearly 2,000 arrested during protests two days earlier. Jails and detention centres filled up so fast that many demonstrators were held in police vans in freezing temperatures without food or water for up to 40 hours.

The reason for the mass arrests was Alexei Navalny, Russia's opposition leader, who had returned last month from Germany, where he had been treated for poisoning, ordered, he says, by President Vladimir Putin himself. On February 2nd Mr Navalny was put in a glass cage inside the Moscow court and sentenced to nearly three years in prison. This converted the original, suspended, sentence handed down in 2014 into a trumped-up case designed to stop him from standing for election. The European Court of Human Rights in Strasbourg had previously exonerated him of that charge and made Russia pay him compensation.

The latest proceeding was a mockery of the law. Mr Navalny denounced it as "one man's hatred and fear...I mortally offended [Mr Putin] by surviving. And then I committed an even more serious offence: I didn't run and hide." Worse still, Mr Navalny had revealed that Russia's Federal Security Service (FSB) had smeared his underpants with Novichok, a toxin. Mr Putin would go down in history not as a global statesman but as "Vladimir the Underpants Poisoner", said Mr Navalny. His speech, blanked out by state television, was broadcast by TV Rain, an independent internet channel, and watched by nearly 9m people on YouTube. Within minutes of the sentencing, Mr Navalny's team had called people out onto the streets.

The Kremlin tries to win hearts and minds

Taking no chances, riot police closed metro stations and took over the main squares and crossroads. Videos that spread instantly on social media showed small groups of mostly young and peaceful Muscovites walking through the centre chanting "Navalny" and being shoved into side streets where they were beaten.

The poisoning of Mr Navalny made it clear that the FSB, rather than the civilian technocrats who were once responsible for domestic politics, are now dominant, says Alexei Venediktov of *Echo Moskvy*, an independent radio station. "They describe Navalny as 'the engine' and 'the banner' of the protest movement." Locking him up will disable the engine, they reckon.

They also plan to sully the banner by portraying Mr Navalny as a foreign agent planted by the West to overthrow Mr Putin's regime. They cite the protests by democratic countries, including America, Britain and Germany, and the attendance of their ambassadors at Mr Navalny's sentencing, as proof of its determination to hobble Russia. Mr Navalny's call for sanctions against Mr Putin's friends could bring a new charge of treason that carries a sentence of up to 20 years. Prosecutors are also working on a new fraud case, alleging that Mr Navalny has stolen donations to his own anti-corruption foundation.

Yet by unleashing violence against peaceful protesters, the Kremlin is helping Mr Navalny in his main task: undermining Mr Putin's legitimacy. The president is clearly rattled by Mr Navalny's bold return and his explosive two-hour video, which was watched by 100m people, showing a vast secret palace allegedly belonging to Mr Putin. The president is now trusted by only 29% of the population, says a recent poll by the Levada Centre, a fall of 20 percentage points since he was re-elected in 2018. For this, blame corruption, a stagnant economy and a shift in media consumption. Mr Putin dominates state TV. But most Russians under the age of 40 get their news and views from the internet, where Mr Navalny is strong. The Kremlin would like his sentencing to display its limitless power. In fact, it enhances Mr Navalny's moral stature at Mr Putin's expense. ■

Nord Stream 2

Running out of gas?

BERLIN

Germany won't kill Nord Stream 2. Americans sanctions might

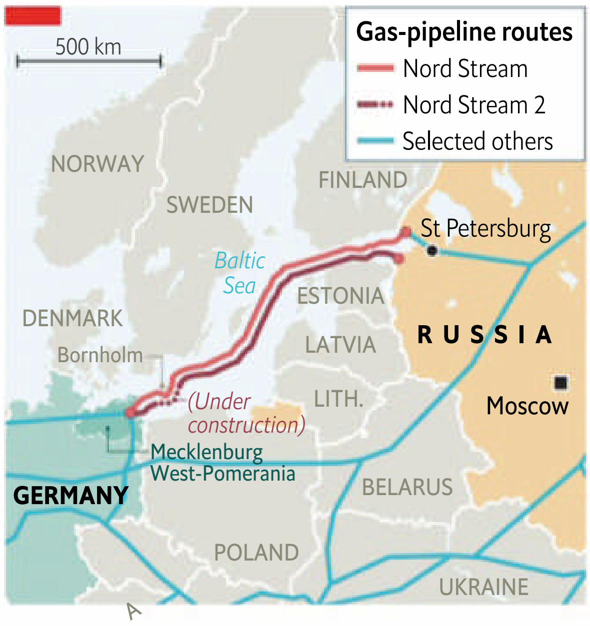
In the chill waters off Bornholm, a Danish island in the Baltic sea, a complex game of cat-and-mouse is playing out. A flotilla of Russian boats is rushing to complete the construction of Nord Stream 2, a 1,230km (765-mile) gas pipeline that would double capacity from Russia to Germany. Less than 150km of it remains to be built. Meanwhile, the American government, armed with sanctions legislation, is picking off companies it suspects of involvement. As the saga enters its endgame, the pipeline's fate may depend on the outcome of this race.

Nord Stream 2 has inspired criticism ever since 2015, when Gazprom, Russia's state-backed gas giant, and five European energy firms formed a consortium to lay a new pipeline costing €9.5bn ($11bn) next to an existing one along the Baltic seabed. American opposition, grounded in concerns that the new pipe will expand the Kremlin's influence, is bipartisan. Eastern Europeans, as well as France, fear growing dependence on Russian energy—and depriving Ukraine, from which Russia has gobbled territory, of transit fees from an existing land pipeline. Attitudes in Brussels range from concern to bitter opposition.

Germans who value these opinions wonder why their politicians insist on ploughing ahead in splendid isolation. Yet Angela Merkel's government has long sought to insulate the pipeline from diplomatic rows. Challenged after the recent detention in Moscow of Alexei Navalny, a Russian dissident, Mrs Merkel said she had not changed her mind on the pipeline. To circumvent American sanctions, the government of Mecklenburg-West Pomerania, a rural German state where the pipeline makes landfall, has set up a foundation, funded mainly by Gazprom, to mediate between Nord Stream 2 and private contractors—in the name, risibly, of "climate protection". (Genuine greens are appalled.)

Yet not only does that ploy look doomed, America's dogged efforts to kill the pipe are bearing fruit. Congress has passed two sets of sanctions aimed at it. In December 2019 the mere threat forced Allseas, a Swiss undersea construction firm, to pull its vessels from the project, halting construction for a year and costing Gazprom a fortune. Many other international companies have been scared off.

Russian ships eventually restarted work in December. But the heat continues



to rise. On January 19th the American government made good on its threats for the first time, slapping sanctions on *Fortuna*, a Russian vessel repurposed for pipe-laying. A few weeks earlier Congress passed an amendment to a different sanctions law, passed in 2019. By radically expanding the set of companies now exposed to American action to include insurers, certifiers and any entity supporting "pipe-laying activities", the new law is a "game-changer", says Mateusz Kubiak of Esperis, a Polish consultancy. Russian assets may eventually be able to finish the pipe-laying, he says. But certification, a technical exercise to show the pipeline meets international safety and design standards, "cannot be simply transferred to some murky Russian company."

What now? The aggressive sanctions policy of the Trump administration unsettled even stalwart foes of Nord Stream 2 in Europe. Joe Biden is keen to rebuild America's tattered alliances, but his team also opposes the pipeline. Optimists think the most recent sanctions legislation could offer a way out. The sanctions are mandatory, limiting the White House's room for manoeuvre. But as Dan Fried, a sanctions co-ordinator at the State Department in the Obama administration, notes, the text also lowers the bar for the president to waive the sanctions. "It's a hint that Congress wants a deal," he says. Mr Biden's team has indicated that it is open to suggestions.

What might a deal look like? One idea is an automatic mechanism to impose sanctions on Gazprom should the Kremlin renege on a deal brokered by Mrs Merkel in 2019 to keep gas flowing across Ukraine. This could form part of a grand bargain in which America drops its sanctions in exchange for German commitments to bolster energy- and other forms of security in eastern Europe. But Germany would need not only to signal interest in such ideas, but to pause support for the pipe. And officials in Berlin fear hardliners in Congress may tie Mr Biden's hands. The diplomatic stalemate, then, may drag on. Meanwhile, the delicate dance in the Baltic continues. ■

Sweden

Solitary cinema

A Swedish film festival has just one attendee

When the Goteborg Film Festival offered the chance for a film fan to spend seven days alone on an island, with only 60 films for company, the organisers weren't sure if anyone would want to apply. The pandemic has been isolating enough, even for Swedes, who have yet to lock down like other Europeans. The lucky winner would not be able to bring a phone or contact friends and family during a week of stormy seas and dark Swedish winter. No one was expecting that the festival would get over 12,000 applications from 45 countries.

The chosen castaway, a pink-haired Swedish nurse called Lisa Enroth, has been on Hamneskar island, 37km north-west of Gothenburg (as it is spelt in English), since January 31st. Sending her by boat to an "isolated cinema" was the best way to carry on the festival this year, says its chief organiser, Mirja Wester. A single person watching films cannot spread the virus (unlike the 160,000 at last year's event). The solitary experience is also in keeping with how millions have watched movies of late. And like the lighthouse that towers over the island, streamed and downloaded films shine a ray of hope.

Still, some films are not meant to be watched alone. By day three, Ms Enroth was already rueing her lack of friends and wine. "I should have had someone there to cling onto," she said in a video diary after watching "The Macaluso Sisters", a tragic Italian drama. She confessed to having "started talking to the stove". It is easy to understand how she feels, alone on a rocky outpost. Yet such sentiments have long been common all over Sweden. Half of Swedish households are single-person ones.

When lighthouse-keepers first came to Hamneskar, no one thought they could survive long in such desolation. Ms Enroth's prospects are rosier. A psychiatrist is on standby in case she starts to struggle. And for an emergency nurse whose energy has been drained by the pandemic, solitude may even be a relief.

Charlemagne | Looking for someone to blame

When something goes wrong in the EU, responsibility is passed around

At the end of December, a smiling Ursula von der Leyen appeared in front of a camera to hail the beginning of the EU's vaccination programme. The president of the European Commission boasted that from Sofia to Helsinki Europeans were being jabbed with drugs bought collectively and then divvied up by the commission. It was, she beamed, "a touching moment of unity and a European success story". A month later, the smiles have vanished. The EU has vaccinated a much smaller proportion of its people than America, Britain or Israel has done. The programme has been dogged by a lack of doses and clunky roll-outs. Supply problems hit when AstraZeneca, an Anglo-Swedish drug firm, warned that it would provide less than half of the 80m doses it had pledged to the EU in the first quarter of the year. A touching moment has become a tortuous one and the blame game has begun. Where does the responsibility lie?

Start with the body Mrs von der Leyen heads: the commission. It took months to sign contracts for covid-19 vaccines, something that could have been done in weeks. Shrugging off liability—ensuring that the drug firms were on the hook should anything go wrong—was prioritised over speedy delivery. The row with AstraZeneca was badly handled. In a mix of institutional panic and fury, Mrs von der Leyen demanded export controls on any vaccines heading out of the EU. This threat of a blockade led to concern from Tokyo to Ottawa, rather undermining the EU's claim to be the doughtiest defender of the rules-based trading system. A plan to block exports to Northern Ireland using a mechanism in the Brexit deal that is widely seen as a nuclear option was revealed and then dropped via a midnight press release. To cap it all, while trying to apologise for blundering into Northern Ireland's conflict between Protestants and Catholics, the commission's spokesman uttered a world-class gaffe: "Only the pope is infallible."

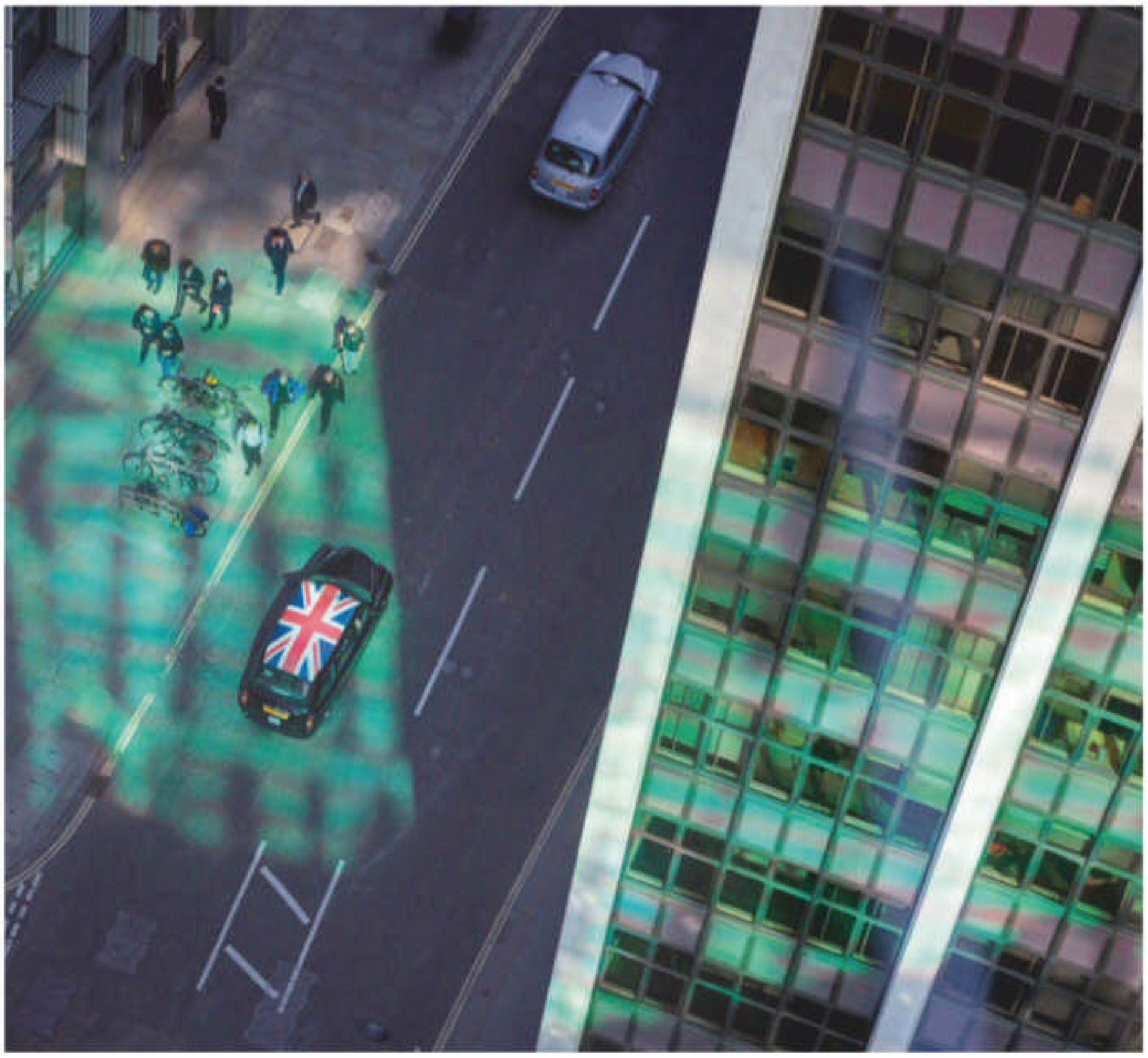
But no one forced national governments to put the commission in charge. Legally, EU institutions have barely any responsibility for the health care of the continent's citizens, which is left to national governments. Rather than deal with the tricky politics of some EU countries buying more vaccines than others, governments outsourced the job to the commission. Commission negotiators, used to arguing over simpler things like beef quotas in trade deals, were tasked with dealing with makers of novel pharmaceuticals. Reshuffling institutional responsibilities while in the middle of a crisis is risky, yet surprisingly normal in the EU. The job of overseeing a project costing €2.7bn ($3.35bn) to vaccinate 450m people was handed to a department whose main previous concern was food labelling—all at the behest of national capitals.

Mrs von der Leyen's clumsy handling of the crisis casts the spotlight on the national leaders who gave her the job in the first place. Picking the European Commission president is not a meritocratic process. Mrs von der Leyen, who was having a rough patch as German defence minister at the time, ended up with the job because she raised the fewest objections, rather than due to wild support among leaders. Convenience trumps track records when it comes to divvying out top jobs in the EU. (And explains why three of the past four prime ministers of Luxembourg—a country of 600,000—have led the commission, among the biggest roles in Europe.) Ultimately, the last thing the EU's 27 heads of government want is someone with too much ambition or political star power in the role. After all, the EU's treaties are littered with unused tools that could reshape the continent in the hands of someone with the right mix of political nous and ambition. By contrast, Mrs von der Leyen's main qualification for the job was an expectation that she would do what she was told by her main backers, who include Emmanuel Macron, the French president, and Angela Merkel, her former boss. After the past few weeks' performance, leaders may wish they had opted for other qualities.

In the EU, no one can hear you scream

When it comes to complaining about the EU's management, avenues of dissent are limited. A typical government has opposition parties waiting on the sidelines, loudly explaining why it is bad and why they would do much better. In Brussels, there is no such public political competition. The commission can be kicked out if MEPs so choose, but the European Parliament—the main democratic organ of the EU—is weak. Schemes to turn the club into something resembling a parliamentary democracy, with the commission president chosen on the basis of election results, were shelved in favour of the private haggling between leaders that resulted in Mrs von der Leyen's selection. Lawmakers spinelessly played along. The result is that opposition is left to fringe parties with the teleological belief that the EU will, at some point, implode. Attacks on the current management are cast as opposition to the whole project, argues Hans Kundnani of Chatham House, a think-tank in London. This makes for an unhealthy political scene, where criticism is regarded as illegitimate, and anything short of outright collapse is seen as vindication.

And thus, complaints about the vaccination programme have been overridden. Rather than apologising to voters for the fact that European pensioners are less protected than American, British or Israeli ones, the EU reminds them that things could be much worse. In this telling, purchasing collectively has enabled EU countries to avoid fighting each other over scarce supplies. Other countries took risks by more quickly approving the very drugs that will be injected into European arms, runs another defence. A noble intention is, apparently, enough to forgive faulty execution. Mrs Merkel summed up this attitude on the vaccine roll-out in an interview: "On the whole, nothing went wrong." When it comes to the EU, voters are left in a no-man's land, unsure how to air their anger, where to aim it or even if they should be upset at all. For a democratic club, this is not a healthy place to be. ■



Brexit

The view from the City

The price of access to the EU for financial services is likely to be high, and the industry is divided over whether Britain should pay it

IN THE FINAL weeks before Britain struck its Christmas Eve trade agreement with the European Union, Boris Johnson employed a euphemism for a no-deal outcome: he called it an "Australian-style" relationship. The agreement was sealed, to the relief of Britain's manufacturing sector, but for financial services—the country's core competence and dominant industry, which makes up 7% of its GDP—the outcome was sub-Australian. The EU recognises Australian rules as broadly equivalent to its own in 17 different areas, compared with only two for Britain. It is now easier to sell many financial products to clients in the EU from 10,000 miles away in Sydney than from across the Channel. "You just can't imagine the Germans throwing the car industry under the bus like that," laments a British asset manager.

The causes of the government's neglect of the financial-services sector—which probably include a general hostility to bankers, fury at the generous application of taxpayers' money to the industry after the financial crisis and a belief among politicians that the City can look after itself—are obscure, but the consequences are clear. Between the Brexit referendum in June 2016 and the end of the transition period at the 2020, around 7,500 jobs—5% of financial-services employment—and over £1.2trn ($1.6trn) of assets moved from Britain to European financial centres according to EY, a professional-services firm. That may be an underestimate, as EY tracked only larger firms; and more may go. Under "target operating models" agreed with European regulators, many firms have promised to shift more jobs to the continent by the end of 2021.

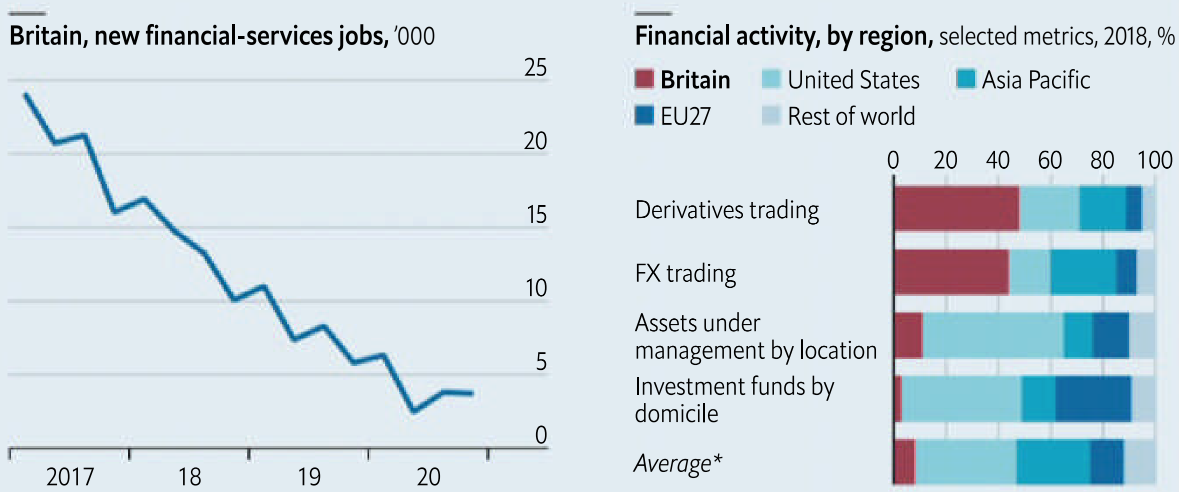
Recruitment data suggest that Brexit may not just be sending work abroad but also discouraging growth in Britain. Even before the pandemic, the number of vacancies posted for jobs in British-based financial-services firms was falling swiftly, according to Morgan McKinley, a head-hunting firm (see chart on next page). The figures are gross—net figures are unavailable—but the trend is unmistakable.

There are some small upsides to Brexit. New immigration rules that make it harder for firms to recruit low-paid Europeans also make it easier for them to hire highly-paid people from anywhere in the world. Brexit has prompted fresh thoughts about regulation. A review of the British listing regime, for instance, which Lord Hill, a former European Commissioner, is doing, may make London a more attractive destination for Asian firms seeking to raise capital. "We could have done 80% of the suggested changes while in the EU, but it didn't feel so pressing," says a banker.

The main question now is whether the EU will grant Britain further "equivalences". The designation is a poor substitute for the "passporting" rights which entitled British firms to trade freely all over the EU. Equivalence covers fewer market functions and can be withdrawn with 30 days' notice. As the EU has demonstrated in its dealings with Switzerland—the right for Swiss-listed shares to be traded on European exchanges was suddenly withdrawn in 2014—equivalence can be used for political leverage. But it is the only form of market access on offer to Britain.

In November, Britain granted the EU a wide range of equivalences. Hoping to get the same in return, the Treasury filled out some 2,500 pages of questions on the British regulatory regime, an exercise which an official derides as "especially pointless giv- ▸▸

Pointing in the wrong direction



Sources: Morgan McKinley; European Fund and Asset Management Association; European Central Bank; Dealogic *Of 22 metrics

en they know what our regime is. It's their regime." But so far the EU has granted Britain only time-limited equivalence for clearing Irish securities and the operation of central clearing counterparties. Negotiations are continuing, and the Treasury is keen for a deal, but the EU does not seem to be in a hurry. A March deadline already looks likely to slip.

Some suspect that the EU is going slowly on purpose, because uncertainty may encourage business to flow from London to European capitals. William Wright of New Financial, a think-tank, reckons that the outflow from London over the last four years will "embolden Europe to push harder to repatriate more business".

The EU says it cannot make a decision on equivalences until Britain makes its approach to divergence clear. The British government has talked in vague terms about deregulation—Rishi Sunak, the chancellor of the exchequer, referred to "Big Bang 2.0 or whatever" in a newspaper interview—but has not committed itself to divergence. A crucial question is what the EU would require of Britain in exchange for equivalence. "If it means targeting the same broad outcomes of well-functioning markets that is fine," says an insurer. "But we can't agree to line-by-line regulation by email."

Big firms in the City are keener on equivalence than divergence. Europe, the source of a third of the financial-services industry's export business, is important to them, and European rules, which Britain helped to shape, have served them well. For global firms, a common regulatory system between Britain and the EU makes the world a simpler place.

Compared with global City firms, those headquartered in Britain are less set on equivalence. They are more concerned about what will happen when, unconstrained by British policymakers, Europe's more interventionist instincts are brought to bear on regulation.

Over to the west of the City in Mayfair, where most of London's hedge funds are located, opinion is heavily in favour of divergence. Hedge fund managers' views, shaped by a fast-moving world in which regulation is often a drag on innovation, tend to be more eurosceptic than those of the bosses of global firms located in the City and Canary Wharf. While most City figures wanted Britain to remain in the EU, high-profile hedge-fund bosses such as Crispin Odey and Sir Paul Marshall helped finance the Leave campaign.

Unlike banks, which do a lot of business in Europe, hedge funds raise most of their capital in Asia and the Middle East. They are lightly regulated, and plan to stay that way. "The only times the EU has affected my business is when they have tried to destroy it," says a hedge-fund manager. The alternative investment sector is fairly small—it pays less than £5bn a year in tax and employs around 40,000 people—but its big cheeses are generous Conservative Party donors, so it has an outsized political voice.

The hedge funds' particular bugbear is the EU's Alternative Investment Fund Managers Directive, which provides a framework for regulating them. Many want it dropped, and the sector deregulated by, for instance, lowering authorisation requirements and dropping disclosure rules. But while such a step would go down well in pricey Mayfair eateries, those who dine in marginally less expensive City restaurants fear it would invite retaliation from Europe and thus make their lives more difficult.

The hedge funds are not alone in wanting divergence. Many in the insurance industry believe that a review of the Solvency II regulatory regime focusing on the needs of British firms could lead to some marginal improvements. Smaller challenger banks hope that Britain can tweak the prudential framework to suit them better.

For sectors such as manufacturing and agriculture, Britain must choose whether to align with European or American regulations. In financial services it has more clout. The EU without Britain is not a huge force in finance (see chart). Its share of the overall business has fallen from a fifth to 13% as a result of Brexit, compared with Britain's 8% share. In many areas, Britain's share is bigger than that of the EU 27. Now that it no longer needs to agree rules with its old European partners, Britain can make deals with countries like America, Singapore, Switzerland and Japan that offer a path to capturing fast-growing new markets such as fintech and carbon trading and for setting the rules that determine how those businesses are done.

The question of whether Britain should go for equivalence will probably be settled not in the City, Mayfair or Westminster but in Brussels. The EU's sluggish approach to negotiations suggests that it sees no great advantage in offering Britain equivalence deals on terms that are likely to be accepted. If that is so, the City will have to adapt to a new world—as it has done before, and will no doubt do again. ■

Spirit of the age

For 99 of his 100 years, Captain Sir Tom Moore was unknown to most of his compatriots. But when he died on February 2nd the prime minister and the queen paid tribute to him. He came to fame last year when his effort to raise £1,000 to support health workers by walking 100 laps of his garden before his 100th birthday caught the public imagination. He raised £33m.

Sir Tom touched a couple of soft British spots. One is a love of the underdog: his feat was humble yet brave. The second is a fascination with the second world war, a common reference point for Britons struggling to make sense of a crisis that left them simultaneously terrified and bored. Sir Tom, who served in Burma, was one of a dwindling generation that linked present troubles to past conflict.

Bagehot | Riding high

Boris Johnson is suddenly flush with political capital. Here's how he should spend it

POLITICAL CAPITAL is a prime minister's most precious resource: the magic substance that mobilises supporters, marginalises opponents and turns vague dreams into legislative triumphs. It is also the most ephemeral, here today and gone tomorrow. Having accumulated a lot in the last general election, Boris Johnson saw it disappear a year ago as he floundered in the face of covid-19. There was talk of him being "gone by Christmas".

Now the Bank of Boris is in surplus again. The vaccine programme's success has blunted the accusation that he's an incompetent blunderer. With 14% of the population vaccinated, well ahead of Germany (2.4%) and France (2.3%), Britain has done better than any other big country. The EU, with its bungled vaccine nationalism, is doing its utmost to prove that the Eurosceptics were right all along. An opinion poll published on January 31st put the Tories three points ahead of Labour; one on February 1st showed that only 36% of Britons have a favourable view of the EU compared with 50% who have an unfavourable one. And Mr Johnson seems to be maturing as a politician: his tone is more statesmanlike and Downing Street more professional.

If Mr Johnson is wise, he will spend his political capital swiftly rather than trying to hoard it, for it may well evaporate. With the official covid-19 death toll having passed 100,000, Britain has one of the highest mortality rates in the world from the disease. Brexit is gumming up trade; the Manchester Chamber of Commerce reports that it is hitting the business of over a quarter of companies in the region. Northern Ireland is in crisis over the constitutional arrangements for the province.

But where exactly should Mr Johnson spend it? The two most obvious answers are making good on his promise to "level up" the country and preventing the break-up of the United Kingdom. But "levelling up" is at best the work of a generation and potentially a labour of Sisyphus: whatever can be done to push the boulder uphill will be undone by the incline of the British economy to the south-east. The best way to prevent Scotland from seeking independence is to prove that Britain is working so well that leaving it would be idiotic.

In spending his political capital—and the nation's cash—Mr Johnson should prioritise three more concrete policies. The first is fixing social care, which has long been the third rail of British politics. A poorly thought-out plan to fix it, quickly dubbed the "dementia tax", lost Theresa May her majority in the 2017 election. But now the cost of doing nothing exceeds the cost of doing something: even before more than 25,000 care-home residents died with covid-19 last year, the system was visibly rotting, with overcrowded facilities and mounting staff shortages.

Mr Johnson has frequently promised to provide a lasting settlement for the sector. He should now fulfil his pledge in the name of building a national memorial for the victims of the pandemic. The simplest way to reform the system is to preserve the principle at the heart of the NHS that care should be largely free at the point of delivery: cap personal contributions at, say, £50,000 ($68,000) and then pay for the rest out of general taxation, even if this means raising taxes. According to Policy Exchange, a think-tank, fully funding long-term social care would cost 0.5% of GDP—not a massive sum for so pressing a need.

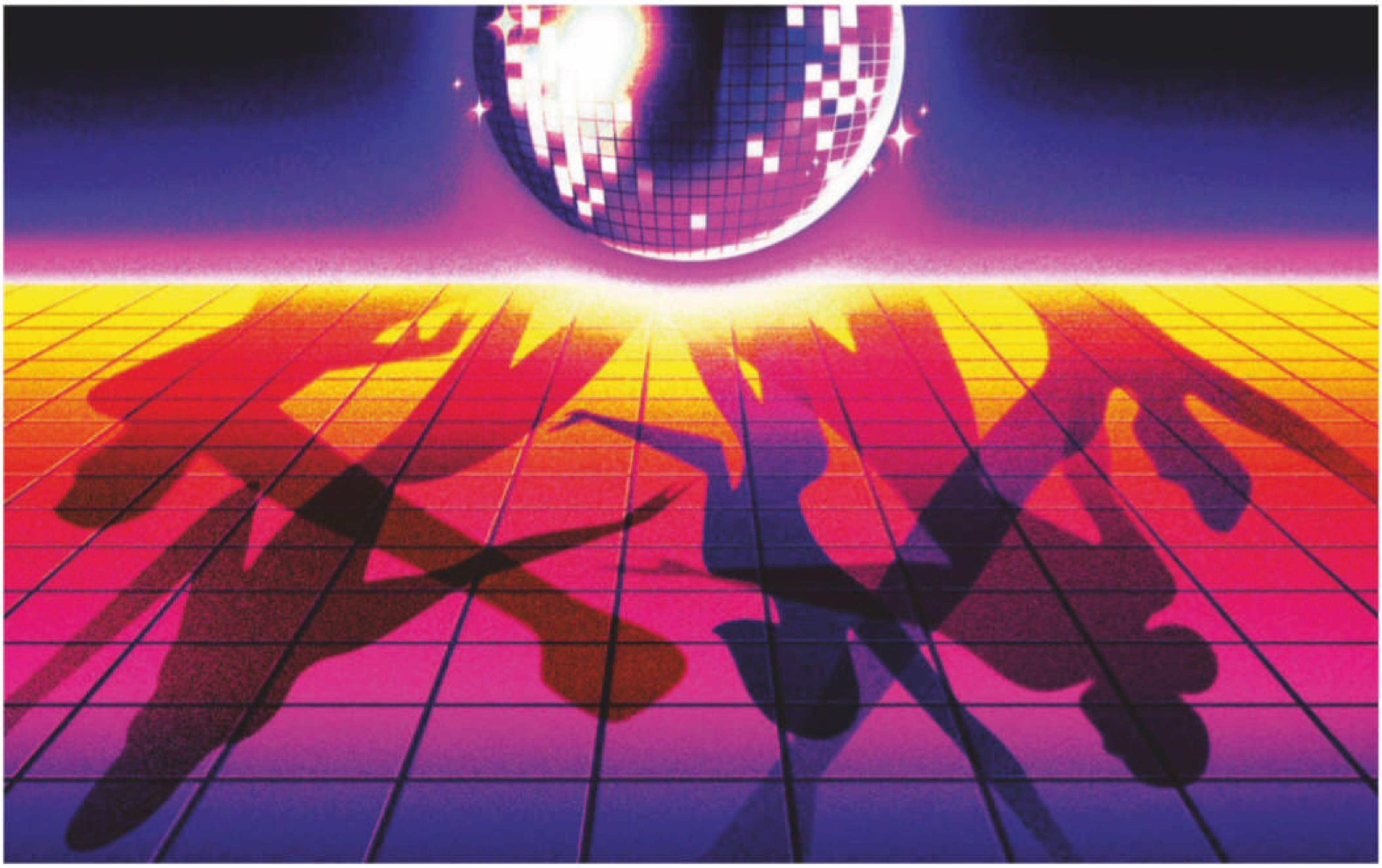
The other end of the age spectrum, the young whose education has been sacrificed to protect their elders, also needs attention. The Institute for Fiscal Studies, a think-tank, estimates that school closures will cost the average pupil £40,000 in lost wages over their lifetime. The notion of average is misleading. Poor children who lack the ready internet access and quiet space needed for home study feel the consequences more than richer ones. The government needs to make sure that they have the chance to make up for lost time by, for example, establishing summer schools, lengthening the school day, extending the school year, offering enriched classes and allowing some children to repeat whole years.

Along with this domestic agenda, Mr Johnson needs a foreign-policy triumph. What better than for the man who brought Britain Brexit to preside over a new rapprochement with the EU? The EU is not about to autocombust, whatever the more excitable Eurosceptics may think, and can make Britain's life difficult. Its current embarrassment should calm fears that any warming of the relationship is a prelude to rejoining, and thus give Mr Johnson room for manoeuvre.

It is time he rejected the dogmatic Brexiteer belief that Britain should deal primarily with nation-states, particularly France and Germany, rather than international abstractions. He should explore ways of working with the EU, particularly on foreign and security policy. Britain broadly agrees with the EU on big challenges such as Iran and climate change. It also has more to gain than to lose by co-operating with it on cross-border crime even if that involves the notional recognition of the European Court of Justice. Granting full diplomatic status to the European ambassador, João Vale de Almeida, would be a good way to start a rapprochement.

A good man after a crisis

Mr Johnson famously regards Winston Churchill as his model. But when it comes to spending political capital the best model may be Churchill's friend and rival, Clement Attlee, the subject of a fine biography, "Citizen Clem", by John Bew, a member of Number 10's policy unit. Attlee reignited the nation's spirit after the dark days of the war by passing the 1946 National Health Service Act, which provided free health care for all, and nurturing the 1944 Education Act, which created a more meritocratic society. He also laid the foundations of post-war foreign policy by forging a deep alliance with the United States despite the virulent anti-Americanism of many of his own MPs. The spirit of the late 1940s may be just what Britain needs in the early 2020s. ■



The future of nightclubs

Don't stand so close to me

BERLIN

Even before covid-19 nightclubs were struggling. The pandemic has left them fighting for their survival

In normal times it is notoriously difficult to get past the bouncers at Berghain, a techno nightclub in eastern Berlin. But in September the establishment flung its doors wide: anyone could come in, not to dance, but to inspect work by 115 Berlin artists. The organisers tried hard to recreate the club's forbidding atmosphere. Stickers were placed over visitors' phone-cameras. Security officials, released from furlough, exhibited an authentic grumpiness. Visitors were denied anything as useful as signs telling them about the art.

The venue's motive was simple. As a nightclub, it had had to close as part of measures intended to limit the spread of covid-19. But as a gallery, it could reopen (though it had to close again in November). It is not the only club to have found an innovative way to make ends meet during the pandemic. KitKatClub, one of the city's fetish joints, is renting its outdoor space to a firm offering covid-19 tests.

Like restaurants, cinemas and hotels, nightclubs are bound to suffer in a pandemic. Indeed, SARS-COV-2, the virus which causes covid-19, thrives in poorly ventilated spaces and spreads more easily at close quarters and when people are breathing heavily—as they tend to on dance floors.

Saturday night fever

Even before governments had started to shut down the hospitality industry, nightclubs were recognised as an unusually serious vector of infection. In May South Korea's government advised them to close for a month after tracing a number of cases back to gay clubs in Seoul. Where clubs were allowed to open, they tried to make it work. But whereas *al fresco* dining, or cinemas and theatres with half the seats out of action, may still appeal, socially distanced clubbing misses the point.

The questions posed by covid-19 for all hospitality and social industries are: first, whether you can hang on long enough for the world to return to something like normal; and second, whether that normality will include you. For restaurants that can switch to home delivery, survival until revival seems possible. Cinemas were thriving when the pandemic struck; they can hope for the vigour to return afterwards. For clubs, the trends diverge. In rich countries the pandemic may be over soon—but populations were already ageing and clubs ailing. In poor ones they entered the pandemic in better health. But a return to normality could take much longer: Africa may not reach herd immunity until 2024. If dance floors are to host a repeat of the Roaring Twenties, clubs everywhere will have to innovate.

In rich countries fewer people are going clubbing because of greater competition, online-dating sites, growing abstemiousness—and, above all, ageing. In the decade before the pandemic, the number of nightclubs shrank by 21% in Britain, and by 10% in both America and Germany, according to IBISWorld, a market-research firm. In big cities the decline has been particularly sharp. London has lost around half of its clubs in the past decade. New ones have opened but not in sufficient numbers to offset the fall. Rents have risen and visitor numbers have declined. In Britain licensing changes introduced in 2005 have allowed pubs and bars to stay open later, vying with clubs for late-night custom. Since

2006 most German states have also extended their opening hours. Meanwhile, in rich countries young people are drinking less. They are more likely to meet their partners on apps than leaning against a bar. In Britain 5% of 20-somethings say they met their beau at a bar; among over-50s the figure is 20%. And as social media put people in constant contact with their friends, the appeal of a Friday-night blowout has dimmed.

Some of the ways clubs have responded have made things worse. In an effort to offset the impact of falling attendance, many increased prices of tickets and drinks, which has made them even less popular. And when it comes to music, they are struggling to stay on trend. As people increasingly stream personalised playlists, compiling a set of killer tunes for hundreds on the dance floor has become harder.

Clubs will not be able to operate normally until most people are vaccinated. Those that focus on niche but enthusiastic audiences, and which draw international stars, will thrive as long-cooped-up revellers pour out onto the streets. But for the average city nightclub, with its tired set lists and high drink prices, a return to the status quo ante will not be enough.

And the beat moves on

As the rich world has aged, the pulse of the nightclub industry has shifted to big cities in the developing world, where people are younger, the share of the population with some disposable income was rising until the pandemic, and licensing laws are less strict—or at least less strictly enforced. Cities such as Nairobi are now on the beaten track for big DJs. Just as party animals might have gone to Berlin in the 1990s, they now go to São Paulo and Marrakech.

Nights with famous DJs have drawn revellers from across Brazil and beyond to Campinas, the third-largest city in São Paulo state. The LGBT night at Caos, a club in an old warehouse in one of the city's industrial estates, is one of the biggest in a largely conservative region. In Nairobi new clubs have emerged as the number of young people with a bit of spare cash has risen. Around most corners sits a new apartment or office block and for each one there is a nightclub, says Jeannette Musembi of Bars Kenya, an industry group.

Unlike their counterparts in the rich world, clubs in developing countries have not, by and large, been forced by governments to close—though they may have to add measures such as social distancing and temperature checks. Caos is operating at 20% capacity, with groups of six seated around tables wearing masks. It was making a healthy profit before covid-19 struck, though it opened only three or four times a month. It now opens five days a week in an effort to stay afloat.

A curfew in Kenya has forced clubs to close by 10pm. To stay in business many have started opening during the day: though the atmosphere is flat and dance floors are largely empty, this at least keeps some money coming in. But they are hardly dancing to the bank. The lack of any government support means they have also had to lay off staff. "Now there is little to no budget for entertainment, and most revellers prefer to drink at home and avoid the police," says Ms Musembi.

A continuing source of revenue is useful during an economic crisis. But it is linked to a big reason why the pandemic will last longer in the developing world: governments are less willing and able to act. In Brazil, for example, even as a contagious new variant seems to be spreading from Manaus in the northern Amazonian region, Jair Bolsonaro, the populist president, has resisted lockdowns and joked that covid-19 vaccines might turn people into crocodiles or bearded ladies.

If nightclubs in developing countries make it through their long covid, they will face some of the same pressures that currently bear down on their counterparts in rich countries. To survive, they will have to make the same sorts of accommodations: finding new, more formal venues; building better relations with local residents, often by making less noise; and persuading authorities that they are both a useful source of jobs and a way to keep cities centres safer at night.

The clubbing scene in São Paulo and similar cities is big but informal, like Berlin's during its heyday in the 1990s. Club space was easy to come by in the German capital after the fall of the wall, when a third of buildings in the east of the city were empty. Abandoned warehouses and banks quickly became home to club nights and raves. But as prosperity increased, such venues became scarcer. One of São Paulo's most popular, Fabriketa, is a huge disused textile factory in the gritty downtown area. At Nos Trilhos, a largely outdoor venue that was once the city's train graveyard, DJs set up their sound systems in rusting locomotive carriages while clubbers gyrate around the railway tracks.

Landlords are keen to rent such spaces to club-owners; it is an easier way of making money than developing them. But they are also quick to boot their tenants out at the first sign of trouble. As more of São Paulo becomes residential, clubs find themselves rubbing up against new neighbours. "The city is growing so fast that venues are becoming a problem," says Guga Trevisani, a music producer and agent based in the city. Complaints, police raids and closures follow. And rents increase. The monthly rate at a venue in São Paulo shot up from 5,000 reais ($950) in 2015 to 30,000 reais ($5,600) at the start of 2020. This makes clubs' futures precarious.

NIMBYism is a problem for a sector that comes alive when sober citizens want to sleep, and which is linked to all sorts of shenanigans. (Even in Ibiza, Europe's clubbing capital since the 1980s, three-quarters of islanders still say they oppose nightlife tourism.) In November 2019 four of Nairobi's biggest clubs were ordered to close by the local government after lobbying against them by a residents' group. One, the Space Lounge, posted a sign: "Sorry, we're closed (but still open-minded)".

In Europe nightlife lobby groups have managed to persuade governments that clubbing is good for cities, rather than a nuisance. Relations with officialdom have greatly improved in Berlin over the past two decades. Police raids, which blighted the city's club scene in the 1990s, are rare. Noise complaints are often part of the bitterest disputes. The city's government started a €1m ($1.2m) noise-insulation fund in 2018, but clubs generally now simply pay for expensive soundproofing.

Their counterparts in developing countries still face scepticism—or perhaps indifference. A pre-pandemic campaign to have Nairobi nightlife added to Kenya's tourism literature came to nothing. One line of argument is that they can keep a city centre alive outside business hours. "Empty cities are not very comfortable to live in," points out Lutz Leichsenring of the Berlin Club Commission, a lobby group. "If, at night, you're standing at an empty bus stop, you don't feel very safe."

Emphasising their economic contribution will probably be more useful. As countries emerge from the pandemic, their governments will be desperate for growth from any source. And as Mirik Milan, founder of the Global Nighttime Recovery Plan, an industry group trying to come up with ideas for reopening, points out: "When a lot of people are dancing, there are a lot of people working, too." ■

The future of Amazon

Life after Jeff

NEW YORK AND SAN FRANCISCO

The online giant's larger-than-life founder is a tough act to follow. Does Andy Jassy have the chops?

ON FEBRUARY 2ND Amazon, America's third-most-valuable public company, announced its best-ever quarter. Propelled by the covid-19 pandemic, which has confined consumers to their homes, the firm reported that quarterly sales had risen 44% year on year, and exceeded $100bn for the first time. It was a barnstorming performance. But it was not the main story. On the same day the firm announced that Jeff Bezos, its boss and founder, will step down as chief executive this summer after nearly three decades in charge.

Mr Bezos will not leave the company. He plans to boot himself upstairs to become executive chairman. That role, he said, will allow him to remain "engaged in important Amazon initiatives", but also give him more time to focus on other interests, notably space travel, fighting climate change and the *Washington Post*, a newspaper he bought in 2013. His replacement as CEO will be Andy Jassy, a long-serving Amazon employee who built and runs Amazon Web Services (AWS), the firm's highly profitable cloud-computing division.

The news prompted gushing tributes to a man who began selling books online in 1994 with a recycled wooden door for a desk. Bernstein, a broker, described Mr Bezos as the "greatest of all time". Mr Bezos has certainly made a mark. In 2019 Amazon delivered 3.5bn parcels, one for every other human being on the planet—and that was before the pandemic turbocharged online shopping. His rigorous, tight-fisted insistence that Amazon's employees treat every day as if it were "day one" at a hard-pressed startup has helped the firm move into new lines of business, from smart speakers and video-streaming to advertising and cloud-computing. Its valuation has risen 3,000-fold since its market debut in 1997.

Mr Jassy, in other words, will take control of a firm in an enviable position. Amazon is not without problems—it has struggled in some overseas markets, and faces attention from trustbusters in America and elsewhere. Still, few firms are in better nick to face those challenges down.

Founders often find it hard to let go. One immediate question is therefore how much control Mr Bezos will actually cede. "I think it's inevitable that there will be at least a bit of back-seat driving for the first few years," says Nick McQuire of CCS Insight, a research firm. But Mr Bezos may not need day-to-day involvement to see his company carry on in his image. "Amazon has the most codified culture of any big tech firm," says Aaron Levie, the boss of Box, a cloud-computing company. "It is built to outlast its founder."

Mr Jassy is in any case more of a continuity candidate than a revolutionary. Brian Olsavsky, Amazon's finance chief, reassured analysts on the earnings call that "He's been here almost as long as Jeff." Mr Jassy joined in the year Amazon went public and has been close to Mr Bezos since. He comes across as detail-oriented and more than a little nerdy—much like Mr Bezos in his first couple of decades in charge.

That does not mean that nothing will change. Although Bernstein expects Amazon's retail-related revenues to remain at roughly two-thirds of the total in the next few years, by 2024 digital adverts may be its biggest source of profits, overtaking cloud computing; retail may actually add materially to the bottom line (see chart). Last year Jeff Wilke, who ran the mammoth retail arm, said he would leave the company, depriving Mr Jassy of an able lieutenant.

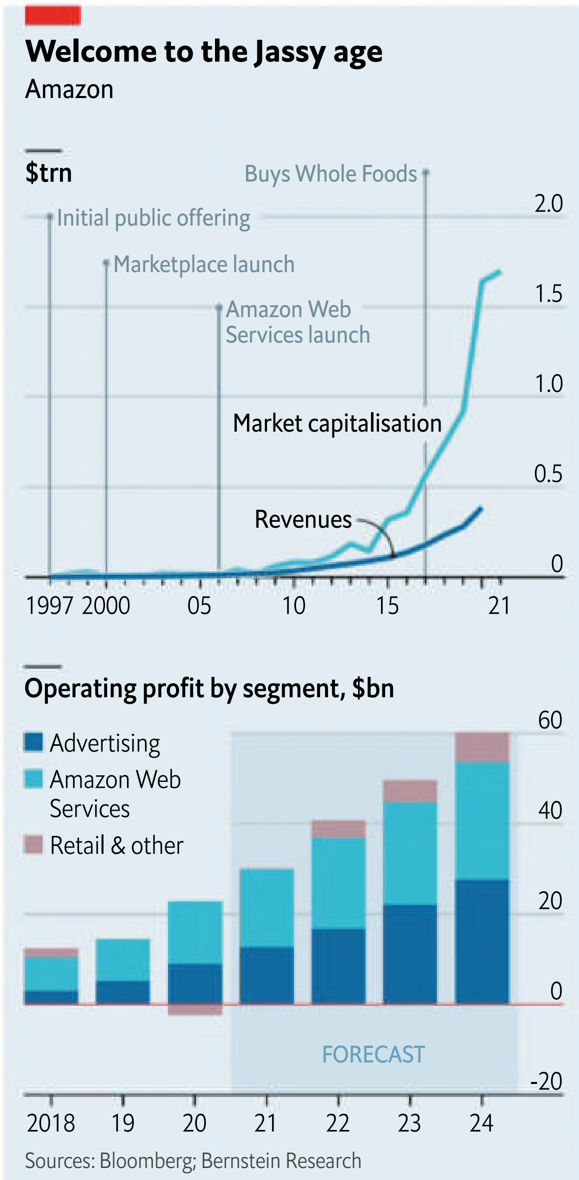
Customers in America are beginning to grumble that Amazon is becoming a flea market, with ever shoddier products juiced with faked reviews. This has yet to stop them shopping there, as the latest results attest. But it could turn into a problem. Abroad, where sales grew briskly last year, the incoming boss will have to decide whether to pursue expansion in places like South America and India, where Amazon faces stiff local competition.

At least one investor worries that Mr Jassy's background in cloud-computing may leave him struggling to direct the firm's retail arm. Meanwhile, those who would prefer to see the money-spinning AWS hived off into a separate company may wonder if the man who created it has any more appetite for such a radical move than Mr Bezos did.

Those aren't the only dilemmas in Mr Jassy's in-tray. Amazon's demands on workers in its warehouses and at times intrusive surveillance have come under scrutiny. The firm has spent heavily on improved working conditions and pays a $15 minimum wage in America. But it continues to attract criticism, especially as it resists unionisation among logistics workers. Many of AWS's well-paid programmers empathise with their colleagues on the warehouse floor. In May Tim Bray, an AWS executive, quit in disgust over what he described as Amazon's "chickenshit" sacking of workers who had complained about poor safety during the pandemic.

Amid a general souring on the Utopian promises of big tech, Amazon's success has also attracted attention from American trustbusters. They worry it may be using sales data from the third-party sellers on its platform to inform the development of in-house products which then drive those sellers out of business. A congressional report in 2020 cited claims that Amazon used the rich profits from AWS to subsidise its unlucrative retail operations—but said that the firm had not provided the data necessary to decide one way or another. Some politicians have talked of barring Amazon from competing with its third-party sellers, or even of splitting it up. Amazon denies doing anything wrong.

Some speculate that such looming political awkwardness may have influenced the timing of Mr Bezos's decision to stand back. Perhaps. Mr Bezos, for his part, gives every indication of being a man with a higher calling. When Bill Gates stepped down as the boss of Microsoft in 2000, he threw himself wholeheartedly into the Gates Foundation, which, as the world's biggest private charity, funds everything from malaria-prevention to AIDS research.



Mr Bezos, whose near-$200bn fortune is even larger than Mr Gates's, may be planning a similar change of focus. He is sympathetic to at least some environmental concerns: he has said before that growing resource consumption is not compatible with a finite planet. Of his many other businesses, Blue Origin, his rocketry firm, is widely reckoned to be his favourite. Like Elon Musk, who this year overtook him as the world's richest man, Mr Bezos is a fully paid-up space cadet. Blue Origin is already involved in America's plans to return astronauts to the moon.

In 2019 Mr Bezos sketched out a vision of the future in which a trillion humans live in gigantic, artificial space-going habitats, relieving the pressure on a crowded Earth. It is an apocalyptic idea—and, to put it mildly, a bold one. To Mr Bezos it may seem more fun than running an online department store with a sideline in server farms and virtual billboards—even one as era-defining as Amazon. ■

Carmaking

Driving apart

Daimler Truck and Mercedes-Benz part ways

GOTTLIEB DAIMLER and Carl Benz built the world's first motor cars at the same time in 1886, not far apart in Germany. Their names have been tied together since a merger of their firms in 1926. Daimler is the parent company of Mercedes-Benz. Yet the two men never met. So perhaps they would not have minded that on February 3rd it was announced that their names would go their separate ways.

A majority stake in Daimler Truck, the group's lorry-and-bus business, will be spun off to existing shareholders and listed in Frankfurt later this year. The luxury-car arm, to be renamed Mercedes-Benz, will retain a minority stake. The manoeuvre has set pulses racing in the staid lorry business. Ola Kallenius, the group's boss, called it an "emotional and exciting day".

The split is an acknowledgement that making cars and lorries are not the same business. Mr Kallenius noted the different "customer groups, technology paths and capital needs". Car buyers care about brands, styling and plush interiors. Businesses with wares to ferry are concerned with the total cost of ownership, not what the badge says about them as a person. Electric lorries will probably run on hydrogen, not batteries, which are too expensive.

Splitting also has the advantage of giving investors a clear choice between which business they favour. It could unlock hid-

No truck with cars

den shareholder value. Daimler Truck is the last of the world's biggest lorry-makers to do so. Sweden's Volvo split apart in 1999. Volkswagen spun off a 10% stake in its lorry division in 2019 and may go further. Bernstein, a broker, reckons Daimler Truck, which delivered around 500,000 commercial vehicles in 2019, more than any rival, could be worth €35bn ($42bn). That is around half of the undivided company's current market capitalisation. Mr Kallenius hopes that the car business will also "significantly re-rate".

The car division needs all the help it can get. Operating profits of $6.6bn in 2020 comfortably beat analysts' expectations in a year blighted by the pandemic. Its has plans for an impressive range of electric vehicles and is on course to cut costs by 20%. But the car industry is changing. Tesla and other newcomers without the legacy of the internal combustion engine will make the business ever more competitive.

Lorries are a different matter. Yes, the challenges of electrification and self-driving remain. Tesla and other startups are snapping at the incumbents' exhaust pipes. But the big three have a tight grip. Bernstein reckons they control 75% of the market in important regions, aside from China. Martin Daum, current chairman of Daimler Truck, says that by going it alone his business will be more nimble in "shaping its own destiny". He can build on an illustrious legacy. In 1896 Gottlieb Daimler also constructed the world's first lorry. ■

Chinese firms abroad

Too close to the sun

HONG KONG

China is cleaning up the mess caused by its overseas acquisition spree

Few life stories are as soap-operatic as Lai Xiaomin's. The fallen state financier dallied with more than 100 mistresses, according to Chinese media. He was subsequently caught with three tonnes of cash in one of his dozens of homes. The sheer scale of his thievery—1.8bn yuan ($279m) in kickbacks, the largest bribery case since the founding of the People's Republic of China in 1949—justified the death penalty, a judge opined. In a tragic denouement, Mr Lai was executed on January 29th.

The moneyman's most serious offense—and the one that ultimately cost him everything—may have been something else. Under Mr Lai's control, Huarong Asset Management, a state-run financial group, became the lender of last resort to China's riskiest corporate borrowers. When state banks said "no" to loans, Huarong said "no problem". Its lending helped private conglomerates get around capital controls and scoop up assets overseas. This enabled some of them to enlarge their balance-sheets—occasionally to breaking point. These strains put the broader financial system at risk. And that perturbed the communist regime's paramount leader, Xi Jinping, who prizes stability—including the financial sort—above all else.

The latest example came within hours of Mr Lai's execution. HNA Group, a sprawling conglomerate with interests in airlines, finance, logistics, property, tourism and much else besides, said that its creditors had applied to a local court to initiate bankruptcy and restructuring proceedings. Huarong was among the groups seeking to claw back lost loans from the bankrupt concern.

HNA became known for amassing more than $80bn in debts and large stakes in Hilton, a large American hotel operator, and Deutsche Bank. But in recent years it often found itself short of cash. In 2019 it was in effect taken over by a state-backed management team, installed to stop the rot infecting the rest of the financial system. To make matters worse, disclosures made public on January 30th by HNA's listed units, such as Hainan Airlines Holding, revealed that an internal investigation had found that some existing shareholders and associates had misused around $10bn of company money.

HNA's demise, like Mr Lai's, marks the end of an era for China Inc's overseas ambitions. The conglomerate's rise to prominence began in 2015, when it paid $7.6bn for Avalon, an Irish aircraft-leasing business. Such transactions fuelled a boom in outbound Chinese mergers and acquisitions. In 2016 Chinese firms splurged $218bn on foreign deals, more than twice as much as the year before, according to Dealogic, a data-provider.

Some purchases looked strategically sound—for instance ChemChina's $43bn acquisition of Syngenta, a Swiss chemicals firm. Less disciplined buyers picked up trophy assets, such as the Waldorf Astoria hotel in New York (bought by Anbang, which started out in insurance) and Club Med (purchased by Fosun, another unwieldy holding company).

The globetrotting bonanza was short-lived (see chart). By 2018 Chinese authorities had grown wary of the domestic financial repercussions of reckless overseas adventures. At the same time, officials in America and Europe began to fret about the national-security implications of some Chinese investments.

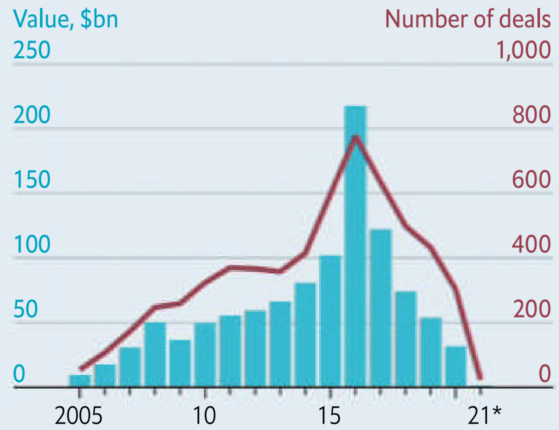
In April 2018 Mr Lai was detained by the Chinese authorities. Three months later HNA's co-chairman, Wang Jian, fell to his death in the French countryside. The incident was deemed an accident by local police. After that his group began to sell assets. Earlier that year the chairman of CEFC Energy, a conglomerate with interests in oil and finance and another of Huarong's clients, was also detained, after attempting to buy a $9bn stake in Rosneft, Russia's state-controlled oil giant. Chinese regulators were forced to take over Anbang. After more than two years they are still trying to offload its blingy assets, many of which have lost their sheen.

Not all of the era's acquisitions were duds. Volvo, an iconic Swedish marque, seems to have thrived under Geely, a Chinese carmaking giant which bought it in 2010. In 2016 Midea, a white-goods manufacturer, bought Kuka, a German robotmaker, for $5bn and absorbed its valuable know-how. ChemChina appears to be a decent custodian of Syngenta. On February 2nd Alibaba reported 37% year-on-year growth in revenues for its international retail business; this, China's e-commerce titan said, was mainly thanks to the strong performance of Lazada, a Singapore-based online-shopping platform it snapped up five years ago, and of Trendyol, a Turkish retail group in which it purchased a large stake in 2018.

These quiet success stories are, however, overshadowed by spectacular failures like that of HNA. They may be the last winners for a while, at least in the West, where governments and the public view Mr Xi's unconcealed authoritarianism with growing anxiety. In 2020 Chinese firms spent just $32bn on foreign acquisitions, the lowest figure since 2007. ■

Trips down memory lane

China, outbound mergers & acquisitions



Source: Dealogic *To February 3rd

Feuding tech giants

Cook v Zuck

Apple's privacy policy kicks Facebook where it hurts

SELDOM HAS a tech giant excoriated another as Apple did Facebook. "What are the consequences of prioritising conspiracy theories and violent incitement simply because of their high rates of engagement?" asked Apple's boss, Tim Cook, in a speech on January 28th. "A social dilemma", he thundered, "cannot be allowed to become a social catastrophe." Facebook was singled out without being named. Last year it complained about its portrayal in "The Social Dilemma", a hit Netflix documentary.

Mr Cook's warning came in response to Facebook's own broadsides against Apple's forthcoming "app-tracking transparency" measure. Soon a pop-up from Apple will start asking users of the latest version of iOS, its mobile operating system, if they want named apps such as Facebook to track their digital activity across other companies' apps and websites. Huge numbers are expected to demur. That is likely to damage Facebook, possibly Google and a wide range of other ad-tech businesses.

Mr Cook's righteous wrath makes it easy to forget how in the early days, Apple enabled ad tracking. In the 2000s app developers and advertisers learned to use its "unique device identifiers" to follow users around the internet. These UDIDs, as they were known for short, were permanently attached to every iPhone or iPad and made it easy to keep tabs on individuals' online activity. Then in 2010 a privacy furore erupted around Apple and Google. Two years later Apple responded by banning app developers from using UDIDs. For a brief few months advertisers could barely track its customers at all.

The sixth incarnation of iOS introduced a new, less intrusive tool called "identifiers for advertisers". Unlike UDIDs, these can be blocked, and do not identify users personally; any data collected are aggregated before being used. But they still allow tracking, which is switched on by default on iPhones, and fiddly to turn off. Apple's aim back then was to help app developers earn revenue in iOS.

Now privacy is more central than ever to Apple's brand. Four years ago it stopped tracking users on Safari, its web browser. Google, too, has announced plans to eliminate third-party tracking "cookies" from its Chrome browser by 2022. Ad-industry insiders find it odd that identifiers for advertisers are still around; last year some in the mobile-ad industry reckoned Apple was going to kill them off. With app-tracking transparency at least some users will presumably allow cookies to stay.

Facebook has nevertheless fought back hard. In December the social network took out newspaper ads claiming that Apple's changes would hurt small businesses. Announcing Facebook's earnings on January 27th Mark Zuckerberg, its boss, explained how his firm gives tiny firms ad-targeting tools that in the past only large companies had the resources to employ. This echoed other ad-tech types' warnings of a return to a "spray and pay" world where, once again, half of all ads are wasted but no one knows which half. Moreover, Facebook argues, Apple is trying to shift the internet's business model from one that is chiefly ad-supported to one that is increasingly paid for. In this view, Apple's stance on privacy is not selfless but self-serving.

Facebook's campaign against Apple could go beyond public admonishments. Last month rumours swirled that Mr Zuckerberg's firm might sue the iPhone-maker over alleged preferential treatment given to its own apps in its App Store, while it imposes restrictions on third-party developers like Facebook. Apple's App Store is already under scrutiny by America's Department of Justice and the European Union's competition watchdog.

Of course, Facebook's own protestations are not exactly disinterested. It may want to divert attention from the antitrust lawsuits it itself faces. And the company will probably take a hit to its top line as a result of Apple's move. In late January it named the latest iOS changes as a headwind for its ad business this year.

Most people will welcome Apple's privacy proposal. But its ability to impose it on a big industry has underlined its power in a way that may not be entirely helpful for it. As for Facebook, its task now is to come up with its own pop-up to reassure people that its ad-tracking is harmless—even for the most talented ad creative, a tough brief. ■

Football TV rights

Goalless defeat

PARIS

The beautiful game is in an ugly financial situation

IF A FOOTBALL match is played but no fans watch it, either in the stands or on television, did it really happen? The quandary might once have amused Albert Camus, a fine goalkeeper who dabbled in philosophising. It is also existential, in another way, for French football clubs. First, covid-19 has deprived them of live supporters. Then the top league's broadcasting partner skipped town without paying. Teams that once feared relegation now worry about bankruptcy.

This year France's Ligue 1 had hoped to kick off its journey to the European elite. Though the national team won the most recent World Cup, the domestic championship in which many of its stars compete is, financially speaking, outplayed by richer leagues in England, Germany, Italy and Spain. A whopper broadcasting deal starting this season, worth over €1bn ($1.2bn) a year, up by 60% on the previous arrangement, would help it level the playing field.

The deal proved too big a whopper even for Mediapro, the Spanish broadcasting group with Chinese backers that snapped up most of the matches. The channel it had set up to show Ligue 1 clashes attracted few punters. Stretched for cash, it made just one quarterly instalment in August, then stopped paying entirely. By December the contract was voided.

On February 1st an auction was held to ▸▸

The league is hurting, too

replace Mediapro. No credible buyer emerged. Canal+, a pay-TV group controlled by Vincent Bolloré, a ports-to-media tycoon, unexpectedly stayed away. Having lost the main football rights in 2018 after several decades, Canal+ says it can live without Ligue 1 (it still shows a handful of matches). Many think it may rejoin the fray, but offer much less than Mediapro did. Amazon has also shown interest in streaming rights, but has offered stingier terms than traditional broadcasters. TV channels may bid for one match at a time.

For now, French football has no broadcasting deal for most matches—a catastrophe for clubs that rely on such rights for a third of their income (often more for smaller teams). They are already facing an entire season with no gate receipts. Pandemic-hit sponsors have less money to throw around. Player transfers, a traditional source of cash, are tricky in a depressed market. The league has already indebted itself to tide teams over; struggling clubs have been able to tap banks for state-backed loans. But a public bail-out of an industry that rewards its stars with multimillion-euro contracts would look unseemly.

Other European leagues are also ailing. Some, like the English Premier League, offered rebates to broadcasters during the covid-19 crisis. An auction for Italy's Serie A rights in January fell short of expectations. A group of European clubs estimates 360 teams will need financial help to survive. The main concern in France is which channel will be airing the showdown on February 7th between Olympique de Marseille and Paris Saint-Germain—if any. French football wanted to be viewed as the most competitive in Europe. Now it would be happy just to be viewed. ■

Bartleby Talent management

Executives, not investors, may be to blame for short-termism

How best should managers be incentivised? In the biblical parable of the talents, a master divides his property among three servants before going away. Two put his money to work and double its value; the third buries it in the ground. The first two servants are rewarded and the third is punished.

The biblical story is an early example of the principal-agent problem. When delegating authority, how can a principal be sure that their agents will act responsibly? The problem is usually discussed in terms of the potential for the agents to be greedy, and take money for themselves. The unfortunate servant in the parable acts out of fear, declaring: "Master, I knew you to be a hard man." Sure enough, the servant is cast into the "outer darkness" where there will be "weeping and gnashing of teeth".

In the corporate world, some say, fear plays as big a part as greed in distorting manager incentives. Critics claim that managers are unwilling to invest in long-term projects because they fret this will damage the company's profit growth in the short term. If that happens, the managers may worry that they will be fired by the board, or that the company will be subject to a takeover bid.

Companies have several layers of agents. The board is worried about pressure from fund managers who are themselves acting on behalf of the underlying investors, and fear losing clients if they do not deliver above-average returns.

Lucian Bebchuk of Harvard Law School argues that there has been too much focus on the role of institutional, and particularly activist, investors in driving short-termism. Writing in the *Harvard Business Review**, he notes that managers at both Amazon and Netflix have been able to pursue long-term growth at the expense of short-term profits without experiencing any significant pressure from shareholders. Indeed, growth stocks in general (defined as those where the value depends on the expectation of future increases in profits) have been very much in fashion in recent years.

Mr Bebchuk says this short-termism "bogeyman" has been enlisted to argue in favour of insulating managers from shareholder control using restricted voting rights, special shares and the rest. Some think executives may be constrained by the concentration of ownership in a few institutional hands, as the fund-management industry consolidates. Mr Bebchuk believes it is foolish to think back to a "golden era" when share ownership was dispersed. Managers may have felt no pressure to produce short-term results. "But", he says, "they felt no pressure to produce long-term results either."

Perhaps the problem lies not with investors, but with the incentives used to motivate executives. Andrew Smithers, an economist, has calculated that the proportion of operating cashflow paid out to shareholders by non-financial American companies was just 19.6% between 1947 and 1999. By the end of that era, share options became a popular means of motivating managers. Subsequently, the proportion of cashflow paid to shareholders averaged 40.7% between 2000 to 2017, while cash used for investment fell.

To examine the effect of incentives, Xavier Baeten, a professor at the Vlerick Business School in Belgium, studied the Stoxx Europe 600 index of big European companies between 2014 and 2019. When he compared individual firms' returns on assets with the chief executives' remuneration, he found a positive impact of high pay on performance over the short term, defined as the next 12 months. Yet no such relationship showed up over a three-year period, implying that the initial gains soon dissipated. (The study controls for variables including a firm's size.)

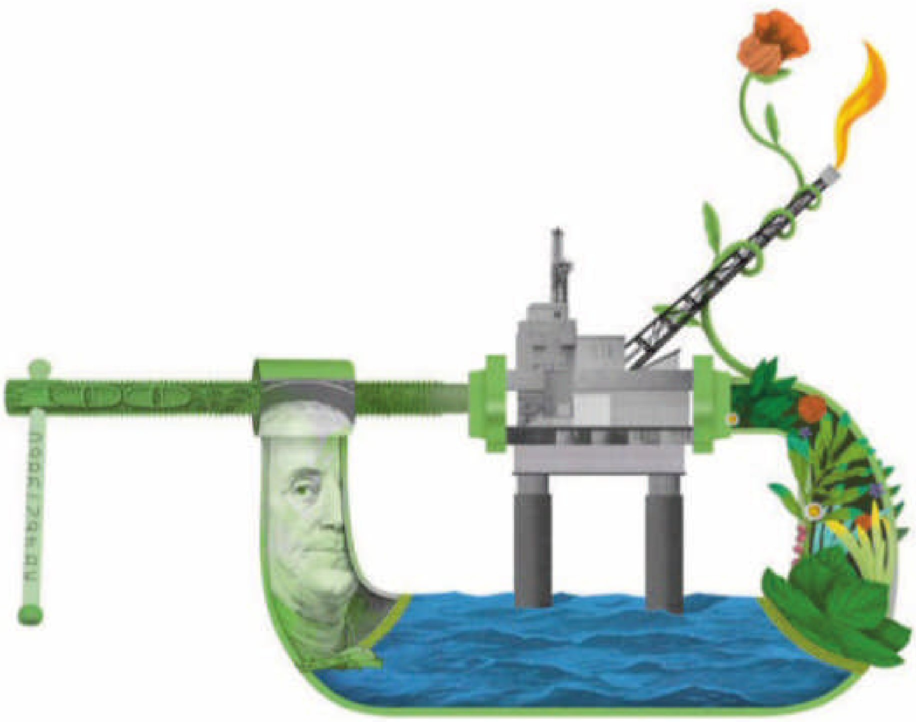
Mr Baeten then examined the composition of the executives' packages. He found that short-term performance was better when incentives were more than 200% of base pay than when incentives were less than 100%. He also found that after the first 12 months, the impact switched. Executives with incentives of more than 300% of base pay performed significantly worse in the next two years than those who received less than 100%.

This is not proof that executive incentives have led to an excessive short-term focus. But it suggests the need for carefully designed incentive schemes. The principal-agent problem requires eternal vigilance by shareholders. Get the formula wrong and weeping and gnashing of teeth will follow.

* https://hbr.org/2021/01/dont-let-the-short-termism-bogeyman-scare-you

Schumpeter | The long squeeze

Shareholders are rebelling against ExxonMobil's hydrocarbon-heavy strategy



Two American giants, spooked by a crisis that has roiled oil markets, fall into each other's arms. The tie-up strings back together bits of Standard Oil—broken up in 1911 in the world's most famous trustbusting exercise. The year was 1999, and Exxon had just completed an $81bn merger with Mobil. Might history repeat itself in 2021? The world of corporate dealmaking is abuzz following reports that last year the bosses of ExxonMobil and Chevron discussed combining the two firms, clobbered by covid-19 along with the rest of their industry. The talks are off, apparently. But they could be rekindled. The resulting crude-pumping colossus could produce enough to meet over 7% of global oil demand.

This time, though, the deal would not be a show of strength, especially for ExxonMobil. The company was under strain before the pandemic. Despite a $261bn capital-spending splurge between 2010 and 2019, its oil production was flat. Its net debt has ballooned from small change to $63bn, in part to maintain its sacrosanct dividend, which costs it $15bn annually. The company, which had a market capitalisation of $410bn ten years ago—and in 2013 was the world's most valuable listed firm—is worth less than half that now. In a symbolic blow, last August it was ejected from the Dow Jones Industrial Average, after 92 years in the index.

Adding injury to insult, on February 2nd ExxonMobil reported that a decade of gushing profits—which averaged $26bn a year between 2010 and 2019—had come to an end. The firm booked its first-ever annual net loss, of a staggering $22bn. Much of that was a one-off write-down of natural-gas assets. ExxonMobil is not the only oil firm suffering; Britain's BP also announced an annual loss this week. Darren Woods, ExxonMobil's chief executive, gamely argued that the firm was "in the best possible position" to bounce back. As rivals have talked about a new future of renewable-energy investment, Mr Woods has been frank about doubling down on hydrocarbons. His firm's strategic mantra is that demand for fossil fuels will remain high for decades as consumers in emerging markets buy more cars, air-conditioning units and aeroplane tickets.

Shareholders are no longer so sure. Those concerned about greenery are angered by ExxonMobil's continued carbon-cuddling. Those who care more about greenbacks are irked by its capital indiscipline. Right now, both are pushing in the same direction.

D.E. Shaw, a big hedge fund, is urging ExxonMobil to spend more wisely. The company's return on capital employed in exploration and production fell from an average of over 30% in 2001-10 to 6% in 2015-19. The fund has urged Mr Woods to be more like Michael Wirth, his opposite number at Chevron, who has focused more on value and less on volume. More eye-catchingly, Engine No.1, a newish fund with a stake of just 0.02%, is trying to green-shame Mr Woods with a mantra as straightforward as ExxonMobil's: if the company continues on its current course, and demand shifts quickly to cleaner energy, it risks terminal decline. The fund has launched a proxy battle by proposing four new directors; the current board, it complains, is long on blue-chip corporate credentials but short on energy expertise. Engine No.1's agitation for a shake-up has won backing from, among others, CalSTRS, which manages $283bn on behalf of California's public-sector workers.

Most important, the tone from ExxonMobil's three biggest institutional shareholders—BlackRock, Vanguard and State Street—has also shifted. Between them these titans of asset management own around 20%. That understates their power. Many retail shareholders who own the company's stock directly do not bother to vote, leaving the big guns that do with outsized sway. Where once asset managers occasionally wagged a finger at climate-unfriendly firms, they are starting to threaten to walk away.

In a recent letter to clients, Larry Fink, boss of BlackRock, talked of greener stocks enjoying a "sustainability premium" and dirty ones jeopardising portfolios' long-term returns. He hinted that his firm—the world's largest asset manager—might divest from firms that failed to appreciate the "tectonic shift" taking place. Vanguard, too, has called out ExxonMobil for flawed governance.

Such badgering used to fall on deaf ears. Now, ExxonMobil seems ready to make some changes. It has just added the ex-boss of Petronas, a Malaysian energy group, as a director, as part of a "board refreshment". It also unveiled a $3bn effort to intensify its work on carbon capture. The firm is paring back spending on new rigs, and narrowing its focus to higher-return fields in places like Guyana and to America's Permian shale basin.

Texas let 'em go

This is a start. But it looks unlikely to appease increasingly restive shareholders. Some of the green-minded rebels think ExxonMobil is too focused on carbon-capture technology, which is costly and has yet to be deployed at scale by anyone who has tried, and not focused enough on reducing emissions. Unlike many peers, the firm has set targets for bringing down only the intensity of emissions from its operations, not their overall level—leaving room for more belching if production rises. It lags behind rivals in targeting "scope 3" emissions: those of customers burning its petrol and jet fuel. ExxonMobil may also have to offer further concessions to those shareholders who fret more about capital than carbon. A big cut in capital spending in 2020 has gone down well, but its planned annual outlay of $20bn-25bn in coming years still looks splashy compared with that of parsimonious rivals.

The firm's response "has only emboldened us", says a member of Engine No.1's proxy-fight team. "They are still looking at the world today, or in five years, not the long-term trajectory—which is exactly what got them into this mess." Last year Mr Woods survived a shareholder resolution, backed among others by BlackRock, to strip him of his dual role as ExxonMobil's chairman. This time around, as Davids and Goliaths gang up on him, the oilman may be less lucky. ■

Also in this section

Retail investing

Transfer of power

NEW YORK

Stockmarkets may be nearly frictionless, but a new epoch for retail investors is just beginning. Technology is making all kinds of asset markets more liquid

For nearly a fortnight, the world was mesmerised by the fortunes of GameStop. Shares in the beleaguered brick-and-mortar purveyor of video games soared from a few dollars in 2020 to above $480 on January 28th, before sinking as low as $81 on February 2nd. A firm that was worth $200m in April last year was briefly valued at $30bn before falling back to Earth. The gyrations, fuelled by an army of day traders that dwells on forums on Reddit, a social-media site, have been chronicled on every front page and ruffled the feathers of regulators and politicians in Washington, DC.

Look beyond the memes and the mania, though, and the story tells you something about the deep structural changes in financial markets. The fact that the fast-paced frenzy was possible is a testament to just how frictionless trading stocks has become, aided by technological advances. Shares can be bought on an app while you queue for a coffee, at a price that is whisker-close to the wholesale price.

Progress towards unfettered stockmarket access began in 1975, with the abolition of huge fixed commissions and the entry of discount brokers like Charles Schwab, says Yakov Amihud of New York University. Then came automated trading and the decimalisation of share prices. By the 2010s, high-frequency traders had risen to dominate share trading (see next story). "At each stop along the road, the market offloaded some trading costs and liquidity improved," says Mr Amihud.

Trading costs tumbled, and the quantity of shares traded ballooned. The more participants piled in, the quicker and cheaper it became to trade, in turn (see chart 1 on next page). In 2015 Robinhood, the online broker through which many GameStop trades would flow, was launched, becoming the first platform to charge users no fees at all. That, and the pandemic, which freed up time and provided stimulus cheques as starter funds, have spurred retail participation to new heights. Retail investors made up a tenth of trading volumes in America in 2019. By January this year their share had risen to a quarter.

As frictions were sanded down, powerful institutional investors that had padded their bottom lines by charging meaty fees for exposure to stocks saw the assets they control slip away. Now they compete with a range of vastly cheaper offerings: index funds that track the market; exchange-traded funds (ETFs), which offer access to baskets of assets; and robo-advisers, which allocate cash among cheap funds according to portfolio-management theories. Such innovations, possible thanks to advances in computing power and machine learning, have probably saved investors $1trn or more in fees since 1975.

Outside stocks, fat fees and thin volumes still gum up markets, resulting in slow-motion transactions and deterring traders. But the same forces that pushed down trading costs and drove up liquidity in the stockmarket are poised to disrupt all manner of assets, from corporate bonds to property, and even Picassos and classic cars. As happened with stocks, this will eventually empower individuals at the expense of established intermediaries.

Wherever you look, technology has helped create new, liquid markets. "The market for knick-knacks in the attic was once illiquid," says Alvin Roth, a Nobel-prize-winning economist. "The internet made it possible to have your lawn sale on eBay." GPS and smartphones made ride-sharing apps—which create thick markets for journeys—possible.

Examples in financial markets abound. In 19th-century America buyers travelled ▸▸

from farm to farm testing wheat before striking a deal with a single farmer. Then railways made it possible to move grains cheaply in silo cars. But these silos also made it wasteful to store farmers' grains separately. So in 1848 the Chicago Board of Trade started classifying wheat by quality (1 the best, 5 the worst) and by type (red or white, soft or hard, winter or spring). Standardisation brought down the cost of moving and shopping for grains, making the market more efficient. The process was so effective that the word commodity is now synonymous with standardisation.

But building a liquid market for an asset is not easy. To see why, compare the markets for bonds and property with equities. They are broadly comparable in size (see chart 2). Yet bonds and buildings change hands in different ways. This is largely the result of fragmentation. There are 4,400 listed firms in America. An investor buying a share in AT&T does not care which one they hold—it is as if they were picking from a set of identical marbles. Now imagine they want to buy an AT&T bond. It is as if a single marble had been smashed into hundreds of pieces, each of them different. There are 224 AT&T bonds alone: each pay different coupons, mature at different times and are worth different amounts. And there are 300,000 distinct corporate bonds in America. Now imagine the investor wants to buy property. All those marble fragments have been ground into sand. Available figures suggest there are 5m-6m commercial buildings and more than 140m dwellings in America, each unique.

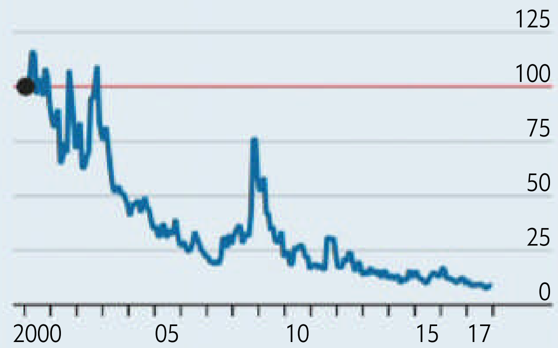
Fragmentation chills trading activity. The market for stocks is bustling. AT&T shares change hands 40m times a day (though some investors will hold for years, and high-frequency traders might hold for less than a second). Small-cap stocks—recent action in GameStop aside—tend to trade less frequently.

Bonds are stickier and dearer to trade. Even the most liquid of AT&T's bonds only trades a few hundred times a day. "Some bonds are like museum pieces: they get put away in insurance companies' portfolios, never to trade again," says Richard Schiffman of MarketAxess, a trading platform.

At the stickiest end is property. A slice of real-estate investment is offered to the masses, via listed trusts. But the big investments, managed by private-equity firms, are open only to institutions like pension funds or wealthy individuals. Houses, too, turn over slowly. Buyers and sellers must be painstakingly matched. Sellers in America pay a meaty 5-6% commission. Just 5% of homes change hands a year.

Low transaction volumes make it difficult to price assets. The price of a share in AT&T can be arrived at instantly. Some bonds, like recently issued Treasuries, are easy to price too. Older issuances are trickier. Traders either attempt to match a seller with a buyer, or look at recent transactions in similar bonds as a guide. Pricing property is a similar, but more glacial, process.

Let down gently 1
United States, stockmarket illiquidity*
January 2000=100



*Average daily ratio of returns to trading volumes; a measure of how much a trade moves a share price
Source: Yakov Amihud, New York University

Fragmentation long seemed a hurdle to making the bond market as rapid-fire as the stockmarket. An institutional investor wanting to buy a bond would talk to two or three big banks or brokers that dominate the market. But this is starting to change thanks, in large part, to open-ended fixed-income ETFs, funds that hold diversified baskets of bonds. These enhance price discovery and trading volumes in two ways.

All the world's a market

The first is through their design. Some of the fixed-income ETFs offered by BlackRock, an asset manager, have 8,000 or more different bonds in them. As demand for an ETF rises, it begins to trade above the fair value of its component bonds (ie, at a premium). "When one of our ETFs trades at a premium we expect to see creation activity," says Samara Cohen of BlackRock. The firm works with a handful of marketmakers, which have an incentive to expand the size of the ETF when it trades at a premium. Jane Street Capital, one such marketmaker, might offer BlackRock a portfolio of 400 bonds to add to its ETF, pushing the price back towards fair value. Jane Street gets to keep the difference—it bought those 400 bonds at market price, and sells them at the implied premium at which the ETF was trading. When the ETF gets cheaper, the reverse occurs. Jane Street redeems units of the ETF for its component bonds at a discount and sells them for market prices (again, pocketing the spread). All this activity, which is increasingly automatic, enhances price discovery.

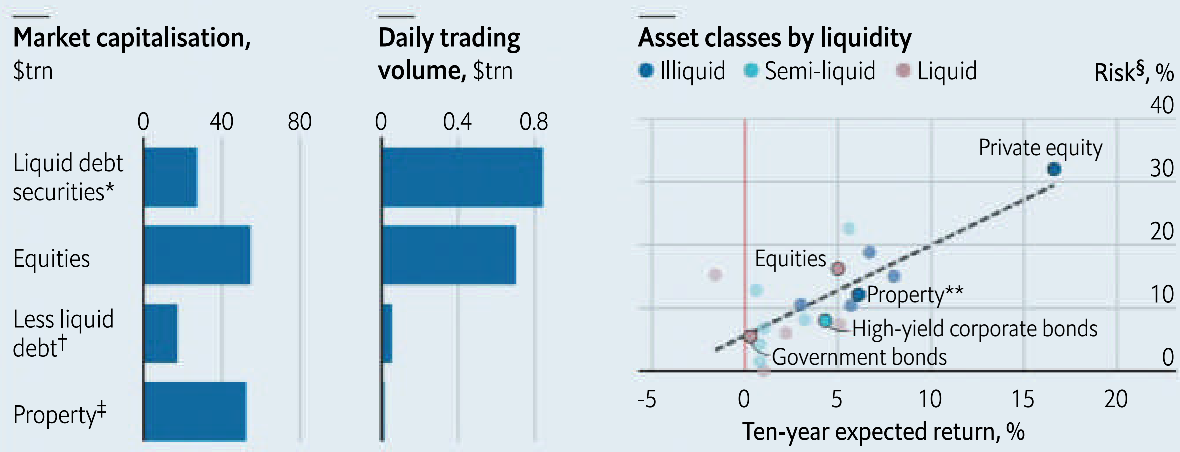
The second effect is through the wider trading of an ETF. Each time it trades, a reference for its component parts is created, which helps price other bonds. And ETFs trade far more frequently than their components. In March 2020, as volatility shook markets, BlackRock's biggest investment-grade corporate-bond ETF traded 90,000 times a day. The top five holdings of the fund traded just 37 times. Price accuracy means lower trading costs—a step towards frictionless markets.

Trading technology is also improving. MarketAxess was set up to make it easier for investors to contact all the big banks' bond desks and brokerage firms—around 20 firms in total—at once. But the platform has since introduced open trading, which functions almost like an exchange, letting all participants interact with each other. The result is that trading need not be solely dependent on banks for liquidity, says Mr Schiffman. Around a third of the transactions MarketAxess facilitates on its platform are such "all-to-all" transactions.

The next phase might be automating bond trading. Overbond, a fixed-income analytics firm, consolidates trading data that it plugs into a machine-learning algorithm. The algorithm finds recent transactions in similar bonds and spits out implied prices. It was the arrival of fast serverless cloud computing that helped the algorithm mimic a human trader in real time, says Vuk Magdelinic of Overbond.

In less liquid assets, like private equity

Go with the flows 2
United States, 2020



*Treasuries and mortgage-backed securities †Corporate bonds, municipal bonds and other debt securities ‡Residential and commercial properties and transactions §Variation in expected return **Real-estate investment proxy, published by BlackRock
Sources: Cboe; SIFMA; Zillow; National Association of Real Estate Investment Trusts; BlackRock; *The Economist*

and property, the seeds of change have just been planted. To smaller investors, illiquidity can be a curse: nervous regulators try to restrict access to illiquid assets. But for institutions, it is a boon. Private-equity pitch books chatter about the "illiquidity premium" their investments earn. The result is that private markets hold appeal for certain types of investors that are willing and able to lock their money up, but not others. A quarter of university endowments and a sixth of sovereign-wealth funds' capital are invested in them. By contrast, insurers and retail investors plough just 1% of their capital into private markets.

And all the men and women traders

This too could eventually change. For one, firms in private markets are beginning to create funds that can expand or shrink as they gain or lose clients, an innovation that echoes that of bond ETFs. Investors typically buy into private markets when a fund manager raises capital. The capital is locked up for a decade or more, and used to buy 20 or so companies or real-estate investments over several years. But in January Hamilton Lane, an asset manager, launched a private-equity and private-credit fund that circumvents this dynamic by ditching the fundraising cycle.

"When a [private-equity] fund manager buys a company for their fund they may ask us to partner with them for the equity for the project," says Drew Schardt of Hamilton Lane. This is a cheaper way of getting access, he notes: direct or co-investment deals do not have any underlying fees attached to them. These deals come along fairly regularly, allowing the fund to grow with demand. It can also shrink: the fund is structured so that its investments mature regularly. They should do so at a rate of 20% a year, fulfilling the limited redemptions the firm plans to offer. It also plans to match those keen to exit the fund with others buying in, using third-party valuations.

Other startups want to go even further. Regulation is helping them. Only accredited investors can invest in property, venture-capital funds or hedge funds. "Accredited" once meant the rich, those earning more than $200,000, or worth more than $1m. But a rule change in 2017 means that those with professional experience or knowledge are now eligible too.

This change has fuelled the growth of startups offering property investments to the masses. One such firm is Cadre, set up in 2014. Ryan Williams, its co-founder, who previously worked at Blackstone, an alternative asset-manager, wants to build an exchange for commercial property that allows people to trade stakes in buildings, almost like a "digital stockmarket".

Cadre finds an investment opportunity with a life of around five or seven years and lists it on its platform. Investors can buy pieces of it through the site. Every quarter, rental income is paid out and investors can choose to cash out through a trading system. "We provide a quarterly valuation for their investment, and they can choose to sell all or some of their stake at a range of prices," says Mr Williams. This secondary market typically clears quickly.

Low fees are likely to be part of the draw. Cadre charges a 1% fee on any cash deposited on the platform and an annual management fee of 1.5%. This is just a quarter of what an investor might pay a traditional alternative-asset manager. The firm's clients include the establishment: Goldman Sachs, a bank, is spending $250m on behalf of its wealth-management clients. But individuals are stepping in, too.

Yieldstreet, which was founded in 2015, offers property investments as well as those in snazzier alternatives like art, marine finance (such as the funding of container ships) and private credit. In 2015 the Securities and Exchange Commission changed its rules on "mini" initial public offerings (IPOs), increasing the amount that can be raised to $50m. A clutch of firms have since listed artworks and classic cars.

Even in residential property, the most sluggish and expensive market of all, firms are using technology to improve efficiency. "When we thought about what makes a properly functioning marketplace, it all came down to price discovery and data," says Rich Barton, the founder of Zillow, an "i-buying" firm, which acts like a market-maker for houses. After a decade gathering data on every home in America, it can now plug a property's characteristics into machine-learning algorithms to price them, just as Mr Magdelinic plugs in characteristics of bonds. Zillow buys homes based on the algorithm's assessment, taking them onto its balance-sheet. It then sells these on its platform.

There is evidence this is pushing down agents' fees. Commissions are dropping quickly in areas in which i-buyers operate. A study by Mike DelPrete of the University of Colorado suggests that the fees i-buyers pay to buyers' agents are falling. In places such as Phoenix, Dallas, and Raleigh the fees paid to agents have dropped by around 0.5-1 percentage points in a little over a year. In Atlanta they have fallen by half in just two years.

Bring these developments across disparate markets together, and it seems clear that technology is making it possible for liquidity, price transparency and competition to crop up in a variety of financial markets. True, the markets for art, bonds and houses will never be quite as frictionless as the stockmarket. Mr Schiffman thinks Tesla's bonds are unlikely to be as exciting as its shares. The clue is in the name. "It is fixed income!" he laughs. No one will make a snap decision to buy or sell a house—because they have to live in it.

They have their exits and entrances

Yet the oncoming rush of liquidity should worry institutional investors. Many help their customers gain exposure to a basket of small companies, or to commercial property. But that often comes as part of a pricey package deal: clients must also buy the slick advice that comes with it. Once it became possible to buy exposure alone in the stockmarket, many of them ditched their stock-pickers.

Now price transparency and liquidity seem bound to deliver fierce fee competition in other asset markets. Retail investors may one day be able to stuff their cash into a portfolio of low-fee funds in everything from stocks and bonds to art and property. It is this, rather than gyrations in GameStop stock, that will give retail investors more power over Wall Street. ■

The new intermediaries

Pay-per trade

NEW YORK

The rise of high-speed marketmakers and payment for order flow

FROM ONE perspective, retail stock traders have never had it so good. There is fierce competition among brokers, including the likes of Charles Schwab and Fidelity, for their business. This broke out into an all-out price war in 2019 when these firms cut stock-trading commissions to zero, four years after Robinhood, a startup promising commission-free trading, came on the scene. Retail participation in stock trading is at a new high.

This happy picture is somewhat muddied by the practice of payment for order flow (PFOF). Instead of charging users for each trade, brokers are paid by marketmakers to direct users' trades—or "order flow"—through them. Marketmakers take small profits on the difference between the price that a broker's user pays and that at which a share is offered for sale in the market. The mania around GameStop, a seller of video games, has put the practice, and its practitioners, in the spotlight.

On January 28th Robinhood decided to suspend buy orders for GameStop, after the retailer went viral in a forum on Reddit, a social-media site, and its shares spiked in value. The decision outraged users and was condemned by lawmakers on both sides of the aisle. Robinhood contends the decision reflected its obligations to the DTCC, a clearing-house that settles most equity trades. There is a two-day lag between an equity trade and its settlement, when the buyer gets their share and the seller receives their cash. In the interim, brokers must post collateral for users' trades.

Vladimir Tenev, one of Robinhood's founders, said he received a "nerve-wracking" call from the DTCC as GameStop prices surged, asking him to post $3bn in collateral. To meet these demands, the firm drew down its credit lines with banks and raised $1bn in capital. (It has since raised a further $2.4bn.) And to limit the amount of collateral it would have to post, it also temporarily halted buy orders for certain stocks.

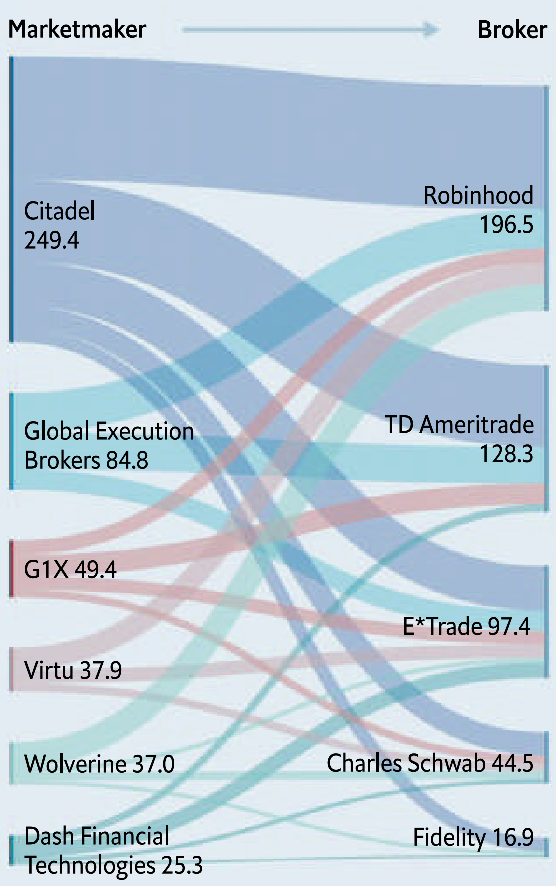
Users decried the decision. Robinhood earned around $200m from PFOF in the fourth quarter of 2020 (see chart). Last year most of its orders flowed through Citadel Securities, a marketmaker run by Ken Griffin, a Chicago-based billionaire. The same parent company owns Citadel, a hedge fund. It had bailed out Melvin Capital, one of the funds short-selling GameStop, which had been targeted by the army of retail investors.

Users have questioned whether these links played some part in Robinhood's decision to halt buy orders. (As has Elon Musk, the boss of Tesla, who nicknamed Mr Tenev "Vlad the stock impaler" when he interviewed him about the decision on social media on January 31st.) Mr Tenev has said "we absolutely did not do this at the direction of any marketmaker or hedge fund." And Citadel has said it is not involved in, or responsible for, any retail broker's decision to stop trading.

But questions about the ethics and prevalence of the practice, which is banned in Britain and Canada, are likely to linger. The GameStop episode has drawn attention to a group of tech-savvy high-frequency marketmakers, notably Citadel, that has largely replaced banks as the main intermediaries of stockmarkets. They stand in between market participants and stock ex-

The pecking order

Payments for order flow, Q4 2020, $m



Source: Company reports

WallStreetBets

Meme team

How the Reddit community of 8m "degenerates" works

"LIKE 4CHAN found a Bloomberg terminal." This is how WallStreetBets, a forum with 8.5m followers on Reddit, a social-media site, describes itself. 4chan is an older site with a looser moderation policy that results in discussions ranging from the hilarious to the illegal. Bloomberg terminals are expensive computers used by professional traders to access financial data. The self-description is accurate. The worlds of online discourse and finance have collided in spectacular fashion over the past two weeks, dominating headlines and swinging members' fortunes up and down.

The forum has already become a subject of study. A paper published on January 28th by sociologists at the Georgia Institute of Technology concludes that, despite appearing chaotic and offensive to outside observers, to its members WallStreetBets represents a real and valuable online community.

The researchers spent hundreds of hours reading posts and interviewing members. They say that the forum's foul language and crass memes, mostly in the form of humour, serve as a barrier to entry—new arrivals who are not committed to learning the community's memetic language are swiftly driven out. They also act as social glue. Elon Musk, the world's richest man, who has expressed support for the forum, features heavily in its memes, accompanied by statements of devotion, such as "Daddy Musk is taking us all to Mars."

Financial markets are the perfect focus for the community because they are ever-changing, constantly offering new material for commentary. As *The Economist* went to press, the forum was coming to terms with the crashing price of one of its favourite stocks, GameStop. The "degenerates", as its followers call themselves, urged each other not to sell their holdings, calling on the community to continue sticking it to the hedge funds short-selling the stock. Those who hold are "diamond hands" and heroes. Those who sell are pathetic "paper hands".

It is tempting to dismiss WallStreetBets and the GameStop saga as a one-off outburst from the murky corners of the internet. That would be a mistake. The researchers say the forum is an example of a "third place", a term in social science for a hub that is not home or work; churches, cafés and barber shops are all examples from the physical world. It may be baffling, but understanding the community is worth the effort. Not least because, as one user pointed out, even if the collective holding of stocks hasn't worked this time, it can always try again.

changes, matching trades in microseconds. Though they take orders from all sorts of institutions, including hedge funds and pension funds, they typically only pay for orders from retail brokers.

That in itself is not necessarily suspicious: marketmakers regard retail order flow as "friendly". Institutions might "run over" a marketmaker by placing orders in several places simultaneously, or place an "iceberg" order, one much larger than it first appears. Both strategies make it hard for the marketmaker to profit on trades. Retail orders carry no such risk.

Much of the scrutiny, though, is likely to rest on Robinhood. The online broker earns a lot more from marketmakers than its peers do. This is because it charges more: for every 100 shares Robinhood's users traded in companies listed in the S&P 500 in the fourth quarter of 2020, it collected an average of 41.8 cents from marketmakers. Charles Schwab, by contrast, collected just 11.7 cents.

Robinhood has been in trouble with regulators before. In December the Securities and Exchange Commission told it off for not telling users it made money from PFOF. The commission also found the broker failed in its duty to execute users' trades at the best possible price. Robinhood paid $65m to settle the charges. (It has said the fine relates to historical practices.)

Mr Tenev is due to testify in front of the House Financial Services Committee on February 18th. The subject of PFOF will inevitably come up. As its share price tumbles, GameStop's time in the spotlight may soon be over. For Robinhood and PFOF, though, this is perhaps just the start. ■

China's capital outflows

Border crossings

HONG KONG

Mainland investors' access to foreign assets expands—a bit

THE 55-KILOMETRE Hong Kong-Zhuhai-Macau bridge is a quick drive but a technical challenge. The trip requires motorists to buy insurance in three jurisdictions. Those making the jaunt from Hong Kong to Macau must still buy a Chinese policy, because the waters below the bridge belong to the mainland. Traffic is low.

Such are the barriers to movement in and out of China. For most people, attempting to shift money between China and the territories can be even more frustrating. For many years insurance products sold in Hong Kong created a bustling business whereby rich customers from the mainland bought policies worth hundreds of thousands of dollars using Chinese credit cards, only to later cash them out in Hong Kong dollars. In Macau, plastic watches once sold for $10,000. Upon swiping their Chinese cards, buyers received the tawdry timepiece along with a stack of dollars.

China's regulators have sought to crush these schemes, wary of outflows of capital from the country. Yet they have also acknowledged the very real demand for overseas investments. A series of reforms have been launched over the past two decades to construct a closely monitored regime for cross-border investments, mostly catering to institutional investors. Stock Connect, which since 2014 has allowed Chinese investors to buy shares in Hong Kong, helped make the territory the world's best-performing major stockmarket in January. Money from the mainland poured into stocks such as SMIC and China Mobile, which have been, or face being, delisted from the New York Stock Exchange, and have been removed from some MSCI indices. Buy trades from Shanghai to Hong Kong hit HK$423bn ($55bn) in January, up by 155% from December. China's retail investors played a significant role in the rally.

In coming weeks regulators in Hong Kong and China will take another step towards opening up, with an investment channel called Wealth Management Connect. This will allow rich individuals to buy unlisted investment products in Hong Kong, opening a new world of assets to those who qualify. But rather like crossing the bridge between the jurisdictions, the technical details of the plan are onerous.

For a start, the scheme will be open only to people living in the Greater Bay Area, a region of about 72m people in Hong Kong, Macau and much of China's Guangdong province. To use the channel, investors must open an account at a bank in China and then travel to Hong Kong to open a separate account in person—a difficult task during the covid-19 pandemic. The investment size, at 1m yuan ($155,000) a year, will be rather limited for China's wealthy punters. The overall programme is to be restricted to 150bn yuan ($23bn) a year, a drop in the ocean next to China's $3.2trn in foreign-exchange reserves.

The design of Wealth Management Connect underlines Beijing's desire for unwavering control over its capital account even as it ever so gradually opens up. Much like Stock Connect, the new scheme will operate in a closed loop that does not allow convertibility beyond the target investments. Cashing out can be done in yuan only. Proceeds must be sent back to the mainland. "Regulators are still very cautious on capital outflows," says a partner at a large accounting firm. Whether such limited exposure to offshore assets replaces the demand for pricey plastic watches in Macau remains to be seen. ■

Wirecard

After months of dithering...

BERLIN

...Germany's finance minister plans to overhaul its discredited watchdog

WHEN MATTHEW EARL first called the whistleblower hotline of BaFin, Germany's financial regulator, to report suspicious business practices at Wirecard, the person who picked up the phone said he could not understand English well enough. The London-based short-seller, who co-wrote a report in 2016 alleging fraud at the payment-processing company and bet on a fall in its share price, rang again. His respondent simply hung up. "That is when I gave up," Mr Earl told a parliamentary inquiry into the regulatory failings that allowed the Wirecard disaster to happen.

BaFin has been the target of criticism ever since the spectacular collapse of Wirecard in June 2020, which followed the Bavarian company's admission that €1.9bn ($2.1bn) of funds, nearly a quarter of its balance-sheet, "probably do not exist". Olaf Scholz, the finance minister, dithered over holding the bosses of the regulator accountable, as well as over the announcement of changes to Germany's piecemeal system of financial regulation. The emergence of allegations of insider trading in Wirecard shares by a BaFin employee was the last straw. On January 29th Mr Scholz fired Felix Hufeld, the boss of BaFin, and Elisabeth Roegele, Mr Hufeld's deputy. Four days later he presented his plans for a regulator "with more bite" that, he says, can be as good as the best in the world.

Mr Scholz's seven-point roadmap, which Roland Berger, a consultancy, helped to draft, contains snazzy Anglo-Saxon jargon, such as "data-intelligence unit". ▸▸

Scholz reflects on Wirecard

The finance minister wants to hire more experts, in particular auditors: currently, only five of the roughly 2,700 employees of the watchdog are auditors. A "focused-oversight body" is to supervise complex companies in their entirety. (The supervision of Wirecard was split between BaFin and other agencies, some at the state, rather than federal, level.)

A task force will carry out forensic audits of companies suspected of fraud. BaFin's IT system will be improved. Rather than hanging up on calls, the reformed regulator will encourage exchanges with market participants and systematically register complaints from whistleblowers.

Not everyone thinks Mr Scholz has gone far enough. Fabio De Masi, a member of parliament from the Left, a socialist party, who sits on the Wirecard inquiry, argues that Germany needs an elite forensic team that is paid top euro. He also wants the agency to be independent of the finance ministry. Danyal Bayaz, a parliamentarian with the Greens, finds the reform "a bit thin". He had been looking for a mention of co-ordination with other European Union members. Last year the European Securities and Markets Authority criticised BaFin for its "deficient" handling of Wirecard.

Mr Scholz did not announce BaFin's next boss; Mr Hufeld departs on April 1st. Jörg Kukies, a junior finance minister and a former banker at Goldman Sachs, has been talked of as a candidate, but says he does not want the job. Mr Scholz says he is looking around the world for a top finance expert who can mark a new start at the regulator. If they are to communicate with employees manning the hotline, though, any foreign appointees will need to brush up on their German. ■

Buttonwood Shark attack

Why the WallStreetBets crowd are able to profit from predatory trading

"THERE ARE NO loyalties on Wall Street. When you smell blood in the water, you become a shark." The sentiment—or lack of it—would not look out of place on r/wallstreetbets, the locus for a new breed of stockmarket hammerheads, which has helped push up the share prices of tech darlings and bombed-out companies to nosebleed levels, crippling professional short-sellers in the process. But the quote comes from a boomer, not a millennial: "Confessions of a Wall Street Addict", by Jim Cramer, a trader-cum-TV-star. He is describing the remorseless logic of predatory trading.

It is something that is discovered anew by each generation of traders—the dark art of picking off investors who are in distress, for profit. Every big market meltdown is made worse by it. Every melt-up—including the current one—makes prey of those who are brave enough to sell it short. Those schooled in the idea of efficient capital markets will be puzzled by the latest goings-on. The textbooks say this sort of thing cannot happen. They assume there is abundant capital that can be put to work to correct prices that have got out of whack.

But in the real world, and in the right conditions, predatory trading is a profitable strategy. Prices can be pushed to extremes before they are pulled back to sensible levels. All it takes are illiquid markets, traders that are bleeding and other traders who can smell the blood.

To understand how this works, picture a world in which there are two types of investor—fast and slow. The slow-money investors are pension funds. They eschew short-term trading. When they enter the market it is in a measured way, to buy and sell when share prices look unduly cheap or dear. The fast-money crowd are hedge funds, which are happy to trade every day. In this world there are only two hedge funds. Each has ten shares in a company. Each share has an expected value of $150 in the long run, but in the short run can trade at any price.

Say the stock falls to $100 a share—low enough to force one of the hedge funds to rush to sell its entire holding, perhaps because its investors panic. The trouble is the market for the stock is not very liquid. The slow-money crowd will buy two shares per day but the price must get cheaper by $2 a day to induce them to trade. In a world without predatory traders, the distressed hedge fund manages to sell its stock over five days, with the last share going for $90.

But the other hedge fund knows the prey is wounded. So it becomes a predator. It joins in the selling. With only a few buyers, it now takes the distressed seller ten days, rather than five, to get rid of its shares. The final one is sold for $80. The predator is then free to buy back shares at a lower price than he sold them for. He buys the shares as fast as he can, over five days,

driving the price to $90.

This example is adapted from the model in "Predatory Trading", a paper by Markus Brunnermeier and Lasse Pedersen published in 2005 in the *Journal of Finance*. The model elegantly highlights the key features of financial shark attack. Markets must be illiquid (ie, large trades can move prices in the short run). Traders must have limited capacity, meaning they cannot sustain losses beyond a certain point—for regulatory reasons, because of redemptions by investors or because of the psychological pain.

The authors draw out some implications. The more illiquid the market, the more scope for predators to profit: it takes longer for the prey to escape their positions, so the price falls by more. The quicker the distressed trader sells, the fewer losses it makes. Any delay allows the predator to trade ahead of (front-run) the prey. The more predators there are, the less profitable predation is.

How does the WallStreetBets episode fit this template? The predators are acting in concert, so their strategy may be more effective. Better still, the prey are short-sellers, who bet on stocks falling. They are especially vulnerable: the more the price rises, the more they lose. Their potential losses are unlimited. And their positions are often common knowledge.

This is why a lot of hedge funds put their trades through several brokers in an attempt to mask them. Even so, the incentive for brokers to front-run a struggling customer is hard to resist—and not always resisted, as Mr Cramer recounts in his book. "There was something about a dying client that sent these brokers to go to the untapped pay phone downstairs—all brokerage calls are recorded—and tell their buddies." There really are no loyalties on Wall Street.

Free exchange | The natural question

A new report puts the eco into economics

WHAT IS THE contribution of nature to the economy? Students of economics are well acquainted with production functions, which work out how inputs like capital and labour combine to yield output. These functions make all sorts of assumptions, many of which economists know well (that the contributions of capital and labour are subject to diminishing returns, say). Others rarely get a thought: that a mix of inputs that generates output on Earth will not on Venus, for example. The breathable air, drinkable water and tolerable temperatures that allow humans to do everything they do, and the complex ecosystems that maintain them, tend to be taken for granted. This is more than a mere analytical oversight, reckons a new report on the economics of biodiversity commissioned by the British government, and produced by Partha Dasgupta of the University of Cambridge. By overlooking the role nature plays in economic activity, economists underestimate the risks from environmental damage to growth and human welfare.

Professor Dasgupta's review is similar in spirit to a report on climate change by Nicholas Stern, commissioned by Britain's Treasury in 2006, and now widely regarded as a seminal economic work on the subject. It does not seek to play on the heartstrings with tales of starving polar bears. Rather, it makes the hard-headed case that services provided by nature are an indispensable input to economic activity. Some of these services are relatively easy to discern: fish stocks, say, in the open ocean. Others are far less visible: such as the complex ecosystems within soil that recycle nutrients, purify water and absorb atmospheric carbon. These are unfamiliar topics for economists, so the review seeks to provide a "grammar" through which they can be analysed.

The report features its own illustrative production function, which includes nature. The environment appears once as a source of flows of extractable resources (like fish or timber). But it also shows up more broadly as a stock of "natural" capital from which humans derive "regulating and maintenance services": the work of environmental cycles that refresh the air, churn waste products into nutrients, and keep global temperatures hospitable, among other things. With this new production function in hand, economists can properly account for nature's contributions to growth. Functions that omit nature misattribute its benefits to productivity, exaggerating human capabilities.

The inclusion of natural capital enables an analysis of the sustainability of current rates of economic growth. As people produce GDP, they extract resources from nature and dump waste back into it. If this extraction and dumping exceeds nature's capacity to repair itself, the stock of natural capital shrinks and with it the flow of valuable environmental services. Between 1992 and 2014, according to a report published by the UN, the value of produced capital (such as machines and buildings) roughly doubled and that of human capital (workers and their skills) rose by 13%, while the estimated value of natural capital declined by nearly 40%. The demands humans currently place on nature, in terms of resource extraction and the dumping of harmful waste, are roughly equivalent to the sustainable output of 1.6 Earths (of which, alas, there is only the one).

To reduce these demands without slowing growth would be a monumental task. Between 1992 and 2014, Professor Dasgupta estimates, the efficiency with which humans transformed natural capital into GDP grew at about 3.5% a year. To stop natural capital declining by 2030 while maintaining current growth trends, however, would require growth in efficiency of about 10% a year.

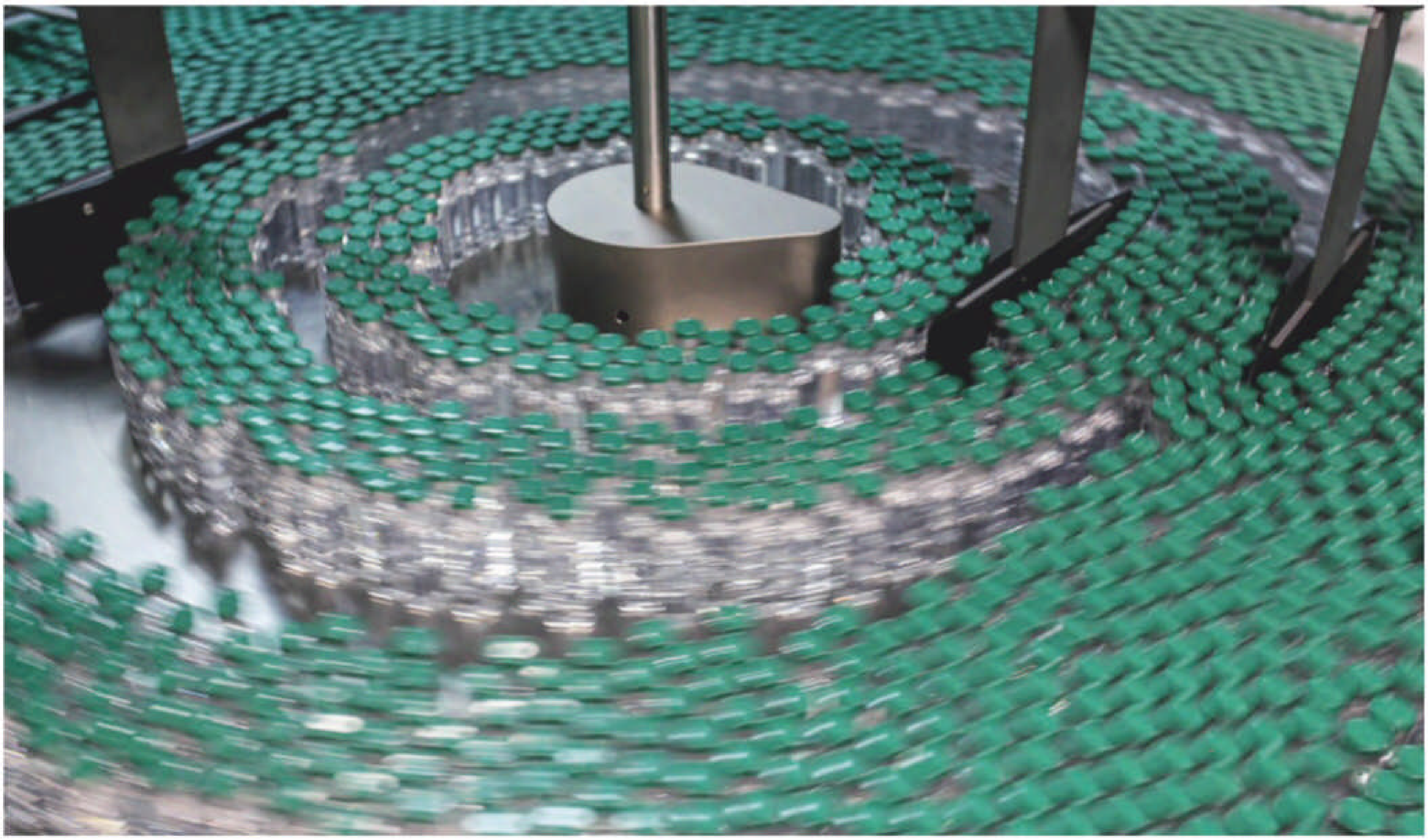
Even these sorts of rough calculations fail to capture fully humans' potential vulnerability, because complex natural systems can flip from one equilibrium to another under pressure. The cost of restoring an ecosystem that has been destroyed can be larger than the value of the services it provided when healthy—assuming restoration is possible. Deforestation of the Amazon rainforest beyond some critical threshold is likely to cause an abrupt transformation of the forest into savannah, a change that may prove irreversible. Indeed, Professor Dasgupta argues that economists should acknowledge that there are in fact limits to growth. As the efficiency with which we make use of Earth's finite bounty is bounded (by the laws of physics), there is necessarily some maximum sustainable level of GDP.

This is a striking admission from an economist. For now, these ultimate limits to growth are not yet binding. There is still considerable room for efficiency to improve (in part, the review notes, because of government subsidies, worth 5-7% of global GDP, which encourage environmentally wasteful activities). But a more pressing worry is that activity pushes nature beyond critical thresholds—in terms of global temperatures, the chemistry of the oceans, the productivity of the soil, or something else—before humans are able to recognise the danger and react.

Down to earth

That economics stands to benefit from a better understanding of nature's contributions to activity seems clear enough. But whether a better understanding of the economics of biodiversity is essential to improving humans' relationship with nature is another question. Economists' work on climate change has yielded insights, for example, but it is less clear that the profession has improved the policy response.

Professor Dasgupta hints at this problem by appealing to the "sacredness" of nature, in addition to his mathematical models and analytical arguments. Clear thinking about nature can benefit from framing it in economic terms: as an asset and input to production, the overuse of which is a problem of incentives and property rights. Building the political will to prevent irreparable damage to the environment, though, may require an appeal to values that are beyond the purview of economics. ■



Making vaccines

Doing the do

Vaccines must now be produced on a scale greater than ever before. That is hard

NINE VACCINES against covid-19 have already been approved in one jurisdiction or another, with many more in various stages of preparation. That this has happened within a year of the illness coming to the world's attention is remarkable. But it is one thing to design and test vaccines. It is another to make them at sufficient scale to generate the billions of doses needed to vaccinate the world's population, and to do so at such speed that the rate of inoculation can outpace the spread and possible mutation of the virus.

Broadly, there are two ways of making antiviral vaccines. One, tried and trusted, involves growing, in tanks called bioreactors, cell cultures that act as hosts for viruses which are then used in one way or another to make the vaccine in question. Cells grown this way can be of many types—insect, human kidney, monkey kidney, hamster ovary—as can the resulting vaccines. These may be weakened or killed versions of the virus to be protected against, or live viruses of a different and less-dangerous sort that carry a gene or two abstracted from the target virus, or even just isolated target-viral proteins. The point is that the vaccine should introduce into the body, or induce that body to make, something which the immune system can learn to recognise and attack if the real target virus should ever turn up.

In with the new

The alternative method, developed recently and employed to make the mRNA vaccines, such as those of Moderna and Pfizer, that the pandemic has stimulated the invention of, requires culturing cells only at the beginning of the process. mRNA is the substance that carries instructions about how to make a protein from a cell's DNA to the molecular factories, known as ribosomes, which do the actual manufacturing. In the case of covid-19, the instructions in question generate spike, a protein found on the surfaces of particles of SARS-CoV-2, the virus that causes this illness. Suitably packaged and delivered, such mRNA can induce some of the body cells of the inoculee to turn out spike, which the immune system then learns to recognise. To make this type of vaccine you therefore have to generate lots of the relevant mRNA.

That process does indeed start with cells, though they are bacterial cells, rather than those of animals. But it does not end with them. The bacteria used, normally a well-understood species called *E coli*, have spliced into them a DNA version of the part of the SARS-CoV-2 genome which describes spike. (Confusingly, as is true of many viruses, SARS-CoV-2's actual genes are made of RNA.) The bacteria are then allowed to multiply for a few days before being broken open, their DNA filtered out, and the DNA versions of the spike gene extracted as what is known as a DNA template.

Once purified, this template is mixed with a soup of pertinent enzymes and fed molecules called nucleotides, the chemical "letters" of which RNA is composed. Thus supplied, the enzymes use the templates to run off appropriate mRNAs by the zillion. These are extracted and packaged into tiny, fatty bubbles to form the vaccine.

Both the cell-culture and the mRNA approaches have benefits and drawbacks. ▸▸

The former has the advantage of being well established. Versions of it go back to vaccine-making's origins. But keeping cultured animal cells alive and healthy is a tricky business. A whole subfield of bioengineering is dedicated to this task. Vaccine-makers who rely on live cultures constantly struggle with yields. Using this method to make a lot of vaccine, fast, is hard.

It was difficulties of this sort that Pascal Soriot, boss of AstraZeneca, cited on January 26th in defence of his firm's failure to provide vaccine supplies which the European Union claimed it had been promised. AstraZeneca is an Anglo-Swedish company that, in collaboration with Oxford University, created one of the first vaccines to be approved. As Mr Soriot told *La Repubblica*, an Italian newspaper, "You have glitches, you have scale-up problems. The best site we have produces three times more vaccine out of a batch than the lowest-producing site."

De-necking the bottles

Maximising a bioreactor's yield is as much an art as a science. The underlying health of the cells involved matters. So do environmental conditions at the manufacturing site. That AstraZeneca has not been able to meet its own production targets shows how hard it is to predict when the right balance of biology will be found. The company says it can take six to nine months to start a production site up from scratch, and that even this timetable is possible only by working with experienced partners and at an accelerated pace. At the moment, AstraZeneca is working with 25 manufacturing organisations in 15 countries to make its vaccine.

Producing mRNA vaccines at scale has problems, too. The biggest is how to protect the mRNA molecules both from the environment they must travel through in order to reach the arm of their recipient, and from the recipient's own body, which will attack them as they journey to the ribosomes which will transcribe them.

Protection from the environment is mainly a matter of having a strategically located set of refrigerators, known as a cold chain. Protection from the body, though, is where the fatty bubbles come in.

Production of these bubbles was a cottage industry before the pandemic. A small Austrian firm, Polymun Scientific, is one of just a handful that can make them. Their main previous use was in niche cancer treatments. Scaling up their production, which is happening right now, has never been done before and adds uncertainty to the continued supply of mRNA vaccine.

There are other bottlenecks, too. In particular, the factories in which vaccines are made must be built to a high standard, known as GMP, for "Good Manufacturing Practice". There is currently a shortage of GMP facilities. Andrey Zarur, boss of GreenLight Biosciences, a firm in Boston that is developing an mRNA vaccine, says his company has employees whose entire job, at present, is to work the phones trying to find GMP facilities in which to make their vaccine. There is, though, nothing available. He is therefore looking to buy firms whose vaccine candidates have turned out not to work, simply in order to acquire the facilities in question.

Supplies of raw materials such as nucleotides are also tight. According to Dr Zarur, Thermo Fisher, an American chemical-supplies company, has spent $200m on a new facility in Lithuania to make these molecules, though the firm itself would not confirm this.

On top of all this, the transport and distribution of vaccines once they have been made presents yet further challenges, and concomitant potential for hold ups. Vaccines must be stored in special non-reactive glass vials. Some, such as the current version of Pfizer's mRNA vaccine, must also be kept at extremely low temperatures, though that problem may go away soon. Drew Weissman, one of the inventors of mRNA-vaccine technology, says producers are now testing shots which are stable for three months when kept at 4°C.

Once supply chains for both cell-culture and mRNA vaccines have been scaled up, and bottlenecks unblocked, the manufacturing processes may face a different test—how quickly they can produce new vaccines to deal with new viral variants as these emerge. The continued efficacy of approved vaccines against such variants is not guaranteed, and it may be necessary to make others (see following story).

Here, the mRNA approach may have an advantage. Its production systems will require a simple tweak—the dropping in at the start of a DNA template describing the new variant's spike protein. Cell-culture systems, by contrast, will have to be rebuilt to some degree for every new variant they aim to vaccinate against.

Scale models

Producers, such as those in China, who use older-fashioned cell-culture techniques, will have to recalibrate their entire operations. Newer systems, like AstraZeneca's, which use cells specially designed so as not to be influenced by the new version of the spike gene in the viruses they are carrying, should be able to get on track in the time it takes to start a culture from scratch—about a month. For mRNA systems, Drs Weissman and Zarur say it would take a couple of months to go from new variant to large-scale vaccine production. If variants resistant to the current crop of vaccines do evolve, then that speed and certainty in making new vaccines to combat them will be essential. ■

Viral variants and vaccination

Enigma variations

Will variants of SARS-CoV-2 make vaccination harder?

VIRUSES EVOLVE through natural selection. Whenever they replicate, changes can creep into their genetic material. If advantageous, these will cause variants sporting them to prosper. One consequence is that such variants spread rapidly.

Predictably, then, new variants of SARS-CoV-2, the virus that causes covid-19, have started to appear around the world. Four are particularly worrying. One, detected first in Britain, in September, is believed to be 30-50% more transmissible than the original wild-type virus. A second, identified in South Africa a month later, has been linked to higher viral loads in throat and nasal swabs. That makes it easier for it to spread. Two others emerged in America (July) and Brazil (December). And this week a variant of the British variant has also been detected, now sporting a mutation also found in the South African variant. There is no strong evidence to suggest that any of these new variants is more deadly than the wild type, but researchers are worried about the risk of one or more of them evading existing vaccines.

The particular causes of this concern are mutations in the gene that encodes a protein called spike, which is found on the surfaces of SARS-CoV-2 virus particles. This protein is the means by which the virus gains entry to cells. B.1.1.7, the viral variant first found in Britain, has more than 20 mutations, not all of them in the gene for spike. But one which is helps lock spike onto its target on the cell surface, a receptor protein called ACE2. The variant first found in South Africa, known as B.1.351, has fewer mutations than B.1.1.7, but three of them appear to enhance resistance to antibodies that people develop in response to the wild-type virus.

This enhanced resistance has caused concern that the variants in question might be able to evade immunity people had gained from previous infections or vaccination—particularly since all vaccines currently in use are intended to provoke an immune response to spike. According to America's Centres for Disease Control and Prevention, variants will need to accumulate multiple mutations in spike to evade vaccine-induced immunity. Nevertheless, the results of trials announced on January 28th showed that a jab made by Novavax, an American pharmaceutical firm, which was almost 90% effective in preventing symptoms of covid-19 in Britain, was only 50-60% effective in South Africa. Johnson & Johnson, another American firm, found a similar result when it tested its single-dose vaccine in South Africa, the United States and parts of Latin America. Its vaccine, too, was less effective in South Africa than in the other places. That suggests B.1.351 is less amenable to existing vaccines than is its predecessor. Even so, the vaccines worked well enough to prevent serious disease in most cases.

Vaccine-makers will have to continue adapting their vaccines to keep up with mutations in coming years. This may be done by providing booster shots tailored to different variants, or by creating bivalent vaccines that work against both the original strain and a mutant. Moderna, the maker of a vaccine that has already been approved for use in several places, is planning to work on a booster that will enhance the body's immune response to B.1.351 and could work in combination with all of the other leading vaccine candidates. Clinical trials of this approach are scheduled to start in July, and should be completed within a year. Pfizer and BioNTech, the partners who created another widely approved vaccine, say they can produce a jab adapted to new variants in six weeks. America's Food and Drug Administration, that country's medical regulator, has promised a "streamlined" process for authorising updated vaccines. This would be satisfied by small trials intended to make sure a modified vaccine triggers a suitable immune response, rather than the big, so-called phase-three trials required to test a completely new product.

Researchers, then, are still learning about how the new variants behave. But ultimately the best way to stop a virus from evolving is to prevent it from spreading by whatever means are available. All the more reason, therefore, to vaccinate as quickly and as widely as possible. ■

Daughters and divorce

Teenage rampage

Daughters provoke parental strife, but only when they are teenagers

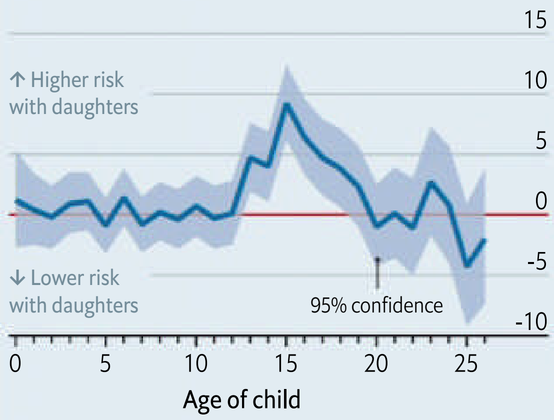
DAUGHTERS HAVE long been linked with divorce. Several studies conducted in America since the 1980s provide strong evidence that a couple's first-born being a girl increases the likelihood of their subsequently splitting up. At the time, the researchers involved speculated that this was an expression of "son preference", a phenomenon which, in its most extreme form, manifests itself as the selective abortion or infanticide of female offspring.

Work published in the *Economic Journal*, however, debunks that particular idea. In "Daughters and Divorce", Jan Kabatek of the University of Melbourne and David Ribar of Georgia State University, in Atlanta, confirm that having a female first-born does indeed increase the risk of that child's parents divorcing, in both America and the Netherlands. But, unlike previous work, their study also looked at the effect of the girl's age. It found that "daughter-divorce" risk emerges only in a first-born girl's teenage years (see chart). Before they reach the age of 12, daughters are no more linked to couples splitting up than sons are. "If fathers were really more likely to take off because they preferred sons, surely they wouldn't wait 13 years to do so," reasons Dr Kabatek. Instead, he argues, the fact that the risk is so age-specific requires a different explanation, namely that parents quarrel more over the upbringing of teenage daughters than of teenage sons.

Taken over the years, the daughter effect, though real, is small. In the Netherlands, by the time their first-born is 18, 20.12% of couples will have divorced if that child is a son, compared with 20.48% if she

Peak pique

Excess risk of divorce for couples with first-born daughters compared with first-born sons*, %



Source: "Daughters and divorce", by J. Kabatek and D. C. Ribar, the *Economic Journal*, 2020 *Of the same age

is a daughter—an increase in probability of 1.8%. But in the five years when the first-born is between the ages of 13 and 18, that increase goes up to 5%. And it peaks, at 9%, when the child is 15. In America, for which the data the researchers collected were sparser than those in the Netherlands, the numbers are roughly double this.

Anyone who has—or has been—a teenager knows how turbulent those years can be. Surveys confirm that teenage daughters and fathers, in particular, get on each other's nerves. They also show that parents of teenage daughters argue more about parenting than do the parents of sons, and that mothers of teenage daughters report significantly more disagreements with their partners over money, and become more open to the idea of divorce. Earlier research has also shown that one of the most common things parents fight over is how much they should control their teenagers' personal choices, such as how they dress, whom they date and where they work.

In light of all this, it is intriguing to note that Dr Kabatek and Dr Ribar found one type of couple who seem immune to the daughter effect: those in which the father grew up with a sister. Having seen things somewhat from a sister's point of view may act as a sort of social inoculation. ■

Marine ecology

Plastic oases

Pollution is boosting the amount of animal life in the depths

THE OCEAN deep, where pressure is high, light absent and nutrients scarce, is often seen as a desert. But, as with other deserts, it has oases. Hydrothermal vents, methane-gas seeps and whale corpses are hot spots for marine wildlife. And observations reported in *Environmental Science and Technology Letters* by Song Xikun of Xiamen University, in Fujian, and Peng Xiaotong of the Chinese Academy of Sciences' campus at Sanya, in Hainan, suggest these natural loci of biodiversity are now being joined by unnatural ones made of plastic.

Carried down slopes by submarine landslips, plastic objects accumulate in patches in the deep. Dr Song and Dr Peng had seen pictures showing sponges, corals and anemones on or near these accumulations. This led them to wonder about their ecology. So they went to have a look.

Their vehicle was *Shen Hai Yong Shi*, a deep-diving submarine that carries a six-person crew. This descended nine times into the Xisha trough, a feature at the bottom of the South China Sea, in search of

Denizens of the deep

plastic objects. Dr Peng himself was on board for three of these trips.

It was a risky business. Submerged junkyards of this sort often contain ropes and fishing nets that can entangle a submarine's propellers. Paradoxically, that was why the researchers chose to visit in person, rather than sending a robot. People on board are able to steer and avoid these hazards more easily than a crew on a support ship who are relying on cameras to see what is happening.

To ensure their craft's safety, the researchers collected objects only from the edge of each dump, and also collected some by dredging. In all, they obtained 33. Most were bags, bottles and food wrappers, but they picked up some derelict fishing ropes and traps as well.

As Dr Song and Dr Peng had hoped, these objects were teeming with life. When they examined their finds in a laboratory, they found nearly 1,200 individual organisms representing 49 species of crustaceans, corals, echinoderms, flatworms, molluscs (see picture), polychaete worms and fungi. They also discovered evidence that some of these species were breeding. There were egg capsules from four different types of snail, and a cocoon from a flatworm known for parasitising crustaceans.

This result suggests that accumulations of plastic are, indeed, benthic oases. Data from such depths are sparse. But 49 species is more than the 41 found in 2016 on a dead whale at the bottom of the Atlantic Ocean.

As to why organisms colonise the objects in these accumulations, the short answer is, "because they are there". Most of the deep-ocean floor is covered with ooze, on which it is difficult to get a purchase except by burrowing. Solid objects suitable for settling on are at a premium. Whether it is a good or a bad thing that people are adding to the number of these objects, and thus to the richness of the benthic fauna, is a debatable point. What is not in doubt, though, is that even Earth's remotest habitats cannot escape human influence. ■

The origin of land animals

Getting a leg up

A tiny genetic alteration may have let vertebrates leave the sea

About 370m years ago, in the latter part of the Devonian period, the ancestor of all land vertebrates stepped out of the ocean and began to take advantage of the untapped riches found ashore. This was a big step, both literally and metaphorically, and evolutionary biologists have long assumed that bringing about the anatomical shift from functional fin to proto-leg which enabled it to happen required a fortuitous coincidence of several genetic mutations. This, though, may not be the case. A paper just published in *Cell*, by Brent Hawkins, Katrin Henke and Matthew Harris of Harvard University, suggests the process was propelled by a single genetic change of the smallest sort possible.

The better to understand the origin of tetrapods, as land vertebrates are known collectively to zoologists, the trio were looking at what happened to zebrafish (a common subject of experiments in developmental biology because they are small, transparent and breed prolifically) when they made minor tweaks to those fishes' genes. Searching through more than 10,000 mutated specimens they noticed that one group of mutants sported an unusual pattern of bones in their pectoral fins. Instead of having four, they had six.

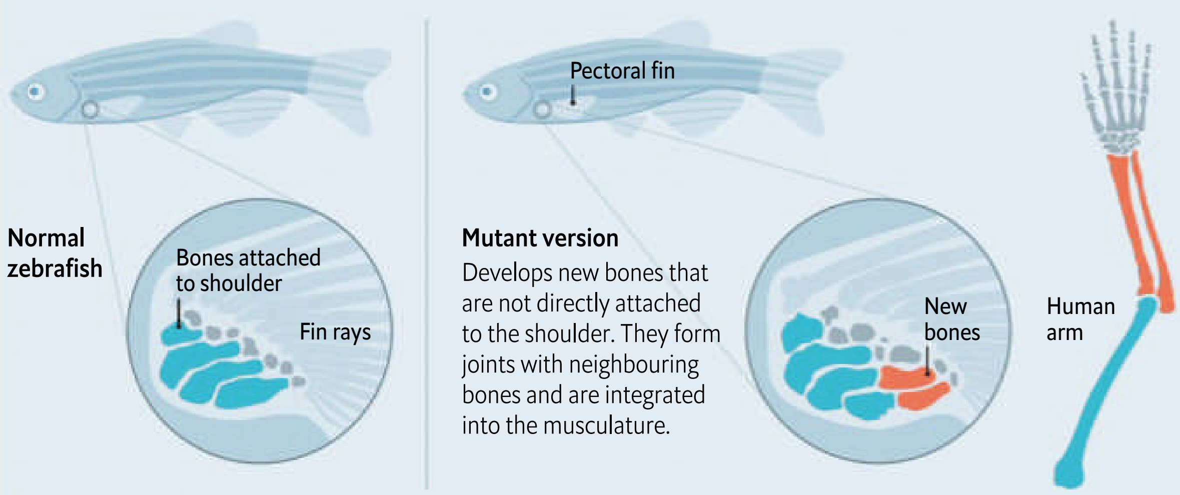
Intriguingly, the additional pairs were some distance from the body, and the bones involved lay parallel with each other in the way that the radius and ulna do in the forelimb of a tetrapod (see diagram below). Moreover, and yet more intriguingly, the two new bones integrated neatly with the fin's muscles and articulated well with the rest of the local skeleton. Most intriguingly of all, however, was that this considerable anatomical shift was brought about by the substitution in a single type of protein molecule, called Wasl, of a single one of its amino-acid building blocks.

Wasl is a signalling protein. But it is not one which, as far as the team could tell by searching through the literature on embryonic development, had previously been associated by anyone with the process of limb formation in vertebrates. However, an experiment they then conducted on mice, which involved knocking out the gene that encodes Wasl, resulted in deformation of the pertinent bones in all four of the rodents' limbs, not just the forelimbs. Clearly, then, this protein does indeed play a role in tetrapod limb formation.

The most recent common ancestor of zebrafish and mice predates even the Devonian. That gives lots of time for patterns of embryonic development to have changed in the lines leading to those two species—and, specifically, to have changed in the way that the fins of modern fish develop. So the fact that nowadays the mutation the team have discovered affects only the pectoral fin does not rule out the possibility of its having also stimulated, way back then, the arrival in the pelvic fin of the fishy progenitor of the mouse, of the bones now known as the fibula and tibia. It therefore looks quite possible that Drs Hawkins, Henke and Harris have found the source of the crucial change that enabled the ancestor of mice—and of human beings, too—to scramble ashore and leave the sea behind.

Changing its stripes

A zebrafish mutant develops limb-like bones in its fins



Source: "Latent developmental potential to form limb-like skeletal structures in zebrafish", M. B. Hawkins et al., *Cell*, 2021

France's shame

Open secrets

PARIS

The silence in France over the sexual abuse of minors is at last beginning to break

La familia grande. By Camille Kouchner. *Éditions du Seuil; 205 pages; €18*
Consent: A Memoir. By Vanessa Springora. Translated by Natasha Lehrer. *HarperVia; 208 pages; $27.99 and £12.99*

IT WAS A childhood wrapped in comfort, reverie and freedom. Long summers in the south of France at the family home, amid almond trees and lavender, literary friends and cousins, former Maoists and acolytes of Fidel Castro. Dinners late into the night, when the *familia grande* would gather to put the world to rights. Guests went barefoot in the dried grass, and naked in the pool. The seasonal rituals reassured; the political dreams inspired.

Until the day that Camille Kouchner's twin brother, whom she calls Victor, told her that their stepfather had visited his bedroom in the night. "He stroked me, and you know..." They were, she writes, 14 years old. Victor was sworn by their stepfather to silence. "If you talk about it, I will die," he implored his sister. The night-time visits continued for two or three years. It took nearly three decades, and her mother's death, before Ms Kouchner heard a lawyer name this crime for what it was: incest.

Now aged 45, and with Victor's permission, Ms Kouchner has told her story in an attempt "to poison the hydra" of paralysing guilt and shame. The account is tightly written, improbably controlled, and overwhelming. At first, as a young teenager, she had no real idea what was going on behind that closed bedroom door, detecting only "unknown smells" as her stepfather left. Her adoration of him blinded her to any wrong she might have sensed. Besides, was this not the lifestyle that their extended family embraced? In their Mediterranean home an entire room was decorated with posters celebrating May '68. Her stepfather flirted with his friends' wives. The young were "offered" to older women. "Fucking is our liberty," her mother once told her.

Ms Kouchner has lobbed a grenade into the heart of the cosy Paris left-bank intellectual elite. For the stepfather in question is Olivier Duhamel, a political scientist, literary editor and broadcaster. He married Camille's mother, Évelyne Pisier, a law professor and one-time lover of Castro, after she left Bernard Kouchner, the twins' father and a former foreign minister and co-founder of Médecins Sans Frontières. (Mr Kouchner has publicly praised his daughter for having the courage to speak out.) While decrying what he calls "personal attacks" against him, Mr Duhamel has resigned as head of the foundation that oversees Sciences Po, an elite Paris university, and from other posts. That has prompted a cascade of other resignations, including that of Élisabeth Guigou, a friend and Socialist former justice minister, who presided over an official commission—on incest. She has said that she knew nothing.

Reporting by *Le Monde* suggests that many in Mr Duhamel's circle did know, but turned away. This is deeply disturbing. It is not just the scale of the problem that unsettles: a French poll found that one in ten people has been the victim of some form of incest. It is also the complicit silence, particularly among an older generation that tends to dismiss the #MeToo movement as a form of bourgeois Anglo-Saxon puritanism that has no place in France. "There is a tolerance both from society and the law, with a very serious degree of impunity," said Muriel Salmona, a psychiatrist specialising in sexual abuse. Under French law incest (which covers relations with step-parents) is not a separate crime, but an aggravating circumstance in cases of rape or ▸▸

sexual violence. Moreover, the burden is on even a minor under 15 to prove that there was no consent.

But what constitutes consent? This is the conundrum at the heart of Vanessa Springora's memoir. Published in French last year, it comes out in English this month. Ms Springora was 13 years old, her parents having separated, when her mother dragged her along one evening to a dinner party with literary friends. One guest, who she later learned was Gabriel Matzneff, a novelist, could not take his eyes off her. "No man had ever looked at me like that before," she writes. Thus began the writer's ruthless pursuit, which led to a sexual relationship with Ms Springora that began when she was 14. He was nearly 50.

The word that best captures the complex psychological dependency that Ms Springora narrates in this chilling account is *emprise*: the hold, or grip, in which the older man traps his pubescent prey. Not by physical force, but manipulation and the cold exercise of power. Anxious for affection, she thought she entered into this relationship willingly: "I felt adored as never before." But did she really? "Are you aware he's a paedophile?" her mother asks casually when the girl first confides in her. When the teenage Ms Springora puts such thoughts to Mr Matzneff, he brushes them off as puritan nonsense and insists on her good fortune: "Are you aware that in ancient times, the sexual initiation of young people by adults was not only encouraged, it was considered a duty?"

In retrospect, these questions torture Ms Springora. As angry as she is with Mr Matzneff, she is almost more so with her mother, who consulted her friends but "no one, apparently, was particularly disturbed." In the 1970s there was a movement in France to decriminalise sex between adults and minors. Letters and petitions signed by literary luminaries appeared in *Le Monde* and *Libération*. Paedophilia features repeatedly in Mr Matzneff's own novels—including one later based on his relationship with Ms Springora—in which he writes of his quest for "young meat".

Paris *éditeurs* readily published his work; he won literary prizes. Normality, in this world, was grotesquely deformed. Only later does Ms Springora see that, at 14, "it's not normal...to find yourself in his bed at teatime with his penis in your mouth."

The old normal

It is precisely this *emprise* that makes such abuse so toxic. It flips the sense of guilt and shame onto the victim, locks in the lies, deepens suffering and silences complaint. Ms Springora and Ms Kouchner struggled for years to put the blame where it belonged. "Your silence is your responsibility," Ms Kouchner's mother tells her.

Might things now change? These books are empowering a new generation. Thousands of victims of incest have spoken out, under the hashtag #MeTooInceste. The public prosecutor has opened a criminal investigation into Mr Duhamel; Victor has pressed charges against him for the first time. Mr Matzneff is under investigation for rape of a minor (he has called the allegations against him "unjust and excessive"). President Emmanuel Macron, too, has weighed in, promising that "these words, these cries, nobody can ignore them any longer." A bill going through parliament will criminalise any sexual relations with a minor under 13 years, "consensual" or not.

But lawmakers have not yet agreed to raise this to 15, the age at which sex is legal. France may have found the words to talk about its ghastly secrets, but not yet the legal framework to stamp them out. ■

Urban turmoil

Tales of the city

Karachi Vice. By Samira Shackle. *Granta; 272 pages; £14.99*

OUTSIDE THE city, few people have heard of the "eight-day operation" mounted in Lyari, a district of Karachi, in April 2012. About 3,000 heavily armed policemen in armoured personnel-carriers laid siege to the area in a battle with local gangsters. The electricity, gas and water were shut off. The machine-gun and rocket fire were so intense that leaving home was impossible. On the eighth day, the police retreated, their mission an unmitigated disaster, with five officers dead and the official figure of 20 civilian casualties widely believed to be a serious understatement.

It is far from the deadliest episode covered in "Karachi Vice", a gripping account of the city's recent history by Samira Shackle, a British journalist whose mother was born in the city. Violence and death recur with sickening regularity. In December 2009 at least 43 people were killed when an Ashura procession by Shia Muslims was bombed by Sunni extremists, a blast followed by the torching of over 3,000 shops. In September 2012 hundreds died in a fire at a textile factory. In 2014 the international airport was the scene of a pitched battle, after it was invaded by terrorists from the Pakistani Taliban. Besides these atrocities the book is full of a steady stream of assassinations, gangland murders and police "encounters"—extra-judicial killings.

To make sense of this city of some 20m inhabitants, Ms Shackle follows five characters as they try to navigate it: an ambulance-driver for Edhi, a huge charity; a teacher-turned-development worker; a television crime reporter; a social activist whose organisation maps unofficial settlements in an attempt to bring their residents some rights; and a young woman from a village who defies her circumstances to stay at school until graduation.

From these personal stories emerges a subtle portrait of Karachi's overlapping conflicts. Many are those of Pakistan as a whole. Both have always been prey to ethnic and sectarian tension. Though Karachi is in Sindh province, many among its population are not Sindhis but "Mohajirs", Urdu-speakers who migrated from India at the time of partition in 1947, or from East Pakistan when it became Bangladesh in 1971. And the Pushtun population has grown this century as extremism and violence took root in Pakistan's north-west, where it blurs into Afghanistan, driving many to seek refuge in Karachi, including some of the violent extremists.

Unique to Karachi was the stranglehold

Very mean streets

long held on politics by the MQM, a party representing Mohajir interests, run for years by its pudgy but oddly charismatic leader, Altaf Hussain, from exile in London. The links between militias, gangsters and mainstream politics became harder to disentangle in Karachi than anywhere else in Pakistan. "Every street criminal had a political affiliation," notes Ms Shackle, "every political party had its fingerprints all over multiple criminal enterprises."

The book has a happy ending—up to a point. The violence has been restrained and the MQM diminished as a political force. But the village of the poorest of Ms Shackle's characters suffers outrageous expropriation. And the crime reporter remains sceptical of the changes: "The situation is under control, but it is not peace."

"Karachi Vice" recalls "Maximum City" (published in 2004), Suketu Mehta's epic chronicle of another South Asian megacity, Bombay (now Mumbai), which also told its story through the lives of vividly drawn individuals. Ms Shackle's book differs in being much shorter, and, unlike Mr Mehta's, in seeing her city largely through the eyes of good people trying to make a terrible situation better. It is a moving account of the struggles of everyday heroes—and of the unhappy metropolis that needs them. ■

Eco-fiction

Sea change

Migrations. By Charlotte McConaghy. *Flatiron Books; 272 pages; $26.99. Published in Britain as "The Last Migration"; Chatto & Windus; £12.99*

THE VOGUE for emotive literary engagements with the natural world—known as the "new nature writing" and encompassing the work of Amy Liptrot, Helen Macdonald and Robert Macfarlane—can be interpreted as a form of mourning, an attempt to fix on the page a beauty and variety that are vanishing. Landscapes, seascapes and wild creatures are described by these writers just as they slip away because of climate change and the loss of habitats.

The debut novel by Charlotte McConaghy, an Australian author, is a fascinating hybrid of nature writing and dystopian fiction. The reader meets Franny Lynch, the book's protagonist, in Tasiilaq, Greenland, some time in the not-so-distant future. Human activity has reduced biodiversity to a handful of creatures at the edges of the globe. Franny is an ornithologist, tagging the last remaining Arctic terns before their long migration south.

World's end

For reasons that are not entirely clear, Ennis Malone, the grizzled captain of a fishing trawler, is persuaded to follow the terns south. There are strong echoes of "Moby Dick" in his dreams of "the Golden Catch", a great bounty and his own white whale, and in a sea fished and polluted to the point of extinction. Franny joins the crew—a motley, charismatic bunch—as they head off, with some trepidation, in search of the terns and the fabled catch.

The new nature writing places the personal, emotional response of the author at the centre of its representation of the natural world. The bird of prey in "H is for Hawk" helps Ms Macdonald get closer to her dead father; Ms Liptrot turns to the rugged beauty of Orkney to tackle her alcoholism. Similarly, in this novel the narrative of the fishing voyage is interwoven with the tale of Franny's difficult, itinerant upbringing, her tricky marriage to Niall, an environmentalist and university lecturer, and the dark secrets that she carries with her and may explain her volatile temper and self-destructive impulses.

Recently the climate crisis has dominated literary dystopias, spawning another new genre: cli-fi. From Margaret Atwood's "The Year of the Flood" to John Lanchester's "The Wall", authors have considered how rising temperatures will change human life. Ms McConaghy's novel may be the first in the genre to put the animal world at the centre of its story, mourning dying species and asking what might happen when people forget "what it feels like to love creatures that aren't human".

These grand ambitions do not always cohere. The seafaring yarn is gripping, but Franny remains an enigma, the flashbacks to her early life interrupting the story's flow. Yet by merging cli-fi and nature writing, the novel powerfully demonstrates the spiritual and emotional costs of environmental destruction. ■

The death of age

Who wants to live for ever?

Ageless. By Andrew Steele. *Doubleday; 352 pages; $29. Bloomsbury; £20*

"OLD AGE is a massacre," wrote Philip Roth, long before the pandemic underscored its hazards. Even those who count as young must often watch the ineluctable drift of loved ones into decrepitude. Andrew Steele has a hopeful message for all those facing this prospect (ie, everyone). Old age needn't be a massacre; in fact, old age needn't even be old.

Mr Steele's thesis in "Ageless" is that ageing can be cured—and, at least in part, that it very soon will be. The giant tortoises of the Galapagos Islands show no age-related decline, in some ways seeming as youthful at 170 as at 30. Mr Steele thinks this phenomenon, known as negligible senescence, is within humanity's grasp, too.

Whether or not readers are persuaded that ageless humans could ever be more than a theoretical possibility—and it is a stretch—this book will convince them that discounting the theoretical possibility altogether is based on nothing but prejudice. Western art may have something to do with it, bristling as it is with morality tales about the folly of wanting to turn back the clock; but there is actually no good reason to assume an upper limit to longevity, or that ageing must come with decline. And there is quite a lot of evidence to the contrary. Without the rich world's denizens really noticing, a life that ends after the biblical three score years and ten has already come to seem a life cut short; instead, 90 is now seen as a good innings.

This prejudice held back the field of biogerontology for a very long time, but in the past few decades some scientists have cast it aside. This has enabled them to see that the real folly lies in the attempt to cure the diseases of old age one by one, rather than tackling their underlying cause—ageing itself. Now they are trying to understand that process in all its extraordinary complexity, and to intervene much earlier.

They have many tools at their disposal, and Mr Steele, who has a background in computational biology, evaluates them expertly and with verve. They range from drugs that mimic the life-extending effects of dietary restriction to gene-editing tools such as CRISPR and computer models that simulate whole biological systems. Such models may eventually prove the key that unlocks the inner Methuselah in everyone, by revealing both the limits to these systems and their redundancies: what can be tweaked, and what had best be left alone.

Temporarily—and with a bitter irony—covid-19 has slammed the brakes on this burgeoning area of research. But Mr Steele thinks its first dividends will emerge within a couple of years, perhaps in the form of senolytic drugs that clear the accumulating cellular detritus of a long life. He makes the valid point that if, for every year of scientific endeavour, a year could be added to the average human lifespan, old age would recede into the future at the same rate as today's population approached it. That would itself be quite a milestone on the road to negligible senescence.

This interim goal is easily within reach, he claims. Many scientists agree—and are among those who have chosen to take experimental anti-ageing drugs. For some of these treatments they have calculated that the risks are small, compared with the potential benefits. The true sign that a scientific revolution is in the offing is that the scientists themselves have bought into it. Whether that revolution is desirable is a different question, which it may fall to a new generation of artists to answer. ■

Proust and the people

The time of their lives

A tag-team reading of a masterpiece mimics the mood of the original

SITTING IN HER pink living room in Tahiti, Natti Tumahai reads in French from "In Search of Lost Time" as her family eats lunch: "I cannot say, looking back, how much of Albertine's life was overlaid by fluctuating, fleeting and often contradictory desires…" The passage comes from volume five of Marcel Proust's *roman-fleuve*, and Ms Tumahai is the 1,262nd person to appear before the camera.

From Bali to Paris, the readers in Véronique Aubouy's huge project, "Proust Lu" ("Proust Read"), have been captured in bedrooms, offices, supermarkets, factories and beauty spots. Farmers, schoolchildren, businessmen, even the French director's doctor have participated. "It's a slice of life," Ms Aubouy says; "a reading about time, in time." The cast is as diverse as the novel's, brought together by their own web of connections and coincidences.

Proust's seven-volume masterpiece runs to more than 4,000 pages. Each participant reads just two of them, so at the current rate the project will not be completed until 2050—57 years after filming began. It is already 150 hours long (much of the footage is available to watch on YouTube). By contrast, Proust took a mere 14 years to write the book, finishing it in 1922, shortly before his death. Tracing the narrator's life from childhood to old age, "it offers a singularly accurate depiction in fiction of how consciousness works," says Patrick McGuinness of the University of Oxford. "His writing forces you to inhabit time. It doesn't do the normal thing of compressing narrative into chunks—it makes the narrative more like life."

Ms Aubouy set out to make a screen equivalent. Instead of condensing the text into a conventional plot, thereby losing its rich detail, she divided it into filmable snapshots. Trusting in happenstance, she finds and recruits interesting people. Readers then recommend friends. She likens the project to a locomotive, "each new person adding a wagon".

Never-ending story

They have declaimed from bunk beds and stairwells or standing in the sea. Some are wreathed in cigarette smoke. A curate with a pigeon on his shoulder is silhouetted against the stained-glass window of his abbey in Combray, where the novel begins. A straw-strewn cowshed is coldly illuminated by strip-lights: "Madame Swann," a young woman intones, "seeing the enormous proportions that the Dreyfus affair was assuming, and fearing that her husband's origins might be used against her, had begged him to no longer speak of the innocence of the convicted man…"

Differing accents and proficiencies generate a dream-like rhythm that swings between the theatrical and the prosaic—just as the novel combines the mundane and profound. Actors such as Kevin Kline, Annie Girardot and Mathieu Amalric feature alongside *inconnus* who have not read aloud since school. "In 2001 one girl chose to rap," Ms Aubouy recalls. Now 65, Marie Benoît contributed in 2007 from her Normandy smallholding, accompanied by two donkeys. The experience "was very moving, because reading in this way, at home, showed that anyone can enjoy Proust."

Each scene is one continuous shot, preceded by a slide stating a name and location. Then comes a brief silence, as if the new reader has been listening to the previous one. Like the novel, the clips are portals into lost worlds. Over the decades the images become sharper; fashions, haircuts and the timbre of speech evolve.

Even during the pandemic, "Proust Lu" has marched on. Ms Aubouy let some participants film their readings on their phones. And the disease itself has echoes in Proust's life and writing. His father, Adrien Proust, was an epidemiologist who tracked a cholera outbreak in 1869 and proposed a *cordon sanitaire* to slow its spread. Marcel's own squeamishness about germs surfaces in volume four, when the narrator relates his discomfort at sharing a lift with a man who has whooping cough. Today, as lockdown time has seemed to blur, when days feel long and months short, Proust's mesmeric work has found its time—again.

Ms Aubouy says readers often believe they have been handed an extract for a reason: though ostensibly concerned with a different era, Proust's story seems to reflect the precise moments they have reached in their lives. "And yet in reality, it's just the moment we've arrived at in the book." The sensation arises, she thinks, because "the persistence of memory, and the feeling of having wasted time, are universal." Perhaps never more than now. ■

Tenders

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Economic data

	Gross domestic product % change on year ago latest		quarter*	2020†	Consumer prices % change on year ago latest		2020†	Unemployment rate %		Current-account balance % of GDP, 2020†	Budget balance % of GDP, 2020†	Interest rates 10-yr gov't bonds latest,%	change on year ago, bp	Currency units per $ Feb 3rd	% change on year ago
United States	-2.5	Q4	4.0	-3.6	1.4	Dec	1.2	6.7	Dec	-2.2	-14.9	1.1	-39.0	-	
China	6.5	Q4	10.8	1.9	0.2	Dec	2.5	5.2	Dec‡§	1.5	-5.2	3.0 §§	43.0	6.46	8.7
Japan	-5.7	Q3	22.9	-5.3	-1.2	Dec	nil	2.9	Dec	2.7	-12.2	nil	-8.0	105	3.5
Britain	-8.6	Q3	81.1	-11.4	0.6	Dec	0.9	5.0	Oct††	-1.3	-19.7	0.4	-20.0	0.73	5.5
Canada	-5.2	Q3	40.5	-5.3	0.7	Dec	0.8	8.8	Dec	-2.1	-13.5	0.9	-31.0	1.28	3.9
Euro area	-5.1	Q4	-2.8	-7.6	0.9	Jan	0.3	8.3	Dec	2.6	-9.2	-0.5	-1.0	0.83	8.4
Austria	-4.0	Q3	54.6	-6.9	1.2	Dec	1.1	5.8	Dec	2.4	-8.5	-0.3	-6.0	0.83	8.4
Belgium	-4.7	Q4	0.8	-7.9	0.3	Jan	0.4	5.8	Dec	-1.3	-9.1	-0.3	-11.0	0.83	8.4
France	-5.0	Q4	-5.3	-9.2	0.6	Jan	0.5	8.9	Dec	-2.3	-11.3	-0.3	-7.0	0.83	8.4
Germany	-3.9	Q4	0.4	-5.4	1.0	Jan	0.4	4.6	Dec	6.8	-7.0	-0.5	-1.0	0.83	8.4
Greece	-9.6	Q3	9.5	-9.9	-2.3	Dec	-1.4	16.7	Oct	-6.6	-9.2	0.6	-57.0	0.83	8.4
Italy	-6.6	Q4	-7.7	-9.1	0.2	Jan	-0.1	9.0	Dec	2.9	-11.3	0.6	-38.0	0.83	8.4
Netherlands	-2.5	Q3	34.8	-4.4	1.0	Dec	1.1	3.8	Mar	7.2	-6.9	-0.5	-14.0	0.83	8.4
Spain	-9.1	Q4	1.6	-11.4	0.5	Jan	-0.3	16.2	Dec	0.8	-12.0	0.1	-15.0	0.83	8.4
Czech Republic	-5.3	Q3	1.2	-6.6	2.3	Dec	3.1	3.2	Dec‡	1.3	-6.7	1.4	-9.0	21.6	5.7
Denmark	-3.8	Q3	22.6	-4.0	0.5	Dec	0.4	4.4	Dec	8.5	-3.6	-0.3	9.0	6.19	9.2
Norway	-0.2	Q3	19.7	-1.7	1.4	Dec	1.4	5.0	Nov‡‡	3.2	-1.3	1.2	-16.0	8.60	7.8
Poland	-1.8	Q3	35.5	-3.0	2.4	Dec	3.4	6.2	Dec§	2.6	-7.9	1.2	-95.0	3.73	4.3
Russia	-3.4	Q3	na	-3.8	4.9	Dec	3.4	5.9	Dec§	2.1	-4.3	6.7	30.0	76.0	-16.4
Sweden	-2.6	Q4	2.0	-3.2	0.5	Dec	0.4	8.2	Dec§	4.8	-3.5	0.1	17.0	8.42	14.6
Switzerland	-1.6	Q3	31.9	-3.0	-0.8	Dec	-0.7	3.4	Dec	9.1	-3.7	-0.4	30.0	0.90	7.8
Turkey	6.7	Q3	na	0.4	15.0	Jan	12.3	12.7	Oct§	-5.4	-3.4	12.7	272	7.16	-16.5
Australia	-3.8	Q3	14.0	-2.9	0.9	Q4	0.9	6.6	Dec	1.2	-7.3	1.1	21.0	1.31	13.7
Hong Kong	-3.0	Q4	11.8	-5.7	-0.6	Dec	0.4	6.6	Dec‡‡	5.5	-6.7	1.0	-34.0	7.75	0.3
India	-7.5	Q3	125	-7.9	4.6	Dec	6.7	6.5	Jan	1.3	-7.2	6.1	-42.0	73.0	-2.2
Indonesia	-3.5	Q3	na	-2.2	1.6	Jan	2.0	7.1	Q3§	-1.4	-7.2	6.1	-56.0	14,005	-1.9
Malaysia	-2.7	Q3	na	-5.3	-1.4	Dec	-1.1	4.8	Nov§	4.8	-7.4	2.7	-42.0	4.05	1.5
Pakistan	0.5	2020**	na	-2.8	5.7	Jan	9.5	5.8	2018	0.1	-8.1	9.9 †††	-125	160	-3.5
Philippines	-8.3	Q4	24.4	-9.3	3.5	Dec	2.6	8.7	Q4§	3.4	-7.8	3.1	-143	48.0	5.8
Singapore	-3.8	Q4	8.7	-6.0	nil	Dec	-0.3	3.2	Q4	18.0	-13.9	1.1	-51.0	1.33	3.0
South Korea	-1.3	Q4	4.4	-1.0	0.6	Jan	0.5	4.1	Dec§	3.8	-5.7	1.8	22.0	1,115	7.2
Taiwan	4.9	Q4	7.8	2.4	0.1	Dec	-0.2	3.8	Dec	13.8	-1.5	0.3	-27.0	27.9	8.4
Thailand	-6.4	Q3	28.8	-6.1	-0.3	Dec	-0.8	1.5	Dec§	3.7	-6.4	1.2	6.0	30.1	3.4
Argentina	-10.2	Q3	61.7	-9.8	36.1	Dec‡	42.0	11.7	Q3§	1.4	-8.0	na	-464	87.8	-31.2
Brazil	-3.9	Q3	34.6	-4.4	4.5	Dec	3.2	14.1	Nov§‡‡	-0.7	-15.8	7.3	70.0	5.37	-21.0
Chile	-9.1	Q3	22.6	-6.2	3.0	Dec	3.0	10.3	Dec§‡‡	1.4	-7.9	2.6	-85.0	732	7.6
Colombia	-9.5	Q3	39.6	-7.0	1.6	Dec	2.5	13.4	Dec§	-3.6	-8.8	4.8	-88.0	3,520	-3.4
Mexico	-4.5	Q4	13.0	-8.9	3.2	Dec	3.4	4.4	Dec	2.3	-4.5	5.2	-145	20.2	-7.1
Peru	-9.4	Q3	187	-12.0	2.7	Jan	1.8	11.8	Dec§	1.0	-8.0	3.7	-21.0	3.64	-7.4
Egypt	0.7	Q3	na	3.6	5.4	Dec	5.1	7.3	Q3§	-3.6	-8.5	na	nil	15.7	0.7
Israel	-1.5	Q3	39.7	-3.7	-0.7	Dec	-0.6	4.8	Dec	4.0	-11.3	0.9	nil	3.30	4.5
Saudi Arabia	0.3	2019	na	-4.2	5.4	Dec	3.4	8.5	Q3	-3.7	-10.6	na	nil	3.75	nil
South Africa	-6.0	Q3	66.1	-7.3	3.1	Dec	3.3	30.8	Q3§	0.6	-16.0	8.4	-46.0	15.0	-0.6

Source: Haver Analytics. *% change on previous quarter, annual rate. †The Economist Intelligence Unit estimate/forecast. §Not seasonally adjusted. ‡New series. **Year ending June. ††Latest 3 months. ‡‡3-month moving average. §§5-year yield. †††Dollar-denominated bonds.

Markets

In local currency	Index Feb 3rd	% change on: one week	Dec 31st 2019
United States S&P 500	3,830.2	2.1	18.6
United States NAScomp	13,610.5	2.6	51.7
China Shanghai Comp	3,517.3	-1.6	15.3
China Shenzhen Comp	2,380.8	-1.7	38.2
Japan Nikkei 225	28,646.5	nil	21.1
Japan Topix	1,871.1	0.6	8.7
Britain FTSE 100	6,507.8	-0.9	-13.7
Canada S&P TSX	17,915.9	2.8	5.0
Euro area EURO STOXX 50	3,609.7	2.1	-3.6
France CAC 40	5,563.1	1.9	-6.9
Germany DAX*	13,933.6	2.3	5.2
Italy FTSE/MIB	22,527.9	4.0	-4.2
Netherlands AEX	654.9	1.1	8.3
Spain IBEX 35	8,012.8	2.0	-16.1
Poland WIG	56,944.1	0.9	-1.5
Russia RTS, $ terms	1,387.0	-0.4	-10.5
Switzerland SMI	10,775.7	-1.2	1.5
Turkey BIST	1,533.6	4.5	34.0
Australia All Ord.	7,090.9	0.4	4.2
Hong Kong Hang Seng	29,307.5	nil	4.0
India BSE	50,255.8	6.0	21.8
Indonesia IDX	6,077.7	-0.5	-3.5
Malaysia KLSE	1,583.0	0.1	-0.4

	index Feb 3rd	% change on: one week	Dec 31st 2019
Pakistan KSE	46,933.6	1.0	15.2
Singapore STI	2,927.5	-1.1	-9.2
South Korea KOSPI	3,129.7	0.2	42.4
Taiwan TWI	15,771.3	0.4	31.5
Thailand SET	1,481.8	-1.1	-6.2
Argentina MERV	49,857.6	-0.2	19.6
Brazil BVSP	119,724.8	3.3	3.5
Mexico IPC	43,957.1	-0.7	1.0
Egypt EGX 30	11,619.1	0.3	-16.8
Israel TA-125	1,655.4	1.0	2.4
Saudi Arabia Tadawul	8,542.6	-2.8	1.8
South Africa JSE AS	63,010.6	0.4	10.4
World, dev'd MSCI	2,737.9	1.6	16.1
Emerging markets MSCI	1,392.6	1.5	24.9

US corporate bonds, spread over Treasuries

Basis points	latest	Dec 31st 2019
Investment grade	134	141
High-yield	404	449

Sources: Refinitiv Datastream; Standard & Poor's Global Fixed Income Research. *Total return index.

Commodities

The Economist **commodity-price index** 2015=100	Jan 26th	Feb 2nd*	% change on month	year
Dollar Index				
All Items	158.4	153.7	-3.3	41.4
Food	124.5	125.4	1.5	28.2
Industrials				
All	190.0	180.1	-6.2	51.5
Non-food agriculturals	131.8	133.4	1.7	33.9
Metals	207.3	194.0	-7.7	55.7
Sterling Index				
All items	175.9	172.1	-3.6	35.1
Euro Index				
All items	144.4	141.7	-1.3	29.8
Gold				
$ per oz	1,853.5	1,838.6	-5.6	18.2
Brent				
$ per barrel	56.0	57.5	7.2	4.5

Sources: Bloomberg; CME Group; Cotlook; Refinitiv Datastream; Fastmarkets; FT; ICCO; ICO; ISO; Live Rice Index; LME; NZ Wool Services; Thompson Lloyd & Ewart; Urner Barry; WSJ. *Provisional.

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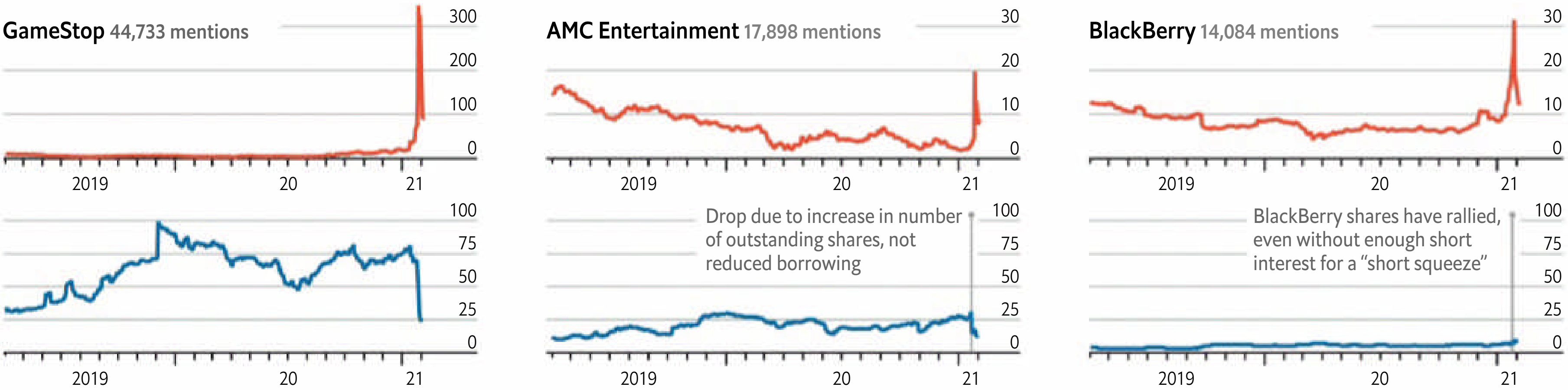
Economist.com/indicators

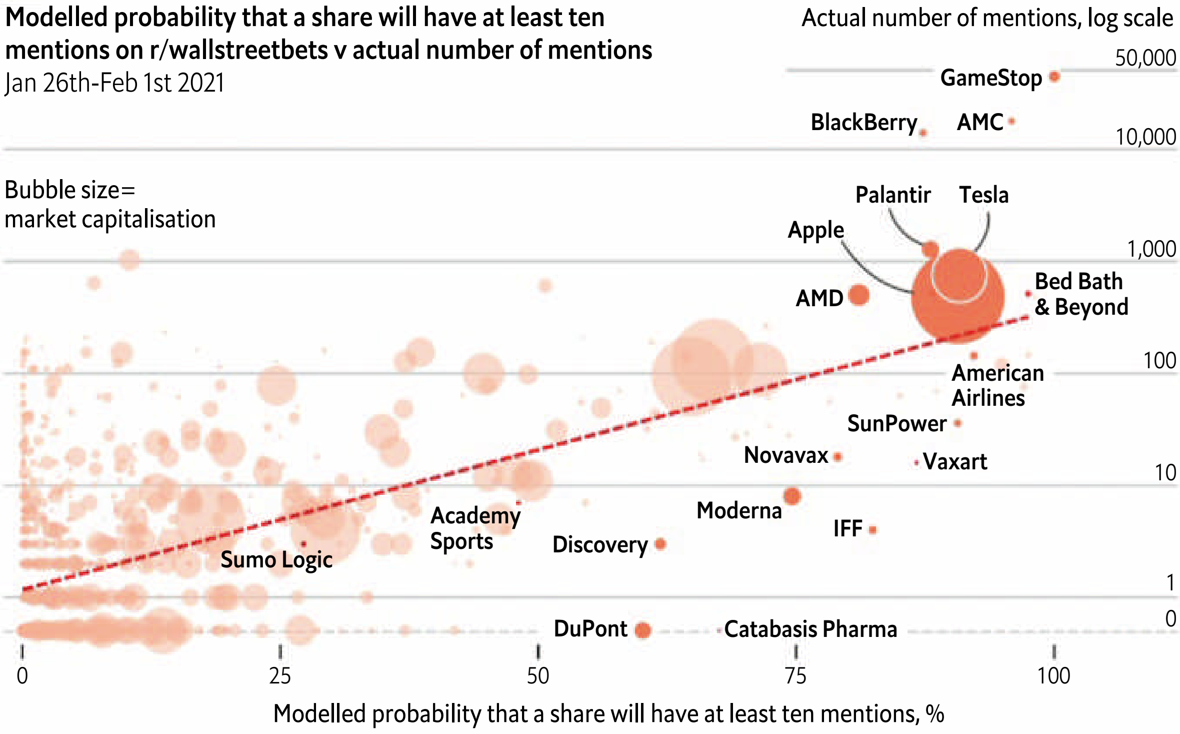
→ **Redditors may have helped trigger a short squeeze, but call options are the best indicator of their whims**

Three most-mentioned shares on r/wallstreetbets, Jan 26th-Feb 1st 2021

Price, $ — Short-selling (externally borrowed shares as % of outstanding shares*)



Modelled probability that a share will have at least ten mentions on r/wallstreetbets v actual number of mentions
Jan 26th-Feb 1st 2021



Impact on probability that a share will have at least ten mentions on r/wallstreetbets†
Percentage points

*Portion of short interest borrowed externally by broker-dealers
†For a share with a 50% chance of having at least ten mentions, increase in probability associated with a one-standard-deviation increase in each variable, holding other factors constant
Sources: Bloomberg; IHS Markit; Venkatesh Thallam

Sweet memes are made of this

What the favourite stocks of r/wallstreetbets have in common

MOST INVESTORS were stunned when the share price of GameStop, a chain of video-game shops, rose by 2,265% from the start of January 13th to mid-morning on January 28th. But for denizens of the Reddit forum r/wallstreetbets, the surge capped a long campaign singing the firm's praises. Share prices of other names touted on Reddit, like AMC (a cinema owner) and Express (a fashion retailer), also soared.

Media coverage of these movements has focused on a "short squeeze": Redditors forcing investors who had bet against these firms to close positions. This does explain some of GameStop's run-up. However, many other "meme stocks", such as BlackBerry, a smartphone maker, were not heavily shorted. If Reddit's madness has a method, short interest does not capture it.

A better measure of what sets Redditors' hearts aflutter is a ranking on Stonks News, a website, of how often stocks have been cited on r/wallstreetbets since January 26th. Although novel, the list overrates firms whose tickers are also words, like ServiceNow (which trades as NOW) and The RealReal (REAL), because a post saying "It's real now!" will add to their tallies.

At our request, Venkatesh Thallam, the site's creator, has shared a stricter ranking. It counts only words that contain a "$" or are in upper case—both markers for tickers. After culling names like ProPetro (PUMP) and DMC Global (BOOM), we derived a recognisable list of current meme stocks.

We then examined what these names had in common. So that the GameStop-AMC duo did not dominate our analysis—it got 55% of all references—we modelled the chances of each stock in the Russell 3000 index receiving at least ten mentions. Despite treating names with ten references the same as those with 10,000, this still identified GameStop as the trendiest firm.

Short interest was tied to popularity only loosely. For every oft-discussed, heavily shorted firm, there was also a popular but rarely shorted name, or a widely shorted stock with few mentions. Trading volume and market capitalisation mattered more. The best predictor was the ratio of call options—which grant the right to buy a share at a set price, without obligation—to total shares. This tracks short-term bullish bets.

This model flags firms that look like meme stocks, but are not yet on Redditors' radar screens. They include heavily shorted names like Discovery (of the Discovery cable-TV channel) and SunPower (a solar-panel maker); the covid-19 vaccine firms Vaxart, Novavax and Moderna; and both sides of the merger of a division of DuPont with International Flavors and Fragrances.

Investors should not race to buy these names. We may have missed a variable that would explain why Redditors shun certain stocks. If Redditors themselves are buying up options on their favourite shares, they may keep ignoring others with heavy call volume. Posts on r/wallstreetbets could merely represent chatter about past volatility, rather than anticipating future trends. And meme stocks can suffer big dips: GameStop is down 80% from its peak.

Yet such concerns haven't stopped Redditors from betting big. If you think investing is more about adrenalin than about owning a slice of a good business, dig in. ■

The Economist February 6th 2021

At war with the invisible

General Nikolai Timofeyevich Antoshkin, commander of the "Liquidators" at Chernobyl, died on January 17th, aged 78

FEW PEOPLE knew they were there until he sat joking and drinking with his friends in the steam bath, and then they were visible: the long livid scars across his upper body, where surgeons had cut into him to treat radiation sickness. And there were other signs. If he nicked himself while shaving, the cut would bleed for a very long time. And three times a day he had to swallow eight pills to deal with this ache, or that tiredness, caused by the job he had done at Chernobyl in the spring of 1986, when Reactor number 4 at the nuclear power plant had exploded, and he had been summoned to quench the fire. His doctor had told him, "Chernobyl will never let go of you." True enough.

He had suspected that from his very first view of the scene from the air. His speciality was helicopter reconnaissance; he had flown many missions in Afghanistan before the Soviet invasion, scouting out the camps of the mujahideen and their shadowy movements through the mountains. At Reactor number 4 there was nothing shadowy. The graphite core had ignited when exposed and was burning freely. This was a fire like the demon of hell, billowing smoke that filled his mouth with a taste of rusty iron until he had to vomit. Death stared in his face, and terrified him. This was not like Afghanistan, where your helicopter got shot at but you landed, forgot about it, and went back up. This would make itself felt for a lifetime, and his children's lifetimes.

The operation had begun in confusion. He got the first alert on the afternoon of April 26th, a Saturday. It was cryptic, trying to play down the damage. Officials seemed offended that the blast had even happened; man had tamed the atom, after all. His own overriding thought, as an air-force man, was that this needed aircraft, and he was ready. But for some hours no orders came. The officials brought in ground fire crews instead, who were sickened at once and whose hoses proved useless. He twitched with anxiety until they called him in.

By the time he had driven from Kyiv, where he commanded the district air force, to Pripyat, the nearest town to the plant, it was sunset, and the sky was full of flames. Plumes of smoke were rising 400-600 metres into the air. A light wind was blowing, taking radiation here, there and everywhere. He had a dosimeter with him; at the stadium, just outside town, the roentgen count shot up alarmingly. But most striking to him was the sight of the people leaving Pripyat, the children skipping and excited, and the long lines of buses at the city limits waiting to take them away.

His orders, when he got them, were plain enough. It was up to him to work out how to do it. This was now a total air operation, his province, as it had been ever since his triumphant progress through the Orenburg Higher Military Aviation School. At once he sprang to the task, calling in 600 volunteer pilots from all over the Soviet Union and commandeering 100 helicopters. He also ordered 10,000 brake parachutes, each to be loaded with sand, clay, boron and lead and dropped to seal the inferno. Having set all that in train he then went down to the Pripyat river, with a spade, to help dig sand. He reckoned they might need 5,000 tonnes of it.

The task was both delicate and terrifying. The target aperture was only 19 metres across; each pilot had to hover 200 metres above the core, in thick smoke, while another man held by a harness leaned out to drop the parachute. The air temperature was as much as 200°C, scorching the fuselages of the craft. Amid all this neither he, nor they, had adequate protection. In the air they wore masks; on landing they changed their uniforms and took baths to wash off the radioactive dirt. He remembered smearing on some nasty cream from Leningrad. Yet they had been exposed not to 1,500 roentgens as he thought, already enough to kill a man, but double that. Twenty-eight pilots died soon afterwards; 14 more died later, from lingering cancers. He himself spent the next two years in hospital, though he was to die, eventually, of coronavirus, not the fire. They flew, and dumped sand, and dumped sand again: 4,000 sorties in all, until after two weeks the blaze was out and concrete was poured in to seal the core.

It was all rather different from what he had imagined as a boy, herding sheep in the southern Urals, as he paused to watch the fighter aircraft roar overhead to the Orenburg base. The life of a pilot seemed one of bold and glorious adventure, soaring above his peasant world. Later he organised a troupe called the Russian Knights to put on aerobatic displays, and called his force at Chernobyl "the Liquidators". Yet his highest award, Hero of the Soviet Union, was earned not on the Soviet-Chinese border, where he flew in skirmishes, or in Afghanistan, or for his long service as a flight commander. His "selfless service to the Motherland" was essentially an industrial operation against no enemy, except the insidious beams that nobody could see.

This rankled. Everyone celebrated the heroes of the Great Patriotic War, like his father, who had fought on the eastern front. Everyone obviously revered the cosmonauts. For some reason, though, it was not cool to have the same regard for those who dealt with domestic terror or, like him, domestic horror. Some solace lay in organising the Moscow Club of Heroes, and in simply pinning the great gold Hero star to his suit lapel when he retired and briefly, after 2014, sat in the Duma to make laws. He was proud, too, to be consulted as an expert when other nuclear accidents occurred. In 2011 he sighed over Fukushima, and how slow the Japanese were. They should have called on the whole world to help.

At Chernobyl, though, they had called mostly on him. Ten years later he drove past it again. It was now surrounded by a 20km exclusion zone, with the plant itself enclosed in a concrete sarcophagus. At the Pripyat stadium wild trees were thrusting through the turf. In the abandoned outlying villages, thickets had taken over the sagging houses. Wolves prowled there in winter. There was talk of creating a nature reserve; he knew the mushrooms had always been good. The earth was healing itself. It was doing better, perhaps, than he was. ■