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 intelligence, which presses forward,
 and an unworthy, timid ignorance
 obstructing our progress."

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Lloyd Austin, the American defence secretary, urged NATO ministers meeting in Brussels to accelerate the flow of heavy weapons to **Ukraine**, as fighting intensified in the eastern region of Donbas, especially in the town of Severodonetsk. Although Russia has occupied most of it, Ukrainian forces are continuing to mount stiff resistance. The conflict, in its fourth month, has turned into a war of attrition, with neither side seemingly able to make big gains.

A report by the Centre for Research on Energy and Clean Air, a think-tank based in Finland, found that **Russia** earned \$97bn in revenues from oil and gas exports during the first 100 days of its invasion of Ukraine. The European Union accounted for 61% of the revenues, though China was the biggest single importer, closely followed by Germany. Russian revenues dipped in April and May compared with March. The report concluded that Russia's revenue from energy was enough to defray its expenditure on the war, which it estimated at \$876m a day.

The first round of legislative elections in **France** marked a serious reverse for the president, Emmanuel Macron. His alliance of centrist parties won only around the same number of votes as a radical-left grouping that is headed by Jean-Luc Mélenchon. Predictions of the final result after run-off votes on June 19th suggest that Mr Macron is in danger of losing his majority.

The British government introduced legislation to override parts of the **Northern Ireland protocol**, which forms

part of the Brexit withdrawal agreement but is disliked by unionists. The EU described the move as a breach of international law and announced plans for legal proceedings against Britain.

A controversial plan in Britain to deport some **asylum-seekers** to Rwanda was delayed as the first plane prepared for take-off. The European Court of Human Rights (a non-EU body) judged that an Iraqi asylum-seeker faced a risk of harm. That opened the door to other successful appeals, and to the last-minute scrapping of the flight. The British government is undeterred, and has vowed to press ahead.

Boris Johnson's ethics adviser resigned. Christopher Geidt had held the job since April 2021 and is the second ethics adviser to the British prime minister to quit in less than two years. Shortly before he resigned Lord Geidt told a committee of MPs that it was "reasonable" to ask whether Mr Johnson had broken the ministerial code in relation to parties held at Number 10 during lockdown.

A "ferocious" new outbreak of covid-19 in Beijing is testing **China's** "dynamic zero-covid" strategy. Hundreds of cases were traced to a bar in the city centre. Thousands of residents have been whisked into quarantine and neighbourhoods sealed off. In Shanghai, where a months-long lockdown has ended, the number of cases found outside quarantine remains low. Nevertheless, the city ordered most of its 25m residents to get tested.

Sri Lanka's government gave public-sector workers Fridays off for the next three months, so that they can turn to farming to ease a food shortage. The four-day week will also reduce commuting, easing pressure on limited fuel supplies. The UN warned that Sri Lanka is facing a humanitarian catastrophe, as it deals with its biggest economic shock since independence in 1948.

Members of Congress, **India's** main opposition party, took to the streets of Delhi to protest against the questioning by authorities of Rahul Gandhi, a senior figure in the party, in a decade-old corruption case. Police detained several opposition politicians for illegal assembly. Congress claimed the police broke into its headquarters and beat up staff; the police deny this.

Lady liberty



Human-rights groups condemned the prison sentences handed down to 60 members of the opposition in **Cambodia** on trumped-up charges. Sam Rainsy, who leads the Cambodia National Rescue Party, was sentenced in absentia to another prison term (he lives in exile). Theary Seng, a lawyer who holds American citizenship, was given six years. She attended court dressed as the Statue of Liberty.

Police in **Brazil** said that two bodies believed to be Dom Phillips, a British journalist, and Bruno Pereira, an indigenous expert, have been found in the Amazon. The pair had disappeared in the remote Javari Valley, after Mr Pereira received death threats for campaigning against illegal fishing. A fisherman has confessed to murdering the men.

Congo accused **Rwanda** of invading it after the M23 rebel group captured Bunagana, a strategic border town near Goma in eastern Congo. Rwanda in turn accused Congo of firing rockets into its territory.

Abiy Ahmed, the prime minister of **Ethiopia**, said for the first time that his government

is open to negotiations with the Tigray People's Liberation Front, the party-cum-militia it has been fighting since November 2020.

The Economic Community of West African States, a regional bloc whose members include Ghana and Nigeria, said it plans to launch a **single currency** called the eco in 2027.

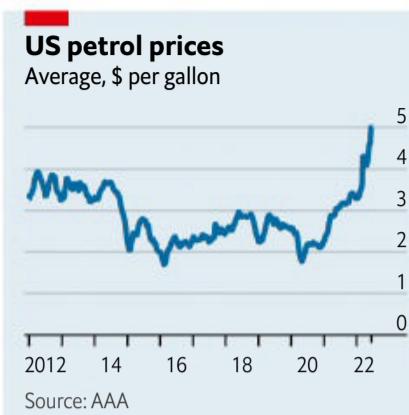
Joe Biden announced that he would pay his first visit to the **Middle East** as president, probably in mid-July, going to Israel and then Saudi Arabia. He will meet the Saudi crown prince, Muhammad bin Salman, whom he has labelled a pariah. Mr Biden will ask him to boost the flow of oil to help lower prices. The prince may drag his feet.

A group of American senators, ten Democrats and ten Republicans, produced a framework agreement on limited **gun-control measures** that they hope to pass by August. If passed, the bipartisan breakthrough would expand background checks for people under 21 who buy weapons. The killers in two recent gun massacres, in Buffalo and Uvalde, were both aged 18.

America ended **covid-testing** requirements for international passengers flying into the country. Foreign nationals still have to prove that they are vaccinated. Airlines and tourism organisations had pressed the government to end testing. It is thought an extra 5.4m people will now visit America this year.

Sounds like fun

The reopening of **Japan** to tourists caused much confusion. International visitors must be booked on an officially approved tour and accompanied by their guides at all times. They are also required to wear masks and compelled to buy health insurance. At restaurants they will be socially distanced from locals and will be barred from sharing dishes.



The **Federal Reserve** raised its main interest rate by three-quarters of a percentage point, to a target range of 1.5% to 1.75%, the biggest increase since 1994. It was thought the central bank would lift the rate by half a point, but a few days before its decision data showed that America's annual **inflation** rate, as measured by the consumer-price index, increased to 8.6% in May, higher than had been expected. Grocery prices were up by an average 11.9%, the biggest increase since 1979. The average price of a gallon of petrol in America has now breached \$5 for the first time, up by 50% since January.

Financial markets also had to digest the Fed's **quantitative-tightening** programme, which began this week. The Fed is unwinding the balance-sheet of assets it accumulated since the start of the pandemic at a much faster pace than the last time it commenced such an undertaking in 2017.

The **European Central Bank** held an emergency meeting after government-bond yields rose sharply across the currency bloc. The pressure on government debt came after the ECB outlined an end to stimulus measures and confirmed it would start raising interest rates next month. Italy's bonds were under the most duress. The yield on the ten-year note rose above 4%.

Japan's finance ministry and central bank issued a statement that they are concerned by the weak **yen**. Despite that the Bank of Japan intervened to expand its bond-buying programme when the yield on the ten-year note again

breached its 0.25% cap. The policy has driven the yen to a 24-year low against the dollar.

Beware of the bear

The S&P 500 dropped by 3.9% in a day. That meant the index was down by 22% since its record high on January 3rd, making that stretch of trading a **bear market** (a fall of 20% or more from the most recent peak). The current bear market has lasted over 160 days. That is longer than the bearish 33 days over February and March 2020, but still some way behind the 517 days that ran from October 2007 to March 2009.

Cryptocurrency markets were in turmoil as more signs emerged of problems with the infrastructure underpinning digital assets. Celsius, a platform that enables its users to lend their crypto tokens for a return, stopped customers withdrawing funds. Bitcoin shed over a fifth of its price over a few days. The value of the overall crypto market has fallen from a peak of \$3.2tn in November to less than \$1tn.

With speculators losing their appetite for risk, the exchanges that host crypto trading are having to retrench. **Coinbase**, the biggest such exchange in

America, said it would cut a fifth of its workforce, admitting that it expanded too quickly during the cryptocurrency boom. As recently as February Coinbase and other exchanges were so confident about their business that they ran advertisements during the Super Bowl.

Meanwhile, **Bill Gates** denounced digital-finance assets as "based on the greater-fool theory". Regarding non-fungible tokens (NFTs), which confer ownership on things like digital art, the philanthropist mused that "Obviously, expensive digital images of monkeys are going to improve the world immensely."

Natural-gas prices rose sharply in Europe, when the operator of one of the largest **liquefied natural-gas** export terminals in America said that a fire at the facility would keep it off-line until September. The Freeport plant in Texas has been a big supplier of LNG to Europe since the start of the war in Ukraine. Russia reduced its supply of gas this week to Germany and Italy, ahead of a meeting to discuss Ukraine.

Developing economies, and especially a "resurgent China", will increase global demand

for **oil** by 2% next year, according to the International Energy Agency, which expects demand in rich countries to tail off because of the high prices of petrol and diesel.

The British government ended its subsidy scheme for **electric cars** with immediate effect. It said it wants to refocus on the battery-charging infrastructure, but industry groups criticised the sudden change.

The members of **BTS**, the **world's biggest-selling boy band** and one of South Korea's most successful exports, said that they would take a break from performing as a group to focus on solo projects. The announcement shaved 25% off the share price of Hybe, their production company. Hybe insisted that the band wasn't going on a hiatus.

Love yourself

Perhaps **BTS** could be replaced by **artificial intelligence**. An engineer at Google has suggested that its chatbot AI has become sentient. The application referred to itself as a "person" with a "soul" that is "alive", concepts that philosophers usually grapple with, as have **BTS** in albums like "Map of the Soul: 7".



Reinventing globalisation

Switching to a security-first model of globalisation would make the world more expensive and dangerous

THREE YEARS ago *The Economist* used the term “slowbalisation” to describe the fragile state of international trade and commerce. After the go-go 1990s and 2000s the pace of economic integration stalled in the 2010s, as firms grappled with the aftershocks of a financial crisis, a populist revolt against open borders and President Donald Trump’s trade war. The flow of goods and capital stagnated. Many bosses postponed big decisions on investing abroad: just-in-time gave way to wait-and-see. No one knew if globalisation faced a blip or extinction.

Now the waiting is over, as the pandemic and war in Ukraine have triggered a once-in-a-generation reimagining of global capitalism in boardrooms and governments (see Briefing). Everywhere you look, supply chains are being transformed, from the \$9trn in inventories, stockpiled as insurance against shortages and inflation, to the fight for workers as global firms shift from China into Vietnam. This new kind of globalisation is about security, not efficiency: it prioritises doing business with people you can rely on, in countries your government is friendly with. It could descend into protectionism, big government and worsening inflation. Alternatively, if firms and politicians show restraint, it could change the world economy for the better, keeping the benefits of openness while improving resilience.

After the Berlin Wall fell in 1989, the lodestar of globalisation was efficiency. Companies located production where costs were lowest, while investors deployed capital where returns were highest. Governments aspired to treat firms equally, regardless of their nationality, and to strike trade deals with democracies and autocracies alike. Over two decades this gave rise to dazzlingly sophisticated value chains that account for half of all trade: your car and phone contain components that are better travelled than Phileas Fogg. All this kept prices low for consumers and helped lift 1bn people out of extreme poverty as the emerging world, including China, industrialised.

But hyper-efficient globalisation also had problems. Volatile capital flows destabilised financial markets. Many blue-collar workers in rich countries lost out. Recently, two other worries have loomed large. First, some lean supply chains are not as good value as they appear: mostly they keep costs low, but when they break, the bill can be crippling. Today’s bottlenecks have reduced global GDP by at least 1%. Shareholders have been hit as well as consumers: as chip shortages have stalled car production, carmakers’ cashflows have dropped by 80% year on year. Tim Cook, the supply-chain guru who runs Apple, reckons such snafus could reduce sales by up to \$8bn, or 10%, this quarter. Covid-19 was a shock, but wars, extreme weather or another virus could easily disrupt supply chains in the next decade.

The second problem is that the single-minded pursuit of cost advantage has led to a dependency on autocracies that abuse human rights and use trade as a means of coercion. Hopes that economic integration would lead to reform—what the Germans call “change through trade”—have been dashed: autocracies account for a third of world GDP. Vladimir Putin’s invasion of Ukraine has painfully exposed Europe’s reliance on Russian energy. This

week McDonald’s in Moscow, which opened in 1990, restarted under local control. Big Macs are no longer on the menu. Meanwhile, President Xi Jinping’s ideological and unpredictable China has a trade footprint seven times as big as Russia’s—and the world relies on it for a variety of goods from active pharmaceutical ingredients to the processed lithium used in batteries.

One indication that companies are shifting from efficiency to resilience is the vast build-up in precautionary inventories: for the biggest 3,000 firms globally these have risen from 6% to 9% of world GDP since 2016. Many firms are adopting dual sourcing and longer-term contracts. The pattern of multinational investment has been inverted: 69% is from local subsidiaries reinvesting locally, rather than parent firms sending capital across borders. This echoes the 1930s, when global firms responded to nationalism by making subsidiaries abroad more self-sufficient.

The industries under most pressure are already reinventing their business models, encouraged by governments that from Europe to India are keen on “strategic autonomy”. The car industry is copying Elon Musk’s Tesla by moving towards vertical integration, in which you control everything from nickel mining to chip design (see Business section). Taiwan’s electronics assemblers have cut their share of assets in China from 50% to 35% since 2017 as clients such as Apple demand diversification. In

energy, the West is seeking long-term supply deals from allies rather than relying on spot markets dominated by rivals—one reason it has been cosying up to gas-rich Qatar. Renewables will also make energy markets more regional.

The danger is that a reasonable pursuit of security will morph into rampant protectionism, jobs schemes and hundreds of billions of dollars of industrial subsidies. The short-term effect of this would be more volatility and fragmentation that would push prices yet higher: witness President Joe Biden’s consideration of new tariffs on solar panels, which he paused this month in the face of shortages. The long-run inefficiency from indiscriminately replicating supply chains would be enormous. Were you to duplicate a quarter of all multinational activity, the extra annual operating and financial costs involved could exceed 2% of world GDP.

The trouble with safe spaces

That is why restraint is crucial. Governments and firms must remember that resilience comes from diversification, not concentration at home. The choke-points autocracies control amount to only about a tenth of global trade, based on their exports of goods in which they have a leading market share of over 10% and for which it is hard to find substitutes. The answer is to require firms to diversify their suppliers in these areas, and let the market adapt. Will today’s governments be up to the task? Myopia and insularity abound. But if you are a consumer of global goods and ideas—that is to say, a citizen of the world—you should hope globalisation’s next phase involves the maximum possible degree of openness. A new balance between efficiency and security is a reasonable goal. Living in a subsidised bunker is not. ■



Latin America

How democracies decay

A vicious circle of economic stagnation, popular frustration and polarised politics offers a warning to the West

WHEN THEY vote in a presidential run-off election this weekend Colombians face a grim choice between two ill-qualified populists. On the left, Gustavo Petro has still not wholly shaken off his long-standing sympathy for Hugo Chávez, the *caudillo* who destroyed Venezuela's economy and its democracy. On the right, Rodolfo Hernández is a bullying former mayor with no team and not much of a programme beyond expelling "the thieves", as he calls the political class. This line-up reflects voters' deep scorn for Colombia's mainstream politicians, even though the country has done relatively well over the past 20 years. It is the kind of polarised choice that has become worryingly familiar in Latin American elections. In a region that was discontented even before the pandemic, there no longer seem to be many takers for the moderation, compromise and gradual reform needed to become prosperous and peaceful.

That matters not just to Latin America, but to the world. Despite everything, the region remains largely democratic and should be a natural ally of the West. It can play a vital role, too, in helping solve other global problems, from climate change to food security. It is home not only to the fast-diminishing Amazon rainforest and much of the world's fresh water but also to a wealth of commodities needed for green energy, such as lithium and copper. It is a big food exporter and could provide more.

Not so long ago, Latin America was on a roll. A commodity boom brought healthy economic growth and provided politicians with the money to experiment with innovative social policies, such as conditional cash-transfer programmes. That, in turn, helped bring about big falls in poverty, reducing the extreme income inequality long associated with the region. The middle classes grew. That helped underpin political stability. Democratic governments generally respected human rights, even if the rule of law was weak. Growing prosperity and more responsive and effective politicians appeared to be reinforcing one another. The future was bright.

Now that virtuous circle has been replaced by a vicious one. Latin America is stuck in a worrying development trap, as our special report this week explains. Its economies have suffered a decade of stagnation or slow growth. Its people, especially the young, who are more educated than their parents, have become frustrated by their lack of opportunity. They have turned this anger against their politicians, who are widely seen as corrupt and self-serving. The politicians, for their part, have been unable to agree on the reforms needed to make Latin America's economies more efficient. The region's productivity gap with developed countries has widened since the 1980s. With too many monopolies and not enough innovation, Latin America is falling short in the 21st-century economy.

These challenges are becoming more acute. The impact of the pandemic, especially long school closures, will increase inequality. Governments need to spend more on health care and education, but the cost of servicing debt is rising. The region thus needs to raise more tax, but in ways that do not undermine investment. Chile and its young left-wing president, Gabriel

Boric, seemed to offer the chance of a new social contract along those lines. Instead his fledgling government is hostage to a constitutional convention shot through with the familiar Latin American vices of Utopianism and over-regulation.

The consolidation of democracy used to be seen as a one-way street. But Latin America shows that democracies can easily decay—and that is a warning for democrats everywhere. Its politics are now marked not just by polarisation but also by fragmentation and the extreme weakness of political parties, making stable governing majorities hard to assemble (see Bello). This downward spiral is accelerated by the malign influence of social media and the import of identity politics from the north. Technocrats are discredited and jobs in government are increasingly seen, on both the left and the right, as perks to be doled out rather than crucial responsibilities to be reserved for capable administrators. Organised crime, already a big factor in the region's epidemic of violence, is starting to taint its politics, too.

Many of these are ills of the democratic world in general, but they are particularly acute and dangerous in Latin America. Most Latin Americans still want democracy, albeit a better version than they have. But there is a growing audience for those advocating the supposedly effective hand of autocracy. Venezuela and Nicaragua have become left-wing dictatorships like

Cuba. In El Salvador, Nayib Bukele has centralised power and locked up some 40,000 people in a draconian war on gangs. He is the region's most popular president. The leaders of its two biggest countries, Jair Bolsonaro of Brazil and Andrés Manuel López Obrador of Mexico, are contemptuous of checks and balances. Mr Bolsonaro will seek a second term at an election in October. It is cold comfort that he is likely to

lose to Luiz Inácio Lula da Silva, a former president whose governments were linked to corruption and who lacks new ideas.

The risk is not just that democracies devolve into dictatorships, but that Latin America drifts away from the orbit of the West. In much of the region, China is now the main trade partner and is investing in infrastructure. Some of the region's left-wing governments seem keen to return to the non-alignment of the cold-war era. Five of the region's presidents, including Mr López Obrador, chose to boycott this month's Summit of the Americas in Los Angeles. The United States—and Europe—could do more to engage Latin America, through trade, investment and technology. But Latin America in turn needs to recognise that it has much to gain from rebuilding closer ties, and that its role in a world dominated by China would be that of a neo-colony.

Stopping the rot

The temptation in the region will be to ignore the economic and political malaise and simply surf the new commodity boom triggered by the war in Ukraine. That would be a mistake. There are no short cuts. Latin Americans need to rebuild their democracies from the ground up. If the region does not rediscover a vocation for politics as a public service and relearn the habit of forging a consensus, its fate will get only worse. ■



Monetary policy

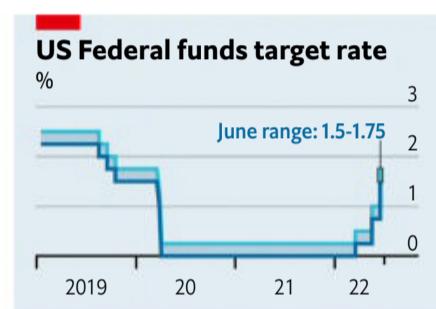
The week central banks changed course

With inflation soaring and markets convulsing, the contradictions in monetary policy are being exposed

THE MULTI-TRILLION dollar world of central banking has just turned on a dime. A week ago the Fed was expected shortly to raise interest rates by half a percentage point. The European Central Bank (ECB) had just announced an end to its bond purchases. The Bank of Japan was unusual in its commitment to maintaining monetary stimulus despite growing disquiet about the plummeting yen. By the time our weekly edition was published, however, the Fed had raised rates by three-quarters of a point; the ECB had held an emergency meeting and said it was working on a new tool to intervene in bond markets; and the Bank of Japan, ahead of its meeting on June 16th-17th, had joined the government in lamenting the yen's weakness.

Turmoil in policy has coincided with tumult in markets (see Finance & economics section). Tighter monetary policy has been crushing American stocks, which are down by almost 20% from their January peak. Cryptocurrencies are crashing, eviscerating investors who were late to the party. The spread between ten-year yields on safe German debt and risky Italian debt reached over 2.4 percentage points the day before the ECB's announcement. Bond yields have risen and traders have punished currencies, like the yen and sterling, issued by central banks that are unlikely to keep pace with the Fed.

The turbulence is exposing central banks' contradictory goals. The Fed insists it will tame inflation, which reached an annual rate of 8.6% in May. Yet it is loth to admit that doing so will probably require a recession (see Free exchange). Even its hawkish pivot this week leaves monetary policy looking muddled. Rules of thumb for how central bankers should respond to underlying inflation say rates should be much higher. The Fed's dawdling over the past year has worsened the conflict between its competing goals of stable prices and low unemployment.



The ECB faces an even tougher dilemma. A side-effect of tighter monetary policy is a squeeze on indebted countries. Governments' finances will be put under pressure both by the rise in underlying rates and the increase in spreads permitted by a lack of bond-buying. Without a backstop, Italy's debts of over 150% of GDP could become unsustainable—a possibility which would leave the country vulnerable to a self-fulfilling market panic. The ECB says it will not tolerate the threat such a crisis would pose to the integrity of the currency union. But it is not supposed to sacrifice its inflation target to debt-sustainability concerns. Nor can it underwrite governments to the extent that they can run up vast tabs at the expense of the central bank.

The Bank of Japan is trading off economics against politics. The yen's weakness could help the country hit its 2% inflation target, having undershot it for almost the entire period since it was announced in 2013. The trouble is that expensive imports are squeezing living standards, alarming the government. Earlier this month Haruhiko Kuroda, the bank's governor, had to apologise for saying that households were becoming more accepting of price rises.

In this environment the central-banking playbook of the 2010s is failing. It was built around low global inflation and designed to dispel the notion that rates might rise. Pivots are rare because policymakers have been unwilling to surprise markets by breaking their "forward guidance"—even the Fed's decision this week appears to have been leaked two days earlier. Restricting themselves to sequential policy changes, signalled in advance, makes central banks slow on their feet. The result is more volatility in markets and interest rates, not less. As competing goals make the course ahead harder to predict, central banks would do well to stay nimble. ■

Ukraine and the European Union

Ever wider

The EU should declare Ukraine a candidate for membership

WHAT IS THE point of the European Union? In a nutshell, to spread peace and prosperity on the continent. That mission has seen its membership expand steadily from the six founders of its precursor in the 1950s to 27 countries today. But in recent years its growth has slowed. No new member has been admitted since Croatia in 2013 (and one has left). Now war has ignited on the EU's borders—just the sort of horror its founders hoped to banish from the continent. To be true to the EU's mission, to bolster an embattled democracy and to face down the sort of nationalist aggression to which the EU considers itself the antidote, the club's leaders, who meet in Brussels next week, should formally declare Ukraine a candidate for membership.

The fainthearted will object, saying that Ukraine is too poor,

too corrupt and now too war-torn to join the cosy club. That is true, but it misses the point. No one imagines that Ukraine will be ready to become a member for many years yet. It will have plenty of hoops to jump through before that can or should happen. If Ukraine does not make sufficient progress, it should not be admitted. The progression from candidate to member is by no means inexorable: Turkey has been in the queue since 1987.

The conferral of candidate status initiates a flurry of paperwork. It can create a powerful incentive for the government of the would-be member to institute big administrative and economic reforms. But its main significance is as an expression of intent, from both sides, to make the applicant part of the European family. In Ukraine's case, the symbolism of such a state-►

ment is huge. The EU would be saying that it considers Ukraine a sovereign European country no different from France or Finland, and potentially with just as bright a future. That, of course, is the opposite of what Vladimir Putin, Russia's president, believes, and a complete rejection of everything he is hoping to achieve with his invasion.

Consider the alternative. Ukraine has asked to become a candidate for membership. If the EU rejects the request, it would be signalling to Mr Putin that Ukraine is somehow different from the other poor and corrupt places on Europe's eastern fringes that are slowly being absorbed into the club—that it is not truly European, or truly sovereign. That is tantamount to confirming Mr Putin's view that Ukraine is a cartographic fiction that should fall into his sphere of influence, not the West's. To send such a signal when Ukraine is fighting for its very existence would not just undermine the principles the EU claims to hold dear; it would encourage the biggest enemy of European stability and dishearten his latest victim.

It is true that even starting negotiations on Ukrainian membership will bring big practical problems. It is not easy to con-

vene working groups with missiles raining down. Assuming that Ukraine will struggle to reclaim all the territory seized by Russia, at least in the near term, it will be difficult to decide how to treat people and goods from the occupied areas. But the EU admitted Cyprus even though it does not control a third of its territory. The best solution is not to shy away from making Ukraine a candidate, but to give it more weapons, and so help it beat back Russia's army, which is grinding forward bloodily in the Donbas region. In particular, modern artillery could help halt the Russian advance (see International and Science sections).

The EU likes to think of itself not as a self-interested club of well-to-do countries, but as the embodiment of the idea that openness and integration are superior to narrow, prickly nationalism. It has had great success in propagating that idea through expansion. It would be not only ironic, but tragic, if it were to retreat from its principles in the face of Mr Putin's warmongering. Now is the time to signal not just to Ukraine, but also to other countries bullied by Russia, such as Georgia and Moldova (and indeed long-rebuffed bits of the Balkans), that the EU remains determined to spread peace and prosperity ever more widely. ■

Climate change

Constructive improvements

The property industry has a huge carbon footprint. Here's how to reduce it

BUILDINGS HAVE a dirty secret: they are among the planet's worst climate offenders. Heating, cooling and powering existing offices, homes and factories accounts for 27% of global energy-related carbon-dioxide emissions. Constructing new ones involves mountains of steel and colossal amounts of cement, and combined with demolition accounts for another 10% of the global CO₂ emitted each year. Building debris generates a third of the European Union's annual waste by weight.

What is more, landlords and homeowners, and the construction industry, have a rotten record on climate change. Only a tiny fraction of properties are carbon neutral, and on the current trajectory it will take nearly a century to decarbonise the rest. As the world urbanises, a dirty building boom beckons: by one estimate, cities will need to add 13,000 buildings every day until 2050, just to keep up with global population growth.

The pandemic has thrown another spanner in the works. Doubts over the level of future demand for office blocks have reduced landlords' incentives to undertake green refurbishments, and demand for larger homes to accommodate remote working will crank up residential energy use.

What can be done? The problem can be divided into three parts. The first goal is to incentivise owners to make existing properties more energy-efficient. In the long run, as electricity generation shifts towards renewables, the emissions arising from air-conditioning and day-to-day power use will fall. But retrofitting offices and homes with insulation, cleverer control systems and heat pumps rather than fossil-fuel boilers can have an immediate impact. In big cities, building codes and city-wide net carbon targets can prod commercial landlords to upgrade buildings (see Finance & economics section).

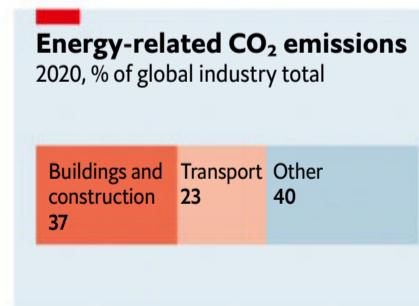
Residential housing is more difficult, because many home-

owners may have less spare cash and move houses rarely. Subsidies can be hugely expensive: in Italy, you can claim the full cost of green home renovations, plus an extra 10%, through generous tax credits worth up to €100,000 (\$104,000) per home. An eye-watering €21bn has been paid out under this scheme since its launch in July 2020, often to wealthy homeowners. Governments would do better to invest in addressing the knowledge gap and skills shortages associated with green-building technology and refurbishment—and to eliminate red tape so that property-owners who want to improve their energy efficiency, as oil and gas prices surge, can do so more easily.

The second goal is to facilitate more rational decisions about when to retrofit buildings and when to demolish them and rebuild, which generates waste and pollution but in some cases can reduce emissions overall. Regulations and tax codes are often skewed arbitrarily and can be reformed. In Britain, for example, until earlier this year most new buildings were exempt from value-added tax, but spending on renovations and repairs was not.

The final goal should be to ensure that the construction of new buildings that does take place is far cleaner than it has been in the past. Green building codes are a powerful tool; in the long run, higher carbon taxes would also force the entire construction and building-materials supply chain to clean up its act.

The good news is that there is huge room for improvement: new industrial processes can reduce the emissions from cement and steel. Better construction methods, including prefabricated houses, are more energy- and carbon-efficient but rarely used. The construction industry has a dire record on productivity growth—a sign that there has not been enough fresh thinking. Time to start building a new approach. ■



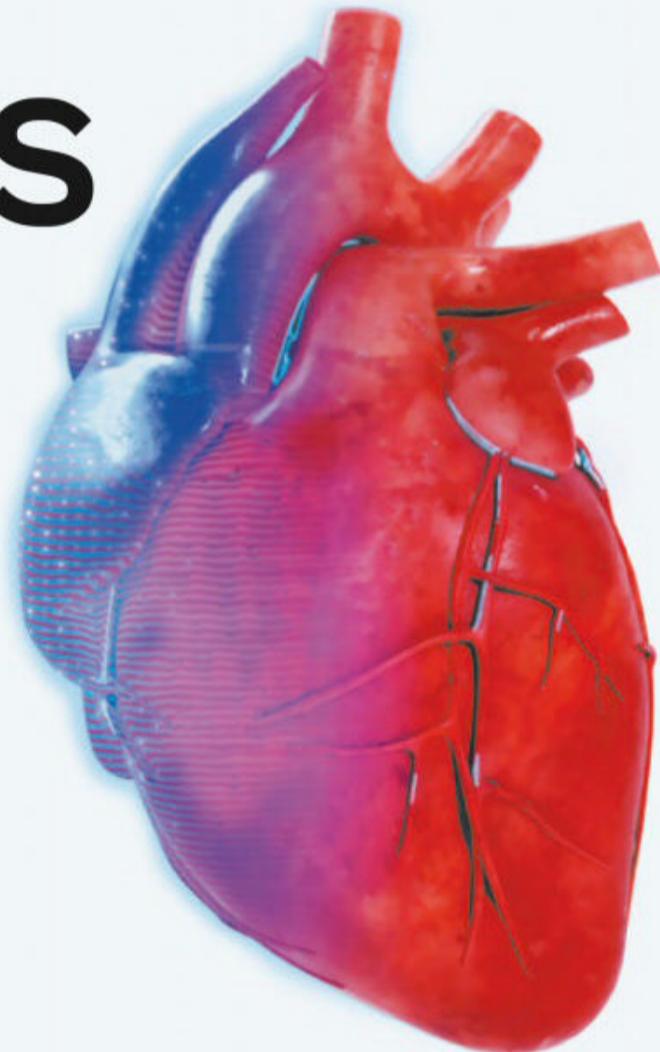
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Nuclear horrors

I was a 13-year-old schoolgirl on the summer morning when a nuclear weapon detonated above Hiroshima. Trapped beneath the debris, I listened to my classmates call for their mothers while they burned alive. Later I walked through streets that had been transformed in a literal flash into something beyond nightmares. People staggered towards me, blackened, burnt and swollen, their skin hanging off them, begging for water, begging for help. But there was no water, there was no help.

Thank you for pointing out the dangers of fading memories and weakening moral revulsion of nuclear war ("A new nuclear era", June 4th). Too often I read articles discussing nuclear weapons in abstract, analytical terms, as if they were chess pieces. I have dedicated my life to raising awareness of the terrible risks and appalling human consequences of nuclear weapons, as have many of my fellow survivors. But each year we grow fewer, our voices fainter. I hope your article will encourage younger readers to act and organise against these weapons, before it is too late.

SETSUKO THURLOW
Survivor of Hiroshima
Toronto

Any use of nuclear weapons would have catastrophic consequences, ranging far beyond the area in which they were detonated. A single nuclear detonation would probably kill hundreds of thousands of civilians and injure many more; radioactive fallout could contaminate large areas across many countries. Widespread panic would trigger mass movements of people and severe economic disruption. Multiple detonations would be much worse.

Nuclear weapons are therefore not the preserve of a few powerful states, but a global problem affecting all humanity, like climate change and pandemic diseases. They require a global response. This

is the purpose of the UN Treaty on the Prohibition of Nuclear Weapons. With the entry into force of this treaty in January 2021, nuclear weapons are now comprehensively prohibited under international law, as has long been the case for biological and chemical weapons. Prohibition does not magically solve the problem, but it is a crucial first step in delegitimising these weapons.

From June 21st to 23rd, the parties to this treaty will convene in Vienna for their first meeting, to plan the next steps in taking forward their mission. This will include dealing with the risks inherent in nuclear deterrence, recent nuclear threats and assisting victims of past nuclear explosions, such as weapon tests in the Pacific and Kazakhstan. I urge your readers to encourage their governments, whether or not they have joined the treaty, to participate.

ALEXANDER KMENTT
President-designate
First Meeting of States Parties
to the Treaty on the Prohibition
of Nuclear Weapons
Vienna

Your assessment of the growing risks posed by nuclear weapons was accurate and alarming ("Thinking the unthinkable", June 4th). But Russia's reckless actions have not brought about a new nuclear era; they have just highlighted the unacceptable dangers of the existing one. For decades we have been told that nuclear deterrence is essential for maintaining peace and security. Now we see the true face of deterrence strategy: nuclear-armed states are using the threat of these weapons to coerce and intimidate, to facilitate aggression, to restrict the range of responses, and to provide a cover for war crimes.

The world will never be safe as long as any country has nuclear weapons. The only way to prevent nuclear coercion is to use this moment to stigmatise nuclear threats and to eliminate the weapons entirely. We need to increase political and economic pressure on Russia to end the war

and to engage in serious disarmament negotiations. This in turn means engaging the other nuclear states in disarmament efforts.

Russia's actions have made two things clear. Legitimising nuclear deterrence means providing nuclear blackmailers with power and cover; and global nuclear disarmament is not some Utopian goal, but an urgent security imperative.

BEATRICE FIHN
Executive director
International Campaign to
Abolish Nuclear Weapons
Geneva

Early summer coolness

A note on the Californian summer ("Talk to him, Goose", May 28th). We enjoy a coastal phenomenon in California known as the marine layer. Locals refer to the early summer as May grey and June gloom. With this cool chill in the air, we are served the literal and otherwise perfect cover to sport those "fur-collared jackets" that Tom Cruise wears in "Top Gun", along with our Ray-Bans while riding Kawasakis along the beach.

SUZANNE FRANKLIN
San Diego

The religious mindset

As Lexington noted, Southern Baptists have been weakened by groupthink (May 28th). This is a cognitive error to which religious fundamentalists seem especially vulnerable. Groupthink and projection of blame are the usual response to ideas and evidence that challenge any group's core beliefs. In science, basically every theory is tentative and open to refutation. Christian fundamentalists believe in the inerrancy of the Bible, so they are prone to attacking anyone who points out its many internal contradictions. When fundamentalist ministers commit sexual abuse, they often project their own libido onto the object of their sexual interest, believing that their victim bears full responsibility for the abuse.

One must question belief in

progress when we remind ourselves that it is now more than 1,600 years ago since St Augustine converted to Christianity, only after his friend, the bishop of Milan, taught him to read the Bible allegorically rather than literally.

RICHARD WAUGAMAN
Clinical Professor of Psychiatry
Georgetown University
Washington, DC

Imagine being a bird

The reviewer of James Bridle's book "Ways of Being" was right to invoke Ovid in trying to understand the "otherness" of animals and other forms of intelligence ("Arrival of the interspecies", May 21st). Science can do only so much. What we need is imagination, to put ourselves in the minds of animals.

Ted Hughes was an enthusiast and translator of Ovid, and a great poet of animals. Perhaps the finest of his animal poems "Hawk Roosting" from the collection "Lupercal" puts us tantalisingly in the mind of the hawk. It knows no past and no future, only the present, something that is almost impossible for us to imagine.

The last four lines are: The sun is behind me/Nothing has changed since I began/My eye has permitted no change/I am going to keep things like this.

MIKE STEPHENSON
Keyworth, Nottinghamshire

Just can't get the staff

Bartleby's insight that "managers can harness the power of small gestures to make a real difference to their teams" (May 28th) reminded me of my good old days at IBM. One of my subordinates liked to say that he would be a better leader if only he had better followers.

ALVIN GINSBURG
Atlanta



Secretary General of the Financial Stability Board

Basel, Switzerland

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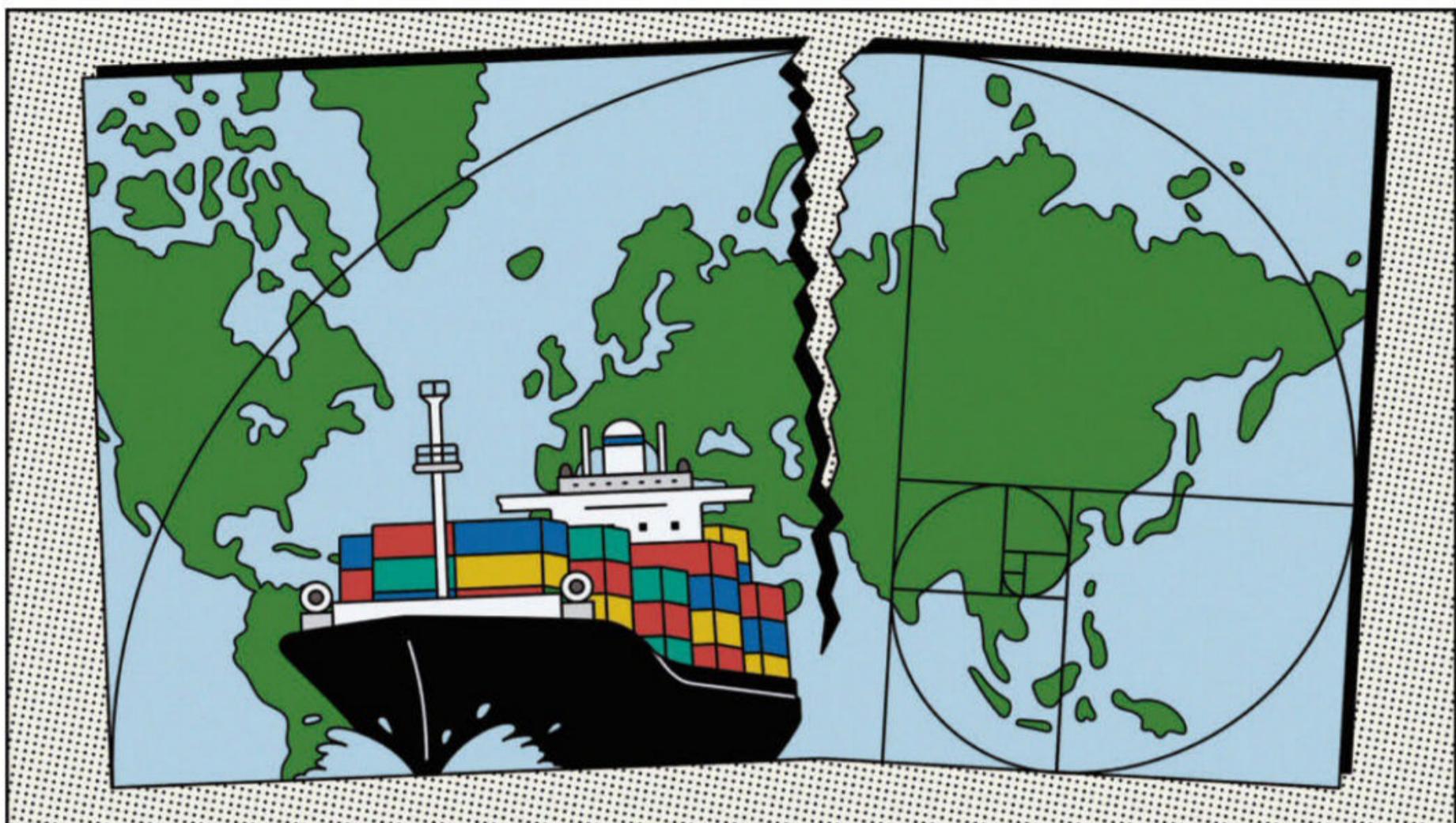
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Chain reaction

NEW YORK AND SAN FRANCISCO

After years of anxious speculation, the structure of the world's supply chains is now clearly changing

SUPPLY CHAINS are the fibres out of which the past decades' globalisation is woven. Time and again they have allowed intrepid outward-looking manufacturers to undercut their stay-at-home competitors and component-makers to find roles in new markets.

Networks of aircraft, email and container ships, not to mention railways and pipelines, have tied together businesses in Guangdong and Oregon, Durban and Dubai, Rennes and Punta Arenas. Masters of their use, such as Airbus or Apple, can create technological marvels from components provided in dozens of different countries using raw materials brought in from yet farther afield.

Over the past five years the tensions pulling at this fabric have been growing stronger. First came America's tariffs on Chinese exports. Then the covid-19 pandemic boosted demand for a particular constellation of goods while constraining their production and transport. Most recently Russia's war in Ukraine sent commodity prices soaring and reminded firms how quickly a political shock can close one

market and wreak havoc in others.

Governments and companies have a history of wringing their hands over such things but not, in the end, doing much to change them. This time things are different. As James Zhan of the United Nations Conference on Trade and Development wrote in a recent article, "The decade to 2030 is likely to prove a period of transfor-

mation for global value chains." That transformation is already under way.

The direction of change is clearly visible in data on inventories, investment and hiring; its effects are in the news around the world. Apple's shift of some production from China to Vietnam has whipped up a war for talent in the country. Chinese firms have filled up a giant industrial park in Monterrey, Mexico, in hope of meeting American customers' demand from closer to home. In May alone, Samsung, Stellantis and Hyundai announced \$8bn of investment in American electric-car factories.

Decision-makers are increasingly concerned that supply chains should be robust, not just efficient. As a result they are choosing to depend less on jurisdictions where they are exposed to risk. And countries are experimenting with industrial policies aimed at self-reliance or international pre-eminence in at least some "strategic" technologies and businesses. This means supporting investment in such sectors within their borders and sometimes restricting the export of the fruits of those sectors. Companies, for their part, are buying up suppliers at home and abroad in the name of vertical integration.

The market-based and Sino-centric system that started to emerge towards the end of the past century is being transformed into something which, though still global, is less unitary and more costly. This should ultimately turn out to be less fragile. But the transition will be messy enough to create shocks of its own.



“There are centrifugal and centripetal forces that pull the world together or apart,” notes Douglas Irwin, a trade historian at Dartmouth University. Today’s shift is not a swing from one extreme to the other; it is a strengthening of the centrifugal coupled with a weakening of the centripetal, which had, until recently, been at an historic high.

Beginning in the 1990s, technology, geopolitical stability and the search for efficiency and comparative advantage were powerful pullers-together. Unshackled from geography by better communications and more efficient containerised shipping, companies skipped from continent to continent in search of cheap inputs and thicker profit margins.

Global flows of foreign direct investment (FDI) had been worth 0.5% of global GDP in the 1970s and 1980s. By the mid-2000s they were worth 5% or more. This, in turn, created a global marketplace. In the two decades to 2008, trade as a share of global GDP jumped from 37% to 61%.

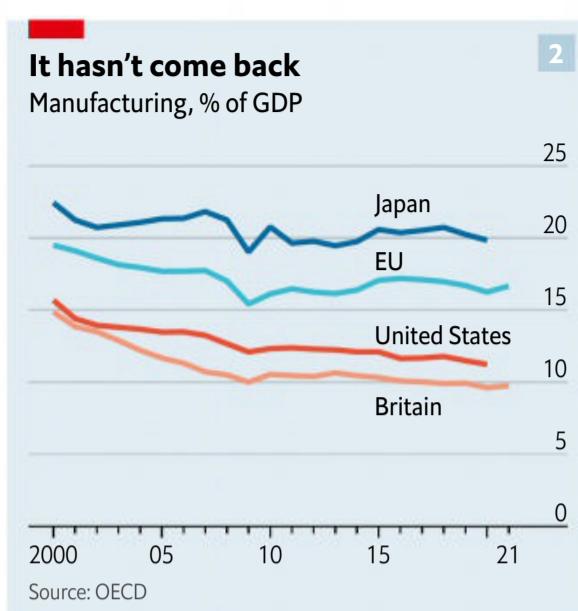
I’m coming out

Even before the covid-19 pandemic there were ample signs that globalisation had become slowbalisation. The share of American firms’ revenues that came from abroad was mostly flat; profits earned abroad were falling. Flows of trade and FDI had stagnated. One reason was automation, which reduced the labour intensity of manufacturing and therefore the competitive advantage of lower-wage countries that had become offshoring hubs in the 1990s and 2000s. Another was that wages in those countries rose.

In 2000 China’s average annual income per person expressed in dollars, a reasonable proxy for the wage costs facing a multinational firm, was 3% of America’s. That is one reason why the country’s accession to the World Trade Organisation the following year was so transformative. By 2019 that had risen to 16%.

The fragility of the system had become more obvious, too. The Tohoku earthquake of 2011 shut down Japanese car suppliers and dented silicon-wafer production. Flooding in Thailand later that year submerged a hub of hard-drive manufacturing. But worries about such risks failed to prompt much action.

A recent paper by researchers at the World Bank concluded that the disasters in Japan “did not lead to reshoring, nearshoring, or diversification”. The trade war with China which President Donald Trump started in 2018 saw corporate executives talk excitedly about supply-chain reshuffling. Yet there was little evidence for such a trend. In 2019 China still controlled more than one-quarter of the suppliers for big industries, including chemicals, electronics and textiles, according to the Confer-



ence Board, a research group.

The covid-19 pandemic proved a dislocation large enough for concern to beget consequences. In its early days governments scrambled, often unsuccessfully, to secure protective clothing and hospital ventilators. Changes in patterns of consumption away from in-person services and towards manufactured goods brought new bottlenecks into being. More recently China’s vainglorious attempt to maintain zero covid, punctuated by on-and-off lockdowns, has led to further disruption. Hundreds of ships were left dawdling pointlessly off Shanghai—an image of dysfunction now stuck in people’s minds.

The effects of Russia’s invasion of Ukraine has provided further, more profound shocks. It has disrupted markets in energy and, crucially, food in ways which highlight the need for more broadly based supplies. It has also made manifest the geopolitical risks of dependence on an autocracy with aggressive ambitions. That has further intensified concerns about China.

Thus economic dependency has become a cause for action, not just concern. This is most obvious in energy markets. Europe is working desperately to build up its gas inventories as well as its capacity to import liquefied natural gas (LNG). In May NextDecade, an American energy compa-

ny, announced a 15-year deal to sell LNG to France’s Engie which will catalyse investment in a sprawling new export terminal along the Louisiana coast. Some senior Democrats are murmuring about easing their opposition to the Keystone XL pipeline from Canada. New infrastructure and long-term contracts are pushing a global, fluid system in the direction of one less efficient but more secure.

Dependency worries are also seen in manufacturing. The range of goods that governments deem critical has expanded well beyond the realms of defence and post-pandemic public health. “We cannot allow countries to use their market position in key raw materials, technologies, or products to have the power to disrupt our economy or exercise unwanted geopolitical leverage,” Janet Yellen, America’s treasury secretary, said in April. American export restrictions now include biotechnology software and the wherewithal for producing advanced semiconductors.

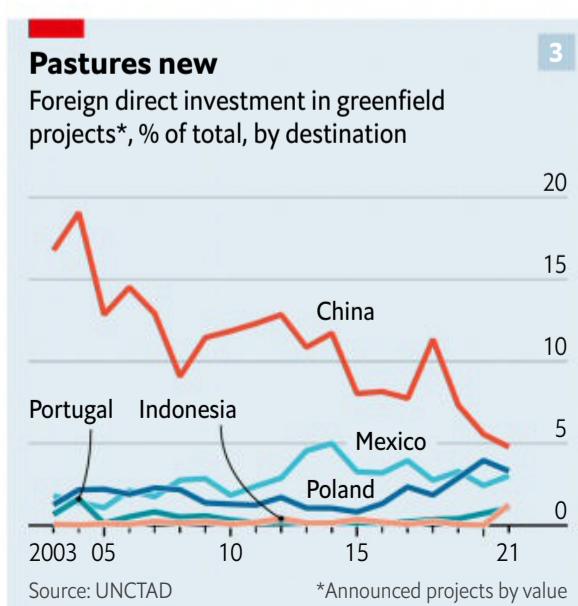
Industrial policy is increasingly *de rigueur*. More than 100 countries accounting for over 90% of the world’s GDP now have formal industrial strategies, according to a survey by the UN, with a particular frenzy of activity in recent years. Policies run the gamut from investments in basic research to those that shield “strategic” industries from foreign competition.

Many are informed by a growing appreciation of the size and scope of the industrial shift implicit in plans for net-zero emissions. The European Commission is dangling subsidies in front of makers of batteries and semiconductors. In America, where President Joe Biden began his term with a “Buy American” executive order, subsidies to help industry compete with China have attracted bipartisan support.

Reach out and touch

There is little evidence of rich countries “reshoring” production from abroad. In America imports form an ever-larger share of domestic manufacturing output—a sign that manufacturers are becoming more reliant on foreign suppliers, not less. American spending on factories, warehouses and the like, relative to GDP, is only a tiny bit higher than it was in the early 2010s, and far lower than it was in the 1970s and 1980s. Across the OECD club of mostly rich countries manufacturing’s share of GDP is around 13%, an all-time low.

But although reshoring is minimal, what happens off which shores is changing, as companies come to their own conclusions as to whether the risk of trying a new model exceeds the risk of sticking with the old. One fairly simple approach is to sign contracts with additional suppliers. Fully 81% of supply-chain leaders surveyed by McKinsey this year are now sourcing raw materials from two suppliers, rather



than depending on merely one. Evidence from Goldman Sachs, a bank, suggests that America is broadening the number of countries on which it relies for supplies, a trend that is mirrored in other rich countries. This does not in itself deliver robustness—if capacity does not increase, then a shock will still cut supply in the aggregate. But big capital-expenditure plans suggest that companies are trying hard to forestall such an eventuality.

Companies are also building up inventories—half-finished or finished products, left in reserve, which can be sold if demand suddenly ramps up or if fresh supply fails. This has big costs in terms of tying up money. The world's 3,000 biggest companies have increased their holding by the equivalent of 1% of global GDP since 2019, according to *The Economist's* analysis—and they want to do more.

The fact that industries are bearing those costs shows that they fear supply problems more than they used to. They may be paying for time to weigh their options and see how others respond before taking hard-to-reverse decisions such as moving plant or people. Some may think that larger inventories are a necessary response to supply-chain risks in perpetuity.

One family of hard-to-reverse decisions are those involved in vertical integration—either building the capacity to be your own supplier or buying up companies that already have that capacity. In some sectors this is a growing trend, driven both by supply-chain concerns and a desire to snatch back profit margins from suppliers.

The American computer sector is about 50% more vertically integrated than in the mid-2000s, as measured by the share of the industry's gross revenues accruing to companies in that industry (rather than outside suppliers). Vertical integration in the American car sector, meanwhile, jumped around 2019. Chinese firms have a dominant position in both the production of batteries and the processing of minerals required for them. So multinational carmakers elsewhere are building their own battery plants and even investing in mines (see Business section).

Wariness of China is prompting broader changes, too. Official statistics regarding FDI into China show it going from strength to strength, but these numbers are hard to reconcile with other sources. Another measure is "greenfield" FDI—the sort of capital injection that builds new offices or factories. Since 2019 China has commanded less than 10% of global greenfield-FDI inflows, down from a peak of close to 20% in the mid-2000s (see chart 3 on previous page).

The number of OECD countries whose equity FDI into China was smaller than their disinvestment from it was zero in 2005. According to analysis by *The Econo-*

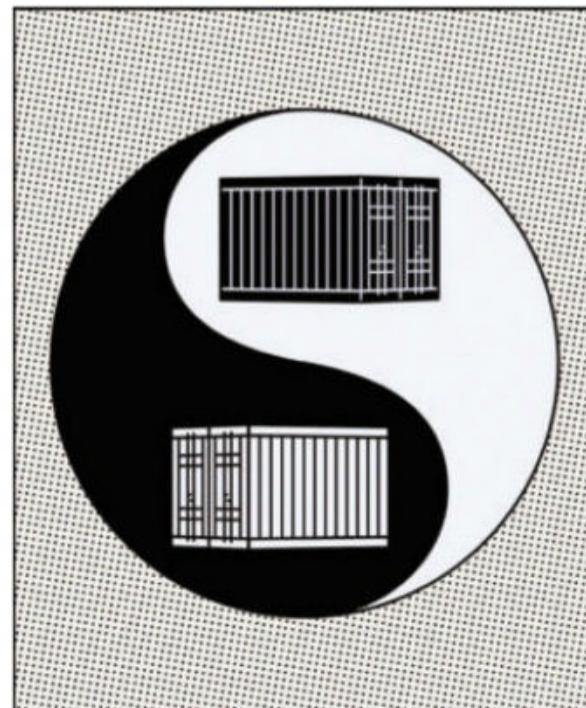


mist, that number had reached eight, or a fifth of the club, by 2019.

Employment tells a similar story. The share of American multinationals' staff based in China is drifting downwards. At the same time those companies are boosting recruitment in other parts of Asia. They employ nearly 400,000 people in the Philippines, a 10% rise since 2016. Nearly 1.4m people in India work for American companies, a 14% rise from 2016.

Ain't no mountain high enough

Other parts of Asia are the main beneficiaries of the not-China shift. In 2015 the total value of big democracies' FDI in China exceeded their comparable investment elsewhere in East Asia by 20%. Now those positions are reversed. In 2021 OECD countries imported roughly \$700bn-worth of Chinese-made "intermediate" goods (raw materials, components and the like), representing a modest increase from 2018. But imports of the same type of goods from Vietnam grew by 70% over the period.



There is plenty of increased investment elsewhere, too. The largest greenfield FDI projects announced in the past year have been Intel's \$19bn chip factory in Magdeburg, Germany, and Samsung's \$17bn chip factory in Taylor, Texas. On an annual basis Taiwan is injecting more than twice as much FDI equity into OECD countries as it did in the early 2010s.

Inward FDI figures for Mexico—a country forever talked up by apostles of nearshoring—remain unremarkable, but leading indicators of change are discernible. Firms that help suppliers relocate production to Mexico are being inundated with requests from Chinese companies looking to set up shop, according to Patrick Van den Bossche of Kearney, a consultancy. In May a company called Zipfox, which helps American businesses search for suppliers in Mexico, saw the volume of new customers on its website increase by 20%.

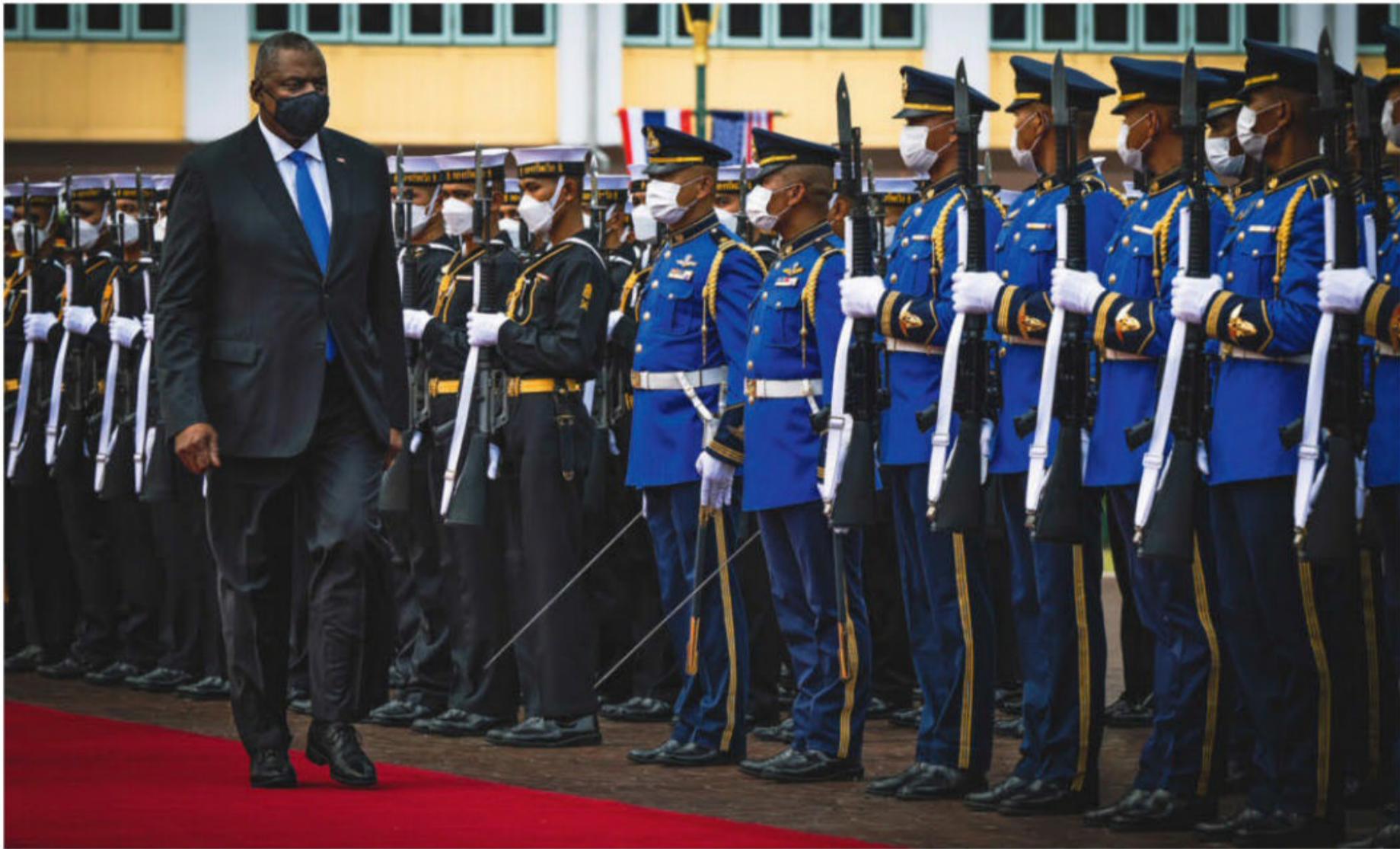
Mexico's appeal is largely down to the access to markets elsewhere in North America provided by the US-Mexico-Canada Agreement. Similar trade deals could make the restructuring of supply chains easier and cheaper. Unfortunately, America's leaders show no interest in persuading voters this would be worth doing.

Redesigning supply chains takes time, and noticing an effect takes even longer. The boss of a giant American manufacturer which now produces 90% of its products in China says it plans to boost investment in American and European manufacturing dramatically over the next five years. That will still leave China producing about half its goods. But the shift is under way.

The considerable costs of taking more than efficiency into account will fall on taxpayers, companies and consumers. The benefits should in principle be felt widely, too. But they may not be readily apparent. The world economy could become less vulnerable to shocks at a time when climate change and geopolitical tensions are increasing their frequency and intensity. Improving resilience could be a case of running to stand still.

Indeed some of the underlying tensions may be exacerbated. Attempts to boost economic security can create shocks of their own. This year the spectre of new tariffs on imported solar panels brought American solar projects to a standstill.

Increased economic integration did not bring about the greater global harmony that some had hoped it would. It is difficult to imagine that fragmentation will do much better, and it is all too easy to imagine it making things worse. That could be one of the reasons why, for a long time, changes to the fundamental shape of globalisation were much talked about but not much pursued. Now they are actually happening, they are contributing significantly to the new anxiety. ■



Working with friends and allies

A tale of two NATOs

ON BOARD A US MILITARY AIRCRAFT

How America tries to grapple with China while confronting Russia

RAMROD-STRAIGHT in a crisp green uniform, General Wei Fenghe, China's defence minister, saluted the audience before letting rip. "We require the us side to stop smearing and containing China. Stop interfering in China's internal affairs...If you want confrontation, we will fight to the end." His fire was aimed at the lumbering figure of Lloyd Austin, America's defence secretary and a former general.

Mr Austin (pictured above in Bangkok) had warned the same gathering that China was becoming "more coercive and aggressive"—militarising disputed islets in the South China Sea and provocatively probing Taiwan's defences. "We will fly, sail and operate wherever international law allows," Mr Austin insisted. America would continue to sell arms to Taiwan, while "maintaining our own capacity to resist any use of force or other forms of coercion".

The finger-jabbing worried many of those attending the Shangri-La Dialogue on June 10th-12th, an annual talkfest of ministers, generals and security experts in

Singapore held by the International Institute for Strategic Studies, a British think-tank. "I have a strong sense of urgency that Ukraine today may be East Asia tomorrow," fretted Kishida Fumio, Japan's prime minister. The fact that Generals Wei and Austin met to discuss "guardrails"—rules for encounters at sea and in the air, and hotlines—was reassuring. But it was also evidence of how fast the rivalry is deepening.

Mr Austin regards the Indo-Pacific, from Hawaii to the Maldives, as "the heart of American grand strategy". It is where the

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21 Closet industrial policy

21 A road-safety surprise

22 New York's worried commuters

22 At last, a deal on guns

23 Crypto power

24 Lexington: The case against Trump

country deploys the most forces (see chart 1 on next page). But can America credibly grapple with a rising China while also striving to repel Russia's aggression in Ukraine? Yes, avers Mr Austin. "We are walking and chewing gum. We're able to do that because of the strong network of alliances and partnerships that we have around the globe." America's ability to attract friends is a force multiplier (see chart 2), and ever more important as the challenges grow.

To travel with Mr Austin to Asia and Europe this month is to glimpse America's military might, and how it seeks to harness the "power of partnerships". He flew on an E4-B, "the Doomsday plane" from which American leaders can wage nuclear war, trailed by a C-17 transporter. Every few hours it was refuelled in mid-air by a daisy-chain of tanker aircraft lurking off the coasts of Alaska, Japan, Arabia and Italy. On the ground Mr Austin met Justin Trudeau, Canada's prime minister, at an American-Canadian nuclear bunker in Colorado; 20-odd ministers in Singapore; the Thai prime minister in Bangkok; and the defence ministers of 29 NATO allies in Brussels.

Yet not all allies are equal. In Europe America can rely on NATO, whose members are committed to defending each other under Article 5 of the Washington treaty. In Asia China accuses America of trying to recreate NATO—a contention Mr Austin denies. "We do not seek a new cold war, an Asian NATO or a region split into hostile

► blocs,” he insisted. Rather, America operates with a patchwork of security accords.

America thinks only China can challenge its global supremacy. Yet Russia is consuming much of the country’s attention, and billions of dollars, as America seeks to help Ukraine and strengthen NATO. Despite Europe’s wealth, says Eric Edelman, a former senior Pentagon official, “without the us to organise them, Europeans cannot defend themselves”.

Defence officials justify the priority given to Ukraine by arguing that, were Russia to succeed in taking land by force, it would encourage other autocrats to do the same elsewhere (eg, Taiwan). Many foreign-policy experts think the war in Ukraine, if it results in a defeat for Russia, would strengthen the West’s hand against China.

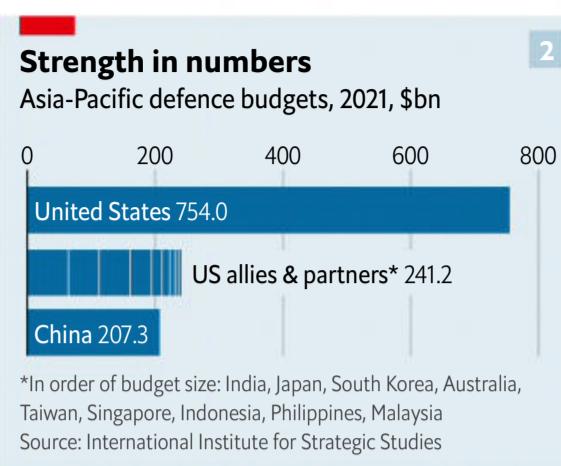
“Ukraine is facing a pivotal moment on the battlefield,” said Mr Austin, announcing another \$1bn in American aid, including more artillery and longer-range missiles—though well short of the amounts requested by Ukraine. He has stopped talking about helping Ukraine “win”. The blurry aim is something less—giving it “the means to deter and to defend” itself.

American officials boast that Mr Putin’s war is strengthening NATO: Sweden and Finland want to join. Yet all is not well. Turkey is blocking their accession (see Charlemagne). And allies are drifting apart over the endgame in Ukraine.

Hub and bespoke

NATO’s summit in Madrid on June 29th-30th will focus on the threat from Russia but will keep an eye on Asia. It will probably be attended by the leaders of Japan, South Korea and Australia. This is not yet the “league of democracies” that some have dreamed of. But as a Japanese official puts it: “The message is that security in Europe and Asia cannot be separated.”

Despite Mr Austin’s denial, many in America see benefits in trying to recreate something like NATO in Asia (one such body, the eight-member Southeast Asia Treaty Organisation, was dissolved in 1977). For



now, America gets by with what might be called a “non-treaty organisation”: a hub-and-spokes system of bilateral defence agreements with Japan, South Korea, Australia, the Philippines and Thailand, which do not have obligations towards each other. Japan, the weightiest of these, is hamstrung by its tradition of pacifism. Taiwan, the most dangerous flashpoint, has no formal diplomatic relations with most countries, and is excluded from America’s many regional military exercises. “Strategic ambiguity” prevents America from saying clearly whether it would intervene to stop a Chinese invasion.

For want of a more coherent system, America is building a fast-expanding set of ad hoc projects—a “networked security architecture”, as one official puts it. The “Five Eyes” (with Australia, Britain, Canada and New Zealand) share intelligence; AUKUS (with Australia and Britain) is developing nuclear-powered submarines and other weapons; and the Quad (with Australia, India and Japan) discusses everything from vaccines to maritime security.

In Singapore Mr Austin prodded Japan and South Korea to hold three-way exercises on missile defence, spurred by North Korea’s missile tests. With Japan and Australia, he pushed for more complex war-games and co-operation on defence technology. The result, says Tanvi Madan of the Brookings Institution, a think-tank in Washington, is unusual: “It’s not hub-and-spokes. It’s not NATO. It’s a spider’s web.”

This web may not be strong enough to contain China. Much depends on Japan. Mr Kishida promised a “substantial” rise in defence spending, though he did not commit himself to reaching 2% of GDP, NATO’s benchmark. A law from 2015 provides more leeway to help allies. Japan and Australia have signed a deal allowing them to station troops in each other’s countries. A new national-security strategy later this year may push things further.

India, the world’s largest democracy, is the trophy in America’s quest for stronger alliances. It is increasingly at odds with China. Its help in controlling the Strait of Malacca would be invaluable in any war with China. The Quad, which has started meeting at the level of leaders, seeks grad-

ually to draw India in. Yet India is wary of an alliance, and remains close to Russia, which supplies a lot of its weapons.

Another prize is ASEAN, the ten-country South-East Asian club. It includes fence-sitters such as Indonesia. “We do not believe in alliances that could in the end threaten other countries,” said Prabowo Subianto, its defence minister. Indonesia holds drills with America but does not want to upset a “benevolent” China.

America has pursued softer forms of collaboration, such as helping Asian governments to police their waters, not least against Chinese illegal fishing. An American coastguard cutter will be deployed to the region. A Quad summit last month promised to help Indo-Pacific countries improve “maritime domain awareness” by sharing information on ships at sea. A Chinese military source was scathing: “Monitoring fishing vessels means also monitoring military ships,” he said.

And what about staying power?

Ashley Townshend, of the Carnegie Endowment, an American think-tank, argues that America is still not doing enough in Asia. A mutual-defence treaty between the closest allies—America, Australia and Japan—could antagonise South-East Asian countries. Better to create a joint military command between them, Mr Townshend argues: instead of a NATO-like treaty in Asia, a small NATO-like military structure.

The great game in Asia is in full swing. Many in America are only dimly aware of it. On Mr Austin’s E4-B, the screens streaming American news channels barely noticed his globe-spanning defence diplomacy. They were offering competing views of the Capitol-riot hearings, guns and more. Which raises a nagging question: does an America so polarised at home have the will to sustain its dominance abroad? ■



Boots on the ground in Asia



The Defence Production Act Wartime, all the time

WASHINGTON, DC

A law meant to bolster America's security morphs into industrial policy

WHAT DO COVID vaccines, solar power, lithium mines and infant formula have in common? In America, the answer is a wartime mobilisation law from 1950, which the government is increasingly using in an effort to boost the availability of important things in short supply. The Defence Production Act (DPA) was in the past mainly a procurement tool for the armed forces. Under Joe Biden, it is fast becoming a part of the government's arsenal for managing the economy.

The DPA confers a range of powers on the government in the name of national security. It can compel firms to prioritise certain contracts and it can offer them incentives, from loans to purchase commitments. Its aim is to ensure that the private sector is producing what the public needs, and to make sure the public can get it.

For decades these powers have been applied narrowly. The Pentagon estimates that it uses the DPA some 300,000 times a year, but only as a standard contract clause: it can require firms to accept its orders when it makes hardware such as missile-defence systems. But the government has quietly expanded the DPA's remit over the years by redefining national defence in broader terms, extending it to natural disasters, terrorism and other emergencies.

Both Bill Clinton and George W. Bush, for instance, applied it during an energy crisis in California in 2000-01. Donald Trump invoked the DPA in March 2020 in response to the spread of covid. His administration required firms such as General Motors and 3M to make ventilators and masks. And it steered vital materials to pharmaceutical companies to expedite their production of vaccines in Operation Warp Speed.

Mr Trump was wary in his use of the DPA, even comparing it to the nationalisation of industry in Venezuela. Mr Biden, by contrast, has been far more enthusiastic. In 2021, shortly after his inauguration, he expanded its use in the production of both covid vaccines and diagnostic equipment. And in recent months it has become an obvious response to supply crises, not least because he can deploy it without getting bogged down in Congress.

First, in March, Mr Biden invoked the DPA to encourage domestic production of minerals needed to make batteries for electric vehicles. That could pave the way for the government to fund firms to extract

materials such as lithium and manganese. Next, in May, with America facing a shortage of infant formula, he called upon it again (based on the notion that public health is integral to security). Formula makers can now jump the queue to order ingredients. Then, on June 6th, he used the DPA yet again, to spur the production of clean energy such as solar power.

All this has met with two strands of criticism. Some see it as a way of making the White House seem to be doing something, though without serious funding it may accomplish little. Todd Tucker of the Roosevelt Institute, a left-leaning think-tank, counters this view, noting that the government can potentially use the DPA to redirect existing funding and provide aid to

firms, including gifts of equipment. "If the government uses these powers expansively, they could lead to substantial reshoring of the solar industry," he says.

Hence the second criticism: that the DPA will, as Mr Trump warned, make for a more interventionist state, harming the economy. Its much wider use is still fairly new, and legal challenges about the stretched definitions of national defence may emerge. Still, given the depth of America's supply problems today, it is good public policy to test the limits of the DPA, to see what it can accomplish, says Jamie Baker, a former legal adviser to the National Security Council. After all, clarity about what the law does and does not allow is yet another thing in short supply. ■

Road safety

Truth kills

Shocking drivers with road-death statistics leads to more crashes

There have been 1,669 deaths on Texas roads this year

WHEN JOSHUA MADSEN first saw a message like this displayed above the highway, he was confused. "It was very sobering," he says, "but I didn't know what I was supposed to do." He started noticing more messages: 28 states have displayed death tolls on electronic road signs, to encourage safe driving. But in a recent paper published in *Science*, Mr Madsen and his colleague Jonathan Hall found that the messages actually increase the number of crashes.

The study focused on Texas, where the year's cumulative death toll from road accidents was displayed on highway signs one week in four. The authors found that, between 2010 and 2017, there were more accidents in the weeks when death counts were shown. Most excess crashes happened in the kilometre after a sign, but for several kilometres there was still an elevated risk (see top chart). In the 10km after a message there was a 4.5% rise in accidents—some 2,600 extra crashes and 16 deaths each year in Texas.

The authors think that the sombre messages may be distracting drivers. Busier sections of road that required drivers to pay the most attention had the biggest proportional increase in crashes. The effect of the signs also depended on how shocking the figures were. Early in the year, when the total death count was low, there were fewer crashes in weeks with messages. But the signs had a far more negative impact as the number of deaths ticked up (see bottom chart). The study highlights how seemingly in-

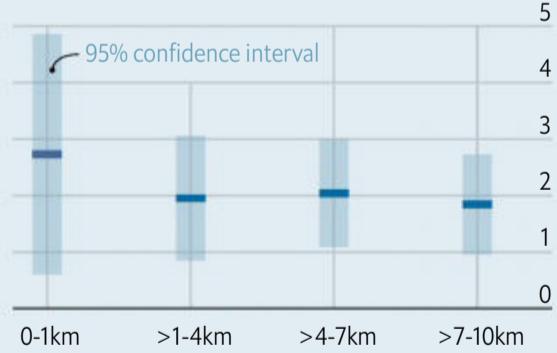
nocuous "nudges", used by governments to try to change behaviour, can backfire.

Luckily America's government has given a nudge of its own. Last year the Federal Highway Administration released a memo clarifying that it was inappropriate to use electronic highway signs to display death tolls. There was no safety in numbers.

A deadly distraction

Texas, effect of roadside fatality messages*
% change in crashes per hour, 2010-17

By distance from message



By fatality count displayed



← Least Number of fatalities shown Most →

*Messages shown one week a month from 2012
Source: "Can behavioral interventions be too salient? Evidence from traffic safety messages", by J. Hall et al., *Science*, April 2022

New York City

Nothing to fear but fear itself?

NEW YORK

Safety concerns are putting people off returning to their Manhattan desks

BEFORE THE pandemic, Alexa, who works in finance, did not think twice about taking the subway. She hopped on day or night, never worrying about safety. That has changed. “I avoid taking it if at all possible,” she now says. Safety concerns are one reason people are hesitating to go back to their Manhattan desks.

By late April, only 8% of New Yorkers had returned to their offices five days a week, according to a survey of employers by Partnership for New York City, a business group. On an average weekday, 38% of Manhattan office workers were in the workplace. More than a quarter were fully remote. Firms are trying to bring workers back through mandates or incentives such as free meals and Ubers. But after more than two years of remote working, people have grown used to it. Few miss the commute. Some continue to worry about catching covid-19.

And some worry about crime. On the city’s transit systems it has increased by 56% since the start of this year. A recent report by Nicole Gelinas of the Manhattan Institute, a New York think-tank, found that as ridership gradually returned in 2021, violent crime did not decline in tandem, as some thought it might.

Christopher Herrmann, of John Jay College of Criminal Justice, points out that crime before the pandemic was exceedingly low, which exaggerates the recent rise. “I understand the fear,” he says, but “I got a

five times better chance of winning the Big Six lotto than I do getting victimised on the New York City subway.” Although ridership is still only around 60% of what it was pre-pandemic (on the London Underground, by comparison, passenger numbers are much closer to pre-covid levels), some 3m people use the subway every day without incident. Yet people fret.

“Perception is reality,” says Andrew Rigie of New York City Hospitality Alliance, which represents restaurants and bars. Those are struggling to return to normal. “Crime, or the perception of it, is impacting consumer behaviour,” says Mr Rigie.

A few high-profile murders have shaken confidence. In January Michelle Go, who worked at Deloitte, a consultancy, was fatally shoved from a Times Square subway platform onto the tracks in midmorning. In April a gunman shot ten people on a train during the morning rush hour. Last month Daniel Enriquez, who worked at Goldman Sachs, a bank, was randomly killed on the subway on his way to Sunday brunch. Last week a man stabbed two passengers without provocation.

Eric Adams, New York City’s mayor, won election promising to improve public safety. He has released blueprints for tackling violence and unveiled a subway-safety plan with Kathy Hochul, New York’s governor, who controls the subway (the NYPD is charged with keeping it safe). He has put money into mental health and homeless services. He has appointed a gun-violence tsar. He may deploy officers to each train, as was done in the 1980s.

The Riders Alliance, an advocacy group, has produced its own subway-safety plan, which calls for more transit workers rather than more cops. When the Partnership for New York City asked employers to identify what would be most effective in encouraging employees to return to the office, 31%

pointed to reducing the presence of homeless and mentally ill people on streets and subways; 22% pointed to expanding police presence on the streets and subways.

After Mr Enriquez’s murder, Mr Adams held a call with business leaders to reassure them. He ordered municipal office workers back to their desks. Since April his police commissioner has held public-safety briefings for firms. This has helped alleviate fears, says Kathryn Wylde of the Partnership for New York City. Another poll by the Partnership suggested that workers will resist returning to the office until the city and subway are safe. Mr Adams knows the city cannot afford to lose those workers. He has said repeatedly that “public safety is the prerequisite to prosperity”. ■

Gun control

Murphy’s law

NEW YORK

Finally, a bipartisan compromise in the Senate on guns

GETTING SENSIBLE gun reform has long been thought to be all but impossible. Yet on June 12th ten Democrats and ten Republicans reached an agreement designed to curb gun violence. If passed into law, it could be the most significant reform in three decades. “This is not window dressing,” Chris Murphy, the Democratic senator from Connecticut who co-led the negotiations, told “The Economist Asks” podcast. “This isn’t just checking a box.”

Some reformers are disappointed not to see a ban on assault weapons—the sort used in recent mass-shootings in Buffalo, New York, where a white supremacist killed African-Americans in a supermarket, and in Uvalde, Texas, where a gunman murdered 19 children and two teachers. The text of the package is still being written, but it seems the deal includes several measures applauded by advocates of gun control, while at the same time appealing to those worried about preserving the constitutional right to bear arms.

The agreement envisages badly needed funding for mental health and school safety. It would give money to help states pass and implement red-flag laws, which take guns away from people deemed a danger to themselves or others. The agreed framework also closes the “boyfriend loophole”, so that convicted domestic abusers cannot buy a gun—according to Everytown, a gun-reform group, 70 women on average are shot and killed by an intimate partner every month. And it includes what would be the first federal law against gun-trafficking and “straw purchasing” (buying a gun on



One stop on the journey back to normality

behalf of someone prohibited from possessing one). In theory, that could help stop the illegal flow of guns into cities.

Democrats, including President Joe Biden, had hoped the legal age to buy certain weapons would be increased from 18 to 21. Republicans, hesitant to do so, instead made it harder for young people to acquire guns, by enhancing background checks, including sharing juvenile records.

The senators said that “our plan saves lives while also protecting the constitutional rights of law-abiding Americans.” That second part is why change was never going to be sweeping. John Cornyn, the Republican senator from Texas who co-led the negotiations, has framed it as a mental-health bill rather than a gun one. This presumably is how he intends to get Republicans to vote for it. Having ten Republicans, plus Mitch McConnell, their Senate leader, who said on June 14th that he supported the framework, bodes well for its passage in the Senate. Sixty of the 100 Senate votes are needed to overcome a filibuster.

What was different this time? “I just think there was something very emotionally cataclysmic about Buffalo and Uvalde happening together at the same time,” says Mr Murphy, who has been fighting for gun reform since 2012, when 20 children were killed in Sandy Hook primary school. In addition, he points out, a decade ago the anti-gun-violence movement did not exist. Now it has thousands of activists.

Mr Murphy is no stranger to failed bills. “Obviously, I know everything could fall apart,” he says. But he is confident it will not. “We have a much greater chance of getting this done than failing.” Chuck Schumer, the Democratic Senate majority leader, has said the legislation will be ready for a vote within days.

Speed is of the essence. According to Brady, a gun-control group, on an average day in America more than 320 people are shot. “My guess”, says Mr Murphy, “is that this is going to stop thousands of homicides and suicides, not just one or two.” ■



Listen to the interview

Senator Chris Murphy talked to us on June 15th for our weekly podcast “The Economist Asks”. For the full interview, go to: economist.com/chrismurphy-pod



Bitcoin miners

More power to them?

CHICAGO

The crypto crash will shake up attempts to rescue old power plants

ACENTURY AGO, the hydroelectric dam at Hatfield, a tiny town on Lake Arbutus in west-central Wisconsin, was a marvel of modern engineering. The electricity generated there powered the street cars and factories at La Crosse, on the Mississippi, and in Winona, another lumber town across the river in Minnesota. Cheap power was “making this city practically an electrically operated manufacturing point”, reported the *Winona Republican-Herald*, a now-defunct newspaper, in 1922.

Nowadays, the dam and the redbrick power plant on top of it are of less use. There is less manufacturing, and west-central Wisconsin gets most of its power from much bigger coal, gas and nuclear plants. Since April, however, a new industry has quietly been humming away at the dam. Around 400 computers now use the spare electricity generated to “mine” bitcoin: that is, solving cryptographic problems in the hope of winning some of the 6.25 new bitcoin automatically created every ten minutes.

The project, which is run by Digital Power Optimisation, a New York-based company, on behalf of the dam’s owner, is intended to “solve an energy headache”, says Andrew Webber, the firm’s boss, by using up surplus electricity. It is one of dozens if not hundreds of similar projects, of various sizes, that have been sprouting all over America in an attempt to acquire electricity cheaply at the source. The cheaper your electricity, the easier it is to make a profit from mining bitcoin.

In recent months, the cryptocurrency

boom has deflated dramatically. Bitcoin has lost 70% of its value since November; it dropped by 17% on June 13th alone. Many firms that had flourished are in trouble. Coinbase, a big bitcoin exchange originally from California, which went public last August at a valuation of \$86bn, this month has rescinded job offers and is cutting 18% of its staff. But mining projects, curiously, still seem to be growing. Computer farms making use of solar power, wind power and, more worryingly, gas and coal continue to be set up. In New York legislators are concerned enough about the prospect of redundant fossil-fuel plants being resurrected for crypto mining that on June 3rd they passed a law banning such projects. It remains to be seen whether Kathy Hochul, the governor, will sign it.

Given the crypto bust, why hasn’t the mining boom yet come a cropper? As Mr Webber explains, bitcoin mining has an in-built hedge. When the price falls, it is the miners with the least efficient equipment and the most expensive energy who are wiped out. But since the amount of bitcoin created is fixed, that means the remaining firms in the market each win more, counteracting the fall in price.

The result is a constant rush towards cheaper electricity and more powerful computing equipment. Many of the newest projects in America are run on behalf of energy firms, says Mr Webber, which can use spare power that they could not otherwise sell. “If you’re producing low-cost energy, you’ll outlast,” he says.

Much of the mining capacity that is being wiped out is probably not in America, says Alex de Vries, a Dutch economist who runs Digiconomist, a website that tracks bitcoin’s energy use. After China banned bitcoin mining last year, a lot of Chinese mining computers ended up in places like Kazakhstan. But that equipment is ageing and the power it consumes is not so cheap. “Those are the kind of devices that will go out of business first,” says Mr de Vries. By contrast, for the newer American mines to go bust, the price of a bitcoin would have to fall from its current level of around \$22,000 to perhaps half that, he says. America’s share of the “hash rate”—the computing power on the network—rose from 11% to 38% in the year to January.

In recent years many states have rushed to attract bitcoin miners. Last year Kentucky exempted them from sales tax. Texas has made it easier for oil and gas firms to sell energy to them. But bitcoin mining is, by design, a zero-sum competition: not everyone can win. New York’s new law is based on fears that mining is simply boosting carbon-dioxide emissions. The positive case for it in places like Hatfield relies on the idea that clever financial engineering can increase green electricity production by more than the computers use. ■

Lexington | The criminal case against Donald Trump

The January 6th committee is doing the Department of Justice's work for it



THE HOUSE'S January 6th committee has a few aims for its public hearings this month. Some of its nine members speak of leaving a historical record of Donald Trump's attempted election heist. Its Democratic ones must hope to give their party a much-needed bump for the mid-terms. But Liz Cheney appears wholly intent on the objective she outlined last year: ensuring that "the former president never again gets anywhere near the Oval Office".

Abandoned by her party, the congresswoman from Wyoming cannot achieve that politically. Therefore—her opening remarks at the first hearing on June 9th suggested—she has shifted her attention to the Department of Justice.

A former lawyer, Ms Cheney laid out the case against Mr Trump in prosecutorial style. The violent insurrection after which the House committee is named, she said, was a predictable and predicted result of his big lie. He "summoned the mob, assembled the mob and lit the flame of this attack". The arsonist, she said, then stood back to see how the violence might help him.

Mr Trump made no effort to defend the Capitol. When his advisers pleaded with him to call off the rioters, he angrily refused. The insurrection, Ms Cheney suggested, was not an unfortunate culmination of his lies; rather it represented his last throw of the dice in a "sophisticated seven-part plan to overturn the presidential election and prevent the transfer of presidential power".

She promised that the six ensuing hearings this month would examine each of those seven parts. They are, first, Mr Trump's effort to spread misinformation about an election he had lost; second, his scheme to replace the acting attorney-general and suborn the Justice Department; third, his leaning on the vice-president, Mike Pence, to illegally refuse to certify the electoral vote; fourth, his effort to make state election officials and legislators change their vote-counts; fifth, a scheme executed by his lawyers to persuade Republican state legislators to create false electoral slates and report them to Congress; and sixth and seventh, his summoning of the MAGA mob and refusal to act as it tore up the Capitol.

Though each part is familiar (and, arguably, proven), Ms Cheney's confidence in asserting that they add up to a meticulously planned and perhaps criminal conspiracy was striking. Her remarks, and the second public hearing on June 13th, suggest this is

fuelled by two factors: the evolving legal context and the quality of the evidence the committee has unearthed.

The context owes much to a ruling by a federal district-court judge in California in March. Asked whether one of Mr Trump's lawyers, John Eastman, could withhold a trove of emails from the committee by citing attorney-client privilege, Judge David Carter said he could not, because that privilege was obviated by a likelihood that Mr Trump used his advice to commit crimes. He considered that by leaning on Mr Pence, Mr Trump had "more likely than not" broken federal laws against "[conspiring] to defraud the United States" and corruptly obstructing government business. Though not a criminal verdict, which would require a heavier burden of proof, this was a dramatic moment in presidential history. If convicted of the crimes Judge Carter says he probably committed, Mr Trump could spend the rest of his life in prison.

Probably the biggest legal impediment to that would be the difficulty of establishing criminal intent. It would have to be proved beyond reasonable doubt that Mr Trump secretly knew that he had lost the election, so acted not merely inappropriately but corruptly. This is where the high quality of the testimonies and other evidence the committee has gathered could be telling.

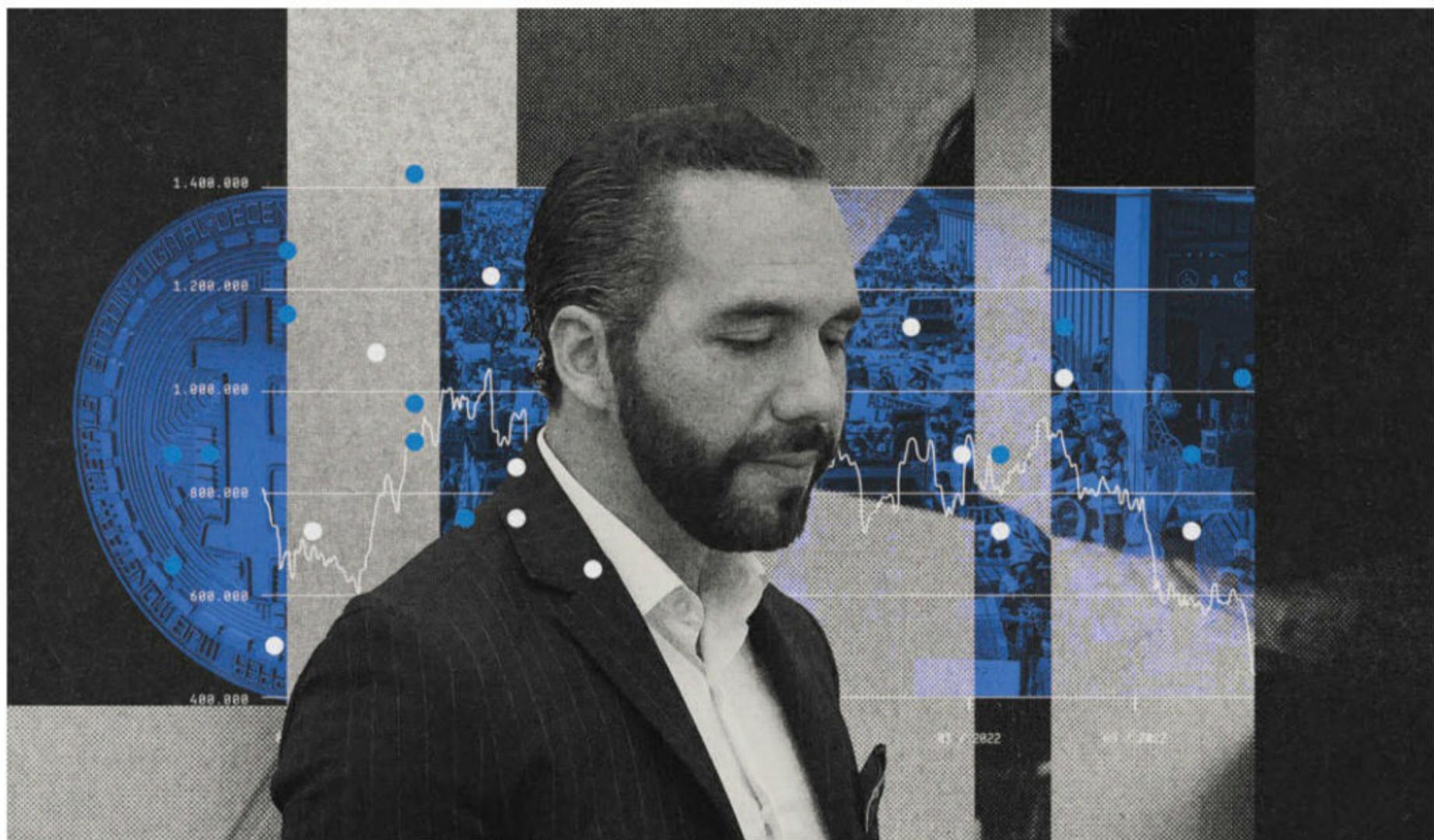
The second hearing, which examined the launching of Mr Trump's big lie, delved into the former president's state of mind in order to portray his misinformation as a tactic, not a genuine belief. Mr Trump said, months before the election took place, that he could lose it only if it were stolen. (Pre-emptively discrediting institutions is a staple of his method.) The stunning announcement by Fox News, on election night, that he had lost Arizona made it likely that indeed he had lost. In response Mr Trump, egged on by his "inebriated" adviser Rudy Giuliani, called the election a "fraud on the American people" and declared victory.

The committee will argue that this, the first stage of Mr Trump's "seven-part plan", established a pattern for the rest. Whenever he was informed that his latest conspiratorial ruse was untenable, as his last two attorneys-general and other advisers said he repeatedly was, Mr Trump did not deny it but, like a cartoon character hopping from floating log to log, shifted to his next gambit. In such circumstances, he had no reason to believe that he had won the election—which would be sufficient to establish criminal intent on one of the two charges Judge Carter considered. And his tactical behaviour implied he did not believe it, which could establish criminal intent on both charges. After just two hearings, the legal case against Mr Trump is looking stronger.

Whether Merrick Garland might charge him is another matter. While prosecuting hundreds of foot-soldiers of the Capitol riot, Joe Biden's attorney-general has given no indication that he intends to pursue Mr Trump. A cautious institutionalist, Mr Garland is intent on removing Mr Barr's taint of politicisation from his department. Arresting the previous president would make that hard.

Merrick's dilemma

As Ms Cheney knows, the prospects of blocking Mr Trump electorally are receding. Most Republicans say he won the election and hardly any Republican politician dares say otherwise. On June 14th a Trump-backed primary challenger defeated Tom Rice of South Carolina, making him the fifth of the ten Republican House members who voted to impeach Mr Trump to be pushed out. Mr Trump is the clear favourite to be the Republican nominee in 2024. It is why Mr Garland's decision looks so important. Yet that will perhaps make him even more reluctant to act. ■

**El Salvador**

Cryptocracy

EL ZONTE

President Nayib Bukele's gamble on bitcoin has so far been a costly flop

WHEN A PRESIDENT boasts that he manages the country's wealth from his smartphone while naked, it hardly inspires confidence. Even less so in a country that has a debt-to-GDP ratio of 84% and least of all when the president is investing in bitcoin, which this week fell to its lowest value in 18 months. Welcome to El Salvador, which became a tech bro's playground a year ago, when President Nayib Bukele, its social-media-obsessed leader, made the cryptocurrency legal tender.

In June last year, at a cryptocurrency conference in Miami, Mr Bukele announced that the Central American country would be the first to adopt bitcoin as an official currency, alongside the American dollar. In September, a day before passing the so-called bitcoin law, which made it compulsory for businesses to accept the cryptocurrency, Mr Bukele also started to use public funds to invest in bitcoin.

Today passengers arriving at the airport in San Salvador, the capital, are greeted by a blue ATM labelled "Chivo" ("Cool"), the name of the country's digital wallet, at

which bitcoin can be bought or converted into cash. Hotels in El Zonte, a beach town that was a testing ground for bitcoin thanks to the arrival of an American crypto advocate there, loudly advertise that they accept the cryptocurrency. The government plans to issue "volcano bonds", which would be partly backed by bitcoin, to fund the building of "Bitcoin City", a tax haven powered by geothermal energy from a volcano, in order to attract crypto miners.

But all the hype notwithstanding, introducing bitcoin as legal tender has not been a wild success. For a start, few ordinary folk use it. Most Salvadorean adults downloaded the Chivo wallet, which the government promoted by giving the bitcoin equivalent of \$30 to everyone who signed up. But fewer than half of them have continued to use it after spending this gift. Bitcoin, which

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28 Bello: Protests in Ecuador

has lost 70% of its value since November, is far too volatile to be a good store of value, especially in a country where GDP per person is \$4,400. (This has not deterred the Central African Republic, which is even poorer, from following El Salvador's lead and adopting bitcoin in April.) "One day it's up and one it's down," says Efrain García, a construction worker. "I could lose a lot." Only 1.6% of remittances arrived through crypto wallets in April.

Similarly, only a fifth of businesses follow the requirement that they accept bitcoin. This is despite the central bank's promise to exchange the cryptocurrency for dollars immediately, to shield them from volatility. In El Zonte food kiosks only accept cash. At a hotel the receptionist says some people do use bitcoin to settle their bills, "but usually Americans".

It is unclear how much money Mr Bukele has spent on bitcoin, since the government does not make its investments public. Those who track the president's tweets, and take him at his word, reckon the government has lost about half its investment, or \$50m to date (see chart on next page). That is not catastrophic, but a clear indication of what can go wrong. Félix Ulloa, the vice-president, argues that the cryptocurrency is a long-term investment. But there is no guarantee it will be a profitable one, and a poor country like El Salvador cannot afford to gamble.

That such a volatile asset could be made legal tender at all says much about Mr Bu-

►kele's style of leadership. Since taking office the "world's coolest dictator", as he calls himself, has ruled the country of 6.5m like a private fief. After winning a majority in elections in 2021, he appointed loyalists to institutions such as the constitutional court. There was no debate on making bitcoin legal tender, notes Claudia Ortiz, an opposition lawmaker.

Many fret that bitcoin will decrease transparency. Some reckon it is a way for officials to evade possible American sanctions. Others fear bitcoin opens the way for money-laundering and corruption. Several ministers were under investigation for misuse of pandemic funds before Mr Bukele fired the attorney-general. Cybersecurity is also an issue. It is unclear if anyone aside from Mr Bukele knows El Salvador's bitcoin keys, the codes needed to prove ownership and make transactions.

Mr Bukele tweets about bitcoin in English. That suggests his audience is abroad. Indeed the president, who has a team dedicated to monitoring popular opinion, has been talking less about bitcoin of late, having shifted his focus to gangs. Since a spike in killings in March, some 40,000 people have been arrested. Such autocratic policies are popular. Mr Bukele's approval ratings hover at around 80-90%.

But the economy may yet disillusion voters. After growing by 10.7% in 2021, thanks to the lifting of restrictions related to covid-19, it has slowed sharply. Growth of 2.9% is predicted this year. Foreign direct investment rose by 12% in 2021, but remains a lowly 1% of GDP. It is unlikely that the bitcoin gambit will create many jobs.

El Salvador's economy was in a dire state long before Mr Bukele came to power in 2019. The country has few productive industries; it is instead dependent on remittances, which amount to more than 20% of GDP. Despite the high public debt (84% of

GDP), the government projects a budget deficit this year of 5.7% of GDP. Financing that is proving tricky. Mr Bukele's penchant for crypto, as well as his authoritarian tendencies, have prompted the IMF to stall negotiations on a \$1.3bn loan. Rating agencies have downgraded El Salvador's creditworthiness, making it more expensive for the government to borrow. The volcano bond issue has been delayed. The government's investments in bitcoin add further uncertainty to the mix.

The government is likely to scrape together the cash to make a bond payment of \$800m in January. It will want to avoid default ahead of Mr Bukele's bid for re-election in 2024. But the strains are showing. Even as the legislature approved expenditure on financial infrastructure to promote the use of bitcoin, it cut spending on education and health. The government has also cut budgets for local councils. A volatile currency and a volatile leader suggest a volatile future for El Salvador. ■

Colombia

Here comes Rodolfo

BUCARAMANGA

Rodolfo Hernández is riding a wave of anti-establishment discontent

THE CASA NARIÑO does not look like the headquarters of a political campaign, despite being recently named after Colombia's presidential palace. The two-storey house in Bucaramanga, a sleepy mid-size city, has just one or two campaign posters on the walls. A handful of supporters mill around outside, selling homemade hats and shirts. Yet this is where Rodolfo Hernández, a 77-year-old civil engineer, millionaire and former mayor of Bucaramanga, has based a threadbare campaign for president which has made him a surprise front-runner. Polls suggest he is tied with Gustavo Petro, a leftist former guerrilla, ahead of the run-off on June 19th.

When Mr Hernández renamed the property last year, his ambition to become president looked forlorn. As mayor of Bucaramanga Mr Hernández became a local celebrity for running an austere, budget-balancing city government after decades of rampant corruption. But his short temper, manifested in profanity-laced diatribes against the city's political establishment and an incident in which he slapped a city councillor, made him as many enemies as friends. Elsewhere, few had heard of him.

What explains his rise? "Hernández has no filter," explains Luna Mantilla, a 17-year-old volunteer for his campaign, wearing a pin emblazoned "Logic, ethics and aesthetics" (a campaign slogan inspired by Immanuel Kant, Mr Hernández's favourite philosopher). "Other politicians, they only say what they really think when they're away from the cameras. The engineer has always been his true self," she adds.

In a normal election year, Mr Hernández's unfiltered style and frequent gaffes would have been a liability. But 2022 has been far from normal in Colombia. After the upheaval of the pandemic, a devaluation of the peso and spiralling inflation,

many voters have lost faith in the political establishment. In a survey in May some 74% of those asked believed the country was heading in the wrong direction. Corruption is felt by many to be the country's biggest problem.

Mr Hernández has run on a simple message: "Don't rob, don't lie, don't betray and zero impunity." Yet his success is also partly due to a clever social-media campaign run by a tiny staff of young supporters out of the repurposed bedrooms of the Casa Nariño. On TikTok, a video-streaming app, Mr Hernández has 600,000 followers. He posts about five videos a week.

In a similar vein, viral WhatsApp groups bring together *rodolfistas* in different parts of the country. Jeiver Sánchez, a 38-year-old owner of a car shop, comes from a small town in Vichada, an eastern province that Mr Hernández appeared nev-



From TikTok to top dog?





From aspiring dressmaker to famed fashion designer.

Chasity learned how on YouTube.

Chasity loved sketching dresses, but had no idea how to make them, so she learned how on YouTube. A year later she was making gowns to order, and today her fashion brand, Chasity Sereal, is recognized from the catwalk to the big screen.

For more on how people are growing careers and business opportunities with YouTube, visit yt.be/impact



Bello Ecuador reverts to type

The president has little chance of implementing his reform programme

IN 2019 AN uprising by Ecuador's indigenous movement and its allies brought mayhem to Quito, the capital, and forced the centrist government of Lenín Moreno to cancel a rise in fuel prices, a climb-down from which it never recovered. This week CONAIE, the indigenous federation, was on the march again. It blocked roads, including the highway connecting Ecuador to Colombia, in a trial of strength for Mr Moreno's successor, Guillermo Lasso, a conservative former banker. This time the demands are vague. The protest, which CONAIE says will be "indefinite", is one more difficulty for a president facing a proliferation of problems after just one year in office.

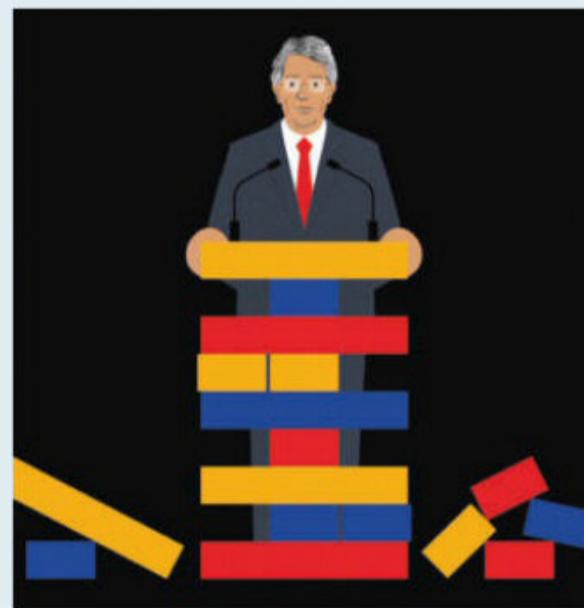
Mr Lasso promised a business-friendly government that would boost languishing economic growth and plug a chronic fiscal deficit. He has proposed tax and labour reforms and measures to attract private investment. He got off to a strong start thanks to a successful vaccination campaign. But he won last year's run-off election for the presidency mainly because of popular distaste for his opponent, the nominee of Rafael Correa, a populist leftist strongman who governed from 2007 to 2017. In an earlier legislative election, Mr Lasso's party won only 12 of the 137 parliamentary seats. The result is that the National Assembly, which has a left-of-centre majority, has blocked his reform bills. The government's only significant legislative achievement, a tax reform that mainly increases the burden on the rich, was adopted by decree.

The economy is recovering from the pandemic, albeit slowly. Inflation, at 3.4%, is among the lowest in Latin America, partly because Ecuador has used the US dollar as its currency since 2000. The recent surge in the oil price has provided

a windfall, and means the government may manage to balance the books this year for the first time since 2000. Mr Lasso insists that he has "built a bridge" to a better country. Yet Ecuadoreans do not see the improvement. Rather, they worry about a crime wave, much of it linked to drug gangs. That did not start with Mr Lasso, but he has to deal with it. Murders almost doubled last year, and 380 people have died in prison massacres since the start of 2021. There are complaints, too, of a decline in the quality of public services, from the speed of passport renewal to the availability of medicines.

In a speech in May marking his first year in office Mr Lasso offered up a long list of spending promises, including extra police. But few are holding their breath. "This is a government that works in silence," he said, which may be one of its problems. His approval rating, which soared to over 70% because of the vaccination campaign, has dropped to under 30%. That makes him vulnerable.

The opposition is flexing its muscles. Last month it ejected the speaker of the



National Assembly, who was friendly to the government. Supporters of Mr Correa are backing CONAIE's protests. "The opposition is moving from a position of blocking everything to one of destabilisation," says Sebastián Hurtado, a political analyst. "The more radical groups are seeking to exploit the situation." That may explain why the government this week arrested Leonidas Iza, the Marxist president of CONAIE, holding him responsible for "vandalistic actions" which it said included attacks on police cars, commercial farms and an oil-pumping station. Though quickly released again, he faces charges.

Much depends on whether bus and truck operators join the protests. The rampage in Quito in 2019 damaged the indigenous movement's reputation among city folk, and Mr Lasso froze fuel prices last October. That could help him weather the protests, but does not ensure more lasting success. "The government won't be able to get reforms," says Mr Hurtado. "He's a lame duck for the rest of the presidential term."

Before Mr Correa, who benefited from a huge oil windfall, each of the previous five presidents lasted only two years on average. Could that be Mr Lasso's fate? Some of his advisers want him to invoke a constitutional device whereby he could call a fresh general election, risking his own job in the hope of securing a more pliant legislature. So far he has rejected that option. "Ecuador doesn't need more elections," he said last month. "What Ecuador needs is to be governed, and governed well."

Indeed so. The question is whether the country will allow a broadly liberal government to try to do just that or instead plunge back into a labyrinth of instability and populism.

er to have heard of in an interview in February. This oversight did not deter Mr Sánchez. He uses WhatsApp to corral his friends into caravans to drum up support for the candidate. According to Rest of World, a tech news website, the campaign also uses Wappid, a marketing tool, to boost its presence on social networks.

Many voters are likely to plump for Mr Hernández reluctantly, in the hope of stopping Mr Petro. His programme remains flimsy. Much like Nayib Bukele, the president of El Salvador and one of Mr Hernández's idols, he talks a lot about clamping

down on corruption, without going into much detail on how he would do so. (In July Mr Hernández himself is due to stand trial on a corruption charge involving the licensing of a rubbish-collection service which allegedly would have benefited his son. He denies wrongdoing.)

Mr Hernández's programme defies categorisation. It includes proposals that would never pass muster with Congress or the courts, such as fully legalising cocaine. He has said he would decree a state of emergency upon taking office, allowing him to overrule Congress for 90 days. That

points to his most consistent instinct: an autocratic approach to governing.

But Mr Hernández may not be as anti-establishment as he sounds. He has met business leaders since early 2021, says Germán Calle, a friend. Mr Calle adds that Mr Hernández is forming a "cabinet of businesspeople" to work in parallel with his government if he is elected, with a direct line to the president. That may reassure investors. But for people like Mr Sánchez and Ms Mantilla, who want radical change, the septuagenarian politician may end up being something of a disappointment. ■



**Indian defence**

Take my arms

DELHI

The West has a chance to wean India off Russian weaponry

JOINT WEAPONS production between India and the West has a long and chequered history. Consider the Tejas fighter jet, whose development was approved in 1983 by Indira Gandhi, the prime minister of the day, to replace ageing Soviet-made MIGs. Two years later her son, Rajiv, persuaded Ronald Reagan to provide “fly-by-wire” technology allowing pilots to control the plane electronically. Keen to erode Soviet influence in India, America supplied engines too. French engineers were sent to help an Indian state-owned defence company design the new aircraft.

Yet the Tejas entered service only in 2016, around 20 years later than planned. India's navy cancelled its order when it found that the plane was too heavy to take off fully fuelled and armed from aircraft-carriers. An updated model looks more promising, but won't be ready in time to tackle India's shortfall of more than 100 fighter jets over the coming decade.

Perturbed by India's reluctance to condemn the Russian invasion of Ukraine and keen to bind the country closer in con-

fronting China, Western governments have launched a fresh push to wean India, the world's biggest importer of arms, off its long dependence on Russian weaponry. As they cannot compete with Russia on price and remain reluctant to share their most cutting-edge technology, they are counting on joint arms production.

India, for its part, has grown increasingly alarmed about China, following deadly border clashes in 2020. Since the war in Ukraine began, it has also worried about Russia's reliability as an arms supplier and about the quality of some of its weapons. But both India and Western countries would do well to remember the story of the Tejas and try to resolve some of

the problems that hampered co-operation in the past.

Western leaders have been vocal about their willingness to help India arm itself. At a ministerial meeting in Washington in April, American officials discussed helping India to make advanced weapons, including reconnaissance aircraft and a system for combating aerial drones. On visits to Delhi that month, Boris Johnson, Britain's prime minister, and Ursula von der Leyen, the European Commission's president, also proposed joint arms ventures.

India, though insistent that it has every right to choose its own suppliers, is already diversifying away from Russia. It is buying more from France and Israel, in particular. The share of weapons it imports from Russia has fallen sharply, to around 50% between 2016 and 2021, down from 70% during the previous five-year period. It has welcomed Western help in fulfilling its ambition to make more of its own weapons. “American defence companies are welcome to establish manufacturing facilities in India,” the defence minister, Rajnath Singh, said in April. The best way for America to support India, he reckoned, would be to turn it into a manufacturing hub for defence equipment in Asia.

Despite avowed interest from both sides, such a shift faces many challenges. India's arms industry, technically open to private investment since 2001, has long been hampered by the dominance of a small number of state-owned giants such ➤

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► as Hindustan Aeronautics Limited (HAL), the company that produces the ill-fated Tejas jet. State-owned arms-makers remain notoriously inefficient. They also retain long-running tie-ups with Russia, including one to assemble Su-30 fighter jets, making Western governments wary of accepting India's demands for the transfer of more advanced technology.

Meanwhile the share of defence production in the hands of the private sector, which is a more natural partner for big Western defence manufacturers, is about a fifth—scarcely higher than it was five years ago. Private firms, both Indian and foreign, complain of widespread corruption and an excessively cumbersome procurement system. A Western defence executive says the government is “glacially slow to get things done” and describes “a lot of talk and disappointment”. Both the state and private sector still lack the industrial capacity and skilled workers to produce highly specialised defence technology at scale—especially military aircraft.

Narendra Modi, the prime minister, has taken steps to liberalise the industry as part of his push towards self-reliance. In 2020 he raised the limit on foreign ownership of defence firms from 49% to 74%. Last year he broke up a loss-making ordnance outfit run by the defence ministry into smaller units, the bulk of which now claim to be profitable. Yet liberalisation will have to go much further for the industry to be able to meet the demands of India's future armed forces, says Chitrapu Uday Bhaskar, a retired commodore at the Society for Policy Studies, a think-tank. Even now, India's state-owned weapons makers “are not able to deliver what the armed forces want”, he says.

Some change is afoot. Lockheed Martin, a big American defence manufacturer, last year approved the manufacture of wings for the F-16 fighter jet by its joint venture with Tata, a big Indian conglomerate. It says more than 70% of the wings' parts are sourced locally. The company has also pledged to produce a more advanced fighter, the F-21, in India, provided it wins a multi-billion-dollar contract to supply 114 fighter jets (other contenders include French, Russian and Swedish companies).

Big deals like those would provide incentives for foreign governments to approve more technology transfer and for Western manufacturers to make the investments needed to spur India's indigenisation drive. They may also go some way towards overcoming the deficit of trust that still exists between India and the West. While Western companies worry about inadvertent technology transfers to Russia, India worries about the reliability of its Western partners. Many in the elite see America, which in the past has imposed sanctions on India for its nuclear-

Cannabis in Japan

Halfway high

HADANO

Elderly Japanese have discovered medical hemp, but marijuana remains off limits

FOR MOST of her life Yoshimura Hiroko, an 81-year-old woman in Hadano near Tokyo, had never given a thought to cannabis. But when she started suffering pain and paralysis caused by multiple sclerosis three years ago, Kazuyoshi, her 51-year-old son, stumbled upon cannabidiol (CBD), a non-psychoactive cannabis compound. He started dropping a dose of CBD oil under her tongue each day; a month later the pain had faded.

Ms Yoshimura belongs to a growing club of elderly Japanese who have discovered CBD. Marijuana remains illegal in Japan, including for medical use. But a global trend towards its liberalisation has reduced the stigma associated with CBD products, which are legal. As a result, the local market is expected to grow to some \$800m by 2024, up from a mere \$59m in 2019. That suggests faster growth even than the global market, which could reach \$47bn over the next six years, from \$4.9bn in 2021.

The newfound love for cannabis has historical echoes. Hemp was present in “all corners of Japanese life” going back to the Jomon era, as early as 14,000 BC, says Takayasu Junichi, who runs a cannabis museum near Tokyo. The plant was used to make clothes and to construct buildings. It was a symbol of purity in religious rituals. Even today sumo wrestlers wear white hemp rope around their waists as a tribute to Shinto gods.

It was only after the second world war, when America's occupying forces banned possession and unlicensed cultivation of the plant, that cannabis became stigmatised. “Japanese have demonised cannabis ever since,” laments Mr Takayasu. Celebrities caught with weed face intense public shaming.

The new “green rush” is helping to erode that stigma. Younger Japanese, many of whom have travelled abroad to countries where drug laws are more liberal, were the fastest to embrace CBD. Hipster cafés offering it have proliferated

weapons programme, as a fickle supplier. More recently it refused to sell India its Patriot missile system, prompting India to fall back on a Russian alternative and thereby put itself at risk of American sanctions once more.

There is often a trade-off between co-operation on indigenisation, which takes time, and short-term operational needs. Lockheed Martin promised to build an F-16

across Tokyo over the past few years. A popular discount chain sells CBD gummies and vape pens.

Yet it is Japan's elderly who stand to benefit most, says Masataka Yuji, a doctor who founded a pro-marijuana advocacy group. He thinks that cannabis, which has shown promise against pain, inflammation and muscle stiffness, could be an alternative to administering different drugs for multiple conditions. Businesses have caught on already: they now advertise CBD products around *Keiro no Hi*, a holiday that honours the elderly. A plan by the government to legalise other hemp-derived medicines will probably fuel the craze.

The authorities have warmed to CBD, but they have doubled down on punishing those who use marijuana, ramping up arrests and mulling new laws even as other countries have relaxed their rules. Neighbouring South Korea legalised medical marijuana in 2018. Thailand this month made it legal to grow and possess the plant. Japanese cannabis fans can only hope that their government chills out like its neighbours.



production line in India when it bid for a 126-fighter deal during a previous wave of optimism about India-America ties. India ended up buying 36 French jets off the shelf instead, in a deal that has been the subject of a corruption probe in France. Russia's war and China's muscle-flexing have opened a door for India and the West to walk through, but crossing the threshold will require some resolve on both sides. ■

Refugees in Bangladesh

School's out

Unable to send Rohingyas home, Bangladesh circumscribes their lives

NOOR KAISER knew his dream of becoming a doctor was ambitious for a boy living in a refugee camp. He studied hard nonetheless, hoping it would one day become reality. But that was before authorities in his camp in Bangladesh's southeastern region of Cox's Bazar bulldozed his school in April. "Now I don't do anything all day," says the 13-year-old Rohingya boy. "My dream ended in Class 6."

The demolition of Noor's school reflects a wider policy to discourage Rohingya refugees from settling permanently in Cox's Bazar. Since 2017 Bangladesh has admitted some 700,000 members of the Muslim minority after they were driven from neighbouring Myanmar in a brutal campaign by the Burmese army. America and the UN considered the violence systematic enough to call it genocide. But the government has always insisted that refuge would be temporary. The army's return to power in Myanmar in a coup last year and the reign of terror the new junta has unleashed on the country since then means the Rohingyas will not return home soon. Fearing integration, Bangladesh's government has opted to circumscribe their lives ever more tightly.

Following a ban on home-schooling and private education in December, the government has closed some 30 schools in recent months. But the policy is not limited to education. Some 3,000 Rohingya-run shops have also been bulldozed. In May the authorities detained 650 refugees who had left their camp to celebrate Eid on a nearby beach. They subsequently prohibited movement in and out of two camps. Rohingyas now have to get written permission to leave, or risk being beaten at checkpoints. That is uncomfortably close to their treatment in Myanmar, where the junta has imposed a similar permit system for Rohingyas wishing to leave their districts. The conditions the government is creating are "unliveable", says John Quinley of Fortify Rights, a pressure group.

Rohingya children, who make up more than half the camps' 1m residents (including some refugees from earlier waves of violence), suffer most. NGOs are limited to teaching basic maths and reading; a UNICEF pilot to instruct 10,000 children using Myanmar's curriculum is only just getting off the ground. Private, Rohingya-run schools around the refugee settlements had been filling some of the gaps. Noor's

school, which taught some 600 pupils before it was torn down, was set up in 2020 by Mohib Ullah, a Rohingya community leader who was killed by militants last year.

The government, claiming the school was shut because it lacked a permit, says that its aim is to stamp out extremism and profiteering. It worries that the refugee-run schools, many of which are attached to makeshift mosques, may be incubators of Islamist ideology. Islamists have found fertile ground for recruitment in the camps, lending some legitimacy to such concerns. But shutting the schools is likely to exacerbate the problem, says Mohammad Showfie, Noor's former headmaster. Studying kept young people out of trouble. Now they risk getting caught up in crime or militancy in the camps.

More than extremism, the government seems to fear permanent settlement. Keen to dissolve the refugee camps on the mainland, it has spent \$300m developing Bhasan Char, a tiny island 30km off the coast of Cox's Bazar in the Bay of Bengal. Under an agreement with the UN, those who move there are promised an education. But people have not been eager to go: reports abound of forced relocations and escape attempts from the island. If a decent education could be had in the camps in Cox's Bazar, there would be even less reason to move to the island, says Saad Hammadi of Amnesty International.

Mr Showfie says that giving people the opportunity to study and earn a living by doing business in the camps would make life there more bearable. "Here, as in Myanmar, we want education, movement and safe living opportunities." For now, that hope remains elusive. ■

Gay rights

Pride and groom

ANTIPOLLO AND BANGKOK

South-East Asians are becoming more relaxed about same-sex relationships

IT WAS A beautiful spot for a wedding. In the hills of Antipolo, a city east of Manila, the Philippines' capital, friends and family of Jownie Reyes and Josh Prado Tupaz (pictured) gathered to celebrate the holy union of the two men. Mr Tupaz, keeping his cool in a white suit, matching fur stole and glittering tiara despite the 34-degree heat, posed for photographs with his squad of bridesmaids, all in matching blue gowns. Then the ceremony began. Reverend Crescencio Agbayani, a gay priest and activist, led a service involving both Catholic and Protestant rites. The grooms declared their vows through tears. "If you're gay, being in



Stand by me

love is a joke to many...or worse, you are a secret," said Mr Reyes, "You love me out loud without disgrace."

Ceremonies like this are happening in countries across South-East Asia. They carry no legal weight, but they are often officiated by religious or local leaders. In Cambodia couples can sign documents that outline mutual obligations and shared ownership of assets. It is a symbolic protection rather than an enforceable marriage contract. But it gives couples an excuse to throw a traditional wedding ceremony, with local officials and monks in attendance and guests tying red string around the wrists of the spouses.

The ceremonies reflect changing social mores. Fully 73% of Filipinos think that society should accept homosexuality; 70% of Vietnamese say they would be happy to have gay neighbours. In Thailand 91% of people polled in June said they would accept a gay person in their family. Reverend Agbayani in Antipolo has officiated at services for around 3,000 couples since he was ordained in 2008. "Fifteen years ago people in the provinces were curious. Now they see it as ordinary."

Lawmakers are slowly catching up. In 2019 the Philippine Supreme Court rejected a petition to declare the ban on gay marriage unconstitutional, but acknowledged that same-sex couples deserve some legal recognition. The same year two bills seeking to institute civil unions between same-sex couples were introduced to the Philippine Congress. Vietnam lifted a ban on same-sex marriages in 2015. Cambodia committed in 2019 to amending its constitution to ensure marriage equality. Thailand's cabinet sent a same-sex union bill to Parliament on June 7th.

Increasing acceptance is not limited to same-sex unions. More than 20 municipalities in the Philippines have passed anti-discrimination rules. A bill prohibiting ➤

► discrimination based on sexual orientation or gender identity is being considered at a national level, too. Labour laws in Thailand already forbid discrimination on the basis of sexual orientation. In 2015 the government gave similar protections to expressions of gender identity. That decision has been particularly useful for trans people. In 2016 Nada Chaiyajit, a trans woman in Bangkok, won a case against her university, which had refused to issue a graduation certificate because her photograph showed her presenting as female, when her legal gender is male. That encouraged

trans people at other universities to challenge similar rules, she says.

Not all countries in the region are similarly accommodating. Malaysia, Myanmar, Singapore and Sri Lanka still maintain laws introduced by British colonial officials that criminalise sex between men. An Indonesian province has adopted a law against gay sex based on Islamic precepts. Some governments claim such laws do not matter because they are not enforced. But activists say they create feelings of insecurity in the gay community and give officials an easy means to blackmail people.

They also serve as an implicit obstacle to more ambitious reforms.

Some of the region's more liberal countries have seen a backlash against recent advances. Religious groups in Thailand have recently begun to object to the law on civil unions. They often attack rights for queer people as "white supremacy", or as incompatible with traditional Asian values, says Ms Chaiyajit. In the Philippines, Reverend Agbayani chuckles at such arguments. "Love is an Asian value," he says. More and more people across the region agree with him. ■

Banyan General unease

Prayuth Chan-ocha, Thailand's military ruler, is on the back foot

PITY THE poor coup leader. Prayuth Chan-ocha, a 68-year-old former general who declared himself Thailand's prime minister, continues to be dogged by the messy politics he intended to abolish when he seized power from an elected government in 2014. First Mr Prayuth ruled by diktat. Then, in 2019, he sought a veneer of legitimacy by allowing elections. When a party critical of military rule performed annoyingly better than the authorities expected, it was dissolved and its charismatic leader, Thanathorn Juangroongruangkit, charged with *lèse-majesté*.

In Thailand the king, Maha Vajiralongkorn, is absolute, and conservatives like Mr Prayuth who rule in his name love the notion of "guided democracy". No political figure can be allowed to challenge the authority of the monarch or the privileges of an establishment whose members thrive on favours, perks and status derived from their relationship to royal power. Guided democracy is supposedly free of grubby politicking, because it embodies a Buddhist-inflected cosmos founded on morality and merit flowing from an infallible royal.

So much for that. In reality the king is an erratic martinet. And the ruling coalition is as prone to infighting as any other political grouping. Last month it suffered a humiliating defeat in an election for the governorship of Bangkok, the teeming capital. It failed to agree on a single candidate, allowing the opposition's choice, Chadchart Sittipunt, to storm through. The incumbent, supported by the army's party, Palang Pracharath (PPP), performed abysmally.

The bickering has enveloped national-level politics. Mr Prayuth seized power with two generals of his generation, Prawit Wongsuwan, now the deputy

prime minister, and Anupong Paochinda, the interior minister. Their relationship is under strain. Ambitious younger officers riding on Mr Prawit's coat-tails are working hard to undermine Mr Prayuth. His influence in the army is waning now that he no longer commands it. It does not help that the king openly favours his own King's Guards over the similarly elite Queen's Guards, through which Mr Prayuth rose to the top.

An influential former PPP secretary-general, Thamanat Prompow, a Prawit ally, has deserted the ruling camp and lobbs rocks at Mr Prayuth. Other conservatives bemoan sleaze in the PPP, deriding Mr Prawit's claim that his mound of luxury watches was a gift from a late friend.

With the ruling coalition distracted, the opposition is on the up. On June 15th it filed a motion of no confidence in the government, citing economic mismanagement and a raft of other shortcomings. If some conservatives join the opposition, Mr Prayuth could lose the vote in July—a derider of parliamentary politics done down by them.



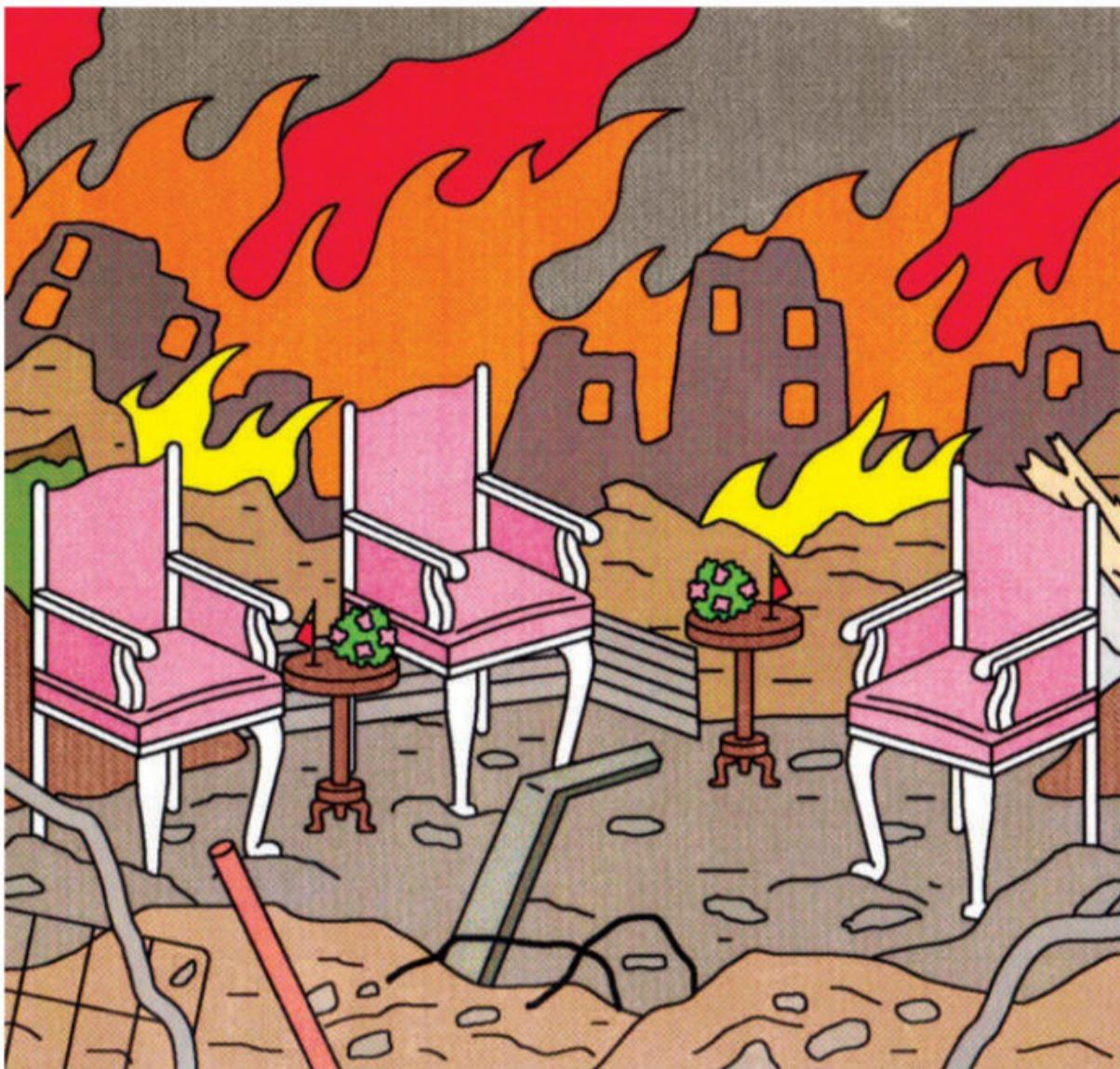
That a government could fall, says Greg Raymond of the Australian National University in Canberra, "would seem to go against our understanding of how a junta uses tools and techniques to maintain its position." Yet, in effect, not much would change from the perspective of the establishment. Guided democracy, after all, would remain. Any new prime minister would uphold the king's supremacy. And the armed forces would still, behind the scenes, call the shots.

Even so, the aspirations of ordinary Thais may yet disrupt the elite's machinations. Student-led protests in 2020 and 2021 that called for reform of the monarchy were suppressed. Yet resentment among the young towards the self-serving establishment runs high. Many Thais are angry about the government's handling of the pandemic, which hammered tourism and led to the closure of tens of thousands of small businesses. For all the government's emphasis on infrastructure, education and the rural economy are neglected.

Even if Mr Prayuth survives the vote of no confidence, he must still hold a general election in the coming year. The idea, of course, is that it too will be "guided". An appointed senate is to keep parliament in check in the event of an electoral challenge to the establishment.

But a democratic upset is a possibility. Mr Thanathorn and the Pheu Thai movement, backed by a populist former prime minister, Thaksin Shinawatra, whose threatened return from exile was a factor behind Mr Prayuth's coup, remain popular. The Senate's willingness to hold the line in the event of an opposition landslide is untested. The army has a habit of launching coups—Mr Prayuth's was Thailand's 13th. But democratic politics has a habit of reasserting itself.





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International diplomacy

Non-interfering mediation

China's diplomats are trying to broker peace in foreign conflicts. Just don't expect them to propose solutions

SOON AFTER Russia began its latest invasion of Ukraine, the European Union's foreign-policy chief, Josep Borrell, told a Spanish newspaper that there was "no alternative". The EU and America could not act as mediators, said Mr Borrell. "Who else? It has to be China."

So far that has proved wishful thinking. Russia appears determined to keep fighting. China, its close friend, has made only vague suggestions that it would be willing to mediate, "when needed". Since the war began China's leader, Xi Jinping, has not even spoken to his Ukrainian counterpart, Volodymyr Zelensky. But on June 15th Mr Xi and Vladimir Putin, Russia's president, had their second conversation by phone since the war started. Mr Xi expressed support for Russia's security worries.

Most Western officials, therefore, are uneasy about the idea of China doing more. Mr Xi is as anti-Western as Mr Putin; China would oppose any deal that makes Russia appear the loser. But before Mr Xi

took power in 2012, it would have been difficult even to imagine China as a mediator in a European war. It is a measure of how much Chinese diplomacy has changed during his rule that such thoughts are now entertained, at least by some.

Evidence of this evolution can be seen in the Horn of Africa. On June 20th a two-day "peace conference" is due to begin in Addis Ababa, the capital of Ethiopia. It will be joined by foreign ministers from across a region racked by numerous ethnic, territorial and resource-driven conflicts. These include war between Ethiopia's federal authorities and the rebellious region of Tigray, and in Somalia between Islamist militants and the country's Western-backed government. It was China's proposal to hold the talks. They follow its appointment in February of a special envoy to the Horn of Africa—a signal of its intent to step up diplomacy in the region.

China was once reluctant to insert itself between foreign antagonists. It still insists

that its foreign policy is based on "non-interference" in others' affairs. In 2003, however, it took an unusually bold step into international crisis management by hosting "six-party talks" on North Korea's nuclear programme with the two Koreas, America, Japan and Russia. These on-and-off negotiations gained China some kudos in the West, even though they failed to stop North Korea developing nuclear weapons: it conducted a nuclear test in 2006 and another in 2009 that scuppered the process.

That decade saw a few other attempts by China to reduce tensions abroad, including in Africa. But since Mr Xi took over, the pace has picked up, spurred by his push for China to "get more actively involved in international affairs" and "play its due role as a major responsible country". In the past decade Chinese diplomats have been active as facilitators of peace talks in numerous places from Afghanistan to South Sudan. They have mainly focused on areas where China has substantial economic interests that could be threatened by local conflict. Often these are also places with large numbers of Chinese citizens who might be in harm's way.

Many analysts wonder whether these efforts count as mediation. China rarely proposes ways of resolving conflicts that go beyond vague statements of principle ("win-win solutions") or ideas that are already broadly accepted by the parties in-

volved. The usual aim of China's diplomats is to preserve the status quo or restore it, says Helena Legarda of the Mercator Institute for China Studies, a research group based in Berlin. "They are quite risk-averse," she says.

That is likely to be evident at the Horn of Africa talks, which involve Djibouti, Ethiopia, Kenya, Somalia, South Sudan, Sudan and Uganda (it is unclear whether Eritrea, a big source of the region's instability, will attend: diplomats say it has not yet replied to its invitation). By not inviting rebel groups China has avoided ruffling feathers. It has said very little about what it aims to achieve, other than to tackle the challenges of "security, development and governance". By governance it means maintaining social order, not encouraging free and fair elections.

China is unlikely to attempt to mediate in Ethiopia's civil war. The African Union is already leading such efforts. "It's all about getting a photo-op of the special envoy with the foreign ministers," says a Western ambassador. "It's information warfare rather than serious diplomacy."

Peace dividends

China's aims are not altruistic. It worries about the impact of war and political instability on the region's economies. One reason it needs them to thrive is so they can pay back debts incurred by a splurge on infrastructure under China's Belt and Road Initiative. The war in Ethiopia has disrupted use of a \$3.4bn Chinese-built railway line, opened in 2018, that connects Addis Ababa with the port of neighbouring Djibouti. Resurgent jihadists in Somalia have spread across the border into Kenya, carrying out attacks as far south as a port refurbished by Chinese firms in Lamu county.

China also wants to score points off America, which appointed its first special envoy to the Horn of Africa last year. The Chinese envoy, Xue Bing, said some countries in the region were "fed up with the preachings" of the West. China has not joined America in imposing sanctions on Eritrea's ruling party and army for their involvement in Ethiopia's civil war. During a tour of the region in January China's foreign minister, Wang Yi, appeared to needle America by visiting Eritrea and offering to help it develop its Red Sea coastline.

Were China to make any serious attempt to mediate in Ukraine, the stakes would be far higher. Any action construed as favouring Russia would enrage the West. "China is not interested in stepping into this tricky territory," says Miwa Hiroko of Ritsumeikan University in Japan. President Xi talks of moving China to the "centre stage" of international affairs. Although China may at times still appear reluctant to step into the spotlight, it knows how to pick its roles. ■

China and America

In need of guardrails

SINGAPORE

The two powers look to prevent military mishaps and miscalculations

ON MAY 25th 1968, a Soviet Tu-16 bomber made several low fly-bys perilously close to the *USS Essex*, an American warship in the Norwegian Sea. On its final pass, the Soviet plane clipped a wave and crashed into the sea, killing the entire crew. It was one of the deadliest in a string of close encounters between American and Soviet forces that led in 1972 to the Incidents at Sea (INCSEA) Agreement, establishing protocols for the two sides' ships and planes to interact safely in peacetime.

Half a century on, America and China are wrestling with how to prevent their own mishaps and miscalculations from flaring into conflict as tensions mount over Taiwan and alliance-building in Asia. After years of rejecting cold-war-style agreements, both sides now talk of creating new mechanisms to mitigate risks and communicate in crises, potentially including efforts to replicate the INCSEA pact.

At a security conference in Singapore from June 10th to 12th, American officials emphasised the need for "guardrails" in relations with China. "That includes fully open lines of communication with China's defence leaders," said Lloyd Austin, America's defence secretary. The day before, in his first meeting with General Wei Fenghe, China's defence minister, Mr Austin urged the People's Liberation Army to participate more actively in risk-management mechanisms, according to American officials. They say General Wei was "responsive".

A Chinese defence-ministry spokesman echoed that, telling reporters that the

two sides had agreed to maintain regular communication and "properly manage risk and crisis". The more the two sides spoke, however, the clearer it became that they have very different goals in mind.

China has long been wary of risk-management agreements with America, fearing they will limit its options to respond to American surveillance flights and naval patrols near its shores. Two members of China's delegation suggested it was now open to such agreements, drawing on cold-war deals like INCSEA. But they made clear that China's aim was to curb American and allied activities, not its own.

Senior Colonel Zhang Chi of China's National Defence University said China should also negotiate similar deals with other countries in the region, requiring them to declare their "strategic intent" before conducting operations. That might have helped avert recent encounters in which Canada and Australia say their military aircraft were hounded by Chinese fighters, he said. Other Chinese delegates advocated more regular military exchanges to clarify "red lines" and build trust. "If we're on the wrong track, what's the use of guardrails?" asked Cui Tiankai, a former Chinese ambassador to America.

America, meanwhile, wants more direct communication lines with China's military leaders, including regional commanders, so it can contact them quickly in a crisis. America does not appear to be seeking a separate INCSEA-type agreement with China. It wants, instead, to strengthen existing mechanisms to replicate the cold-war pact's effects. Those mechanisms include the Code for Unplanned Encounters at Sea, or CUES, signed by 21 countries in 2014. That only covers international waters, so China does not observe it in parts of the South and East China Seas that it claims. CUES also does not apply to coast-guard and fishing fleets, which China uses to enforce those claims.

China has resisted expanding CUES, so some American and allied officials still advocate an INCSEA-type deal. Others worry that would take years and end up equally flawed. "If partner nations believe we need another document, then we always listen to our partners, and we'll work through what that might need to look like," said Admiral John Aquilino, head of America's Indo-Pacific Command. But he warned: "The only thing worse than having no strategy is having too much strategy."

The good news is that US-China tensions are still a far cry from those between America and the Soviet Union, which narrowly escaped nuclear war in 1962 and harassed each other's ships and planes repeatedly throughout the 1960s. The more troubling notion is that things could get a lot worse before China and America find an effective way to manage risks. ■



Don't be a maverick

Covid-19

The new normal

BEIJING AND SHANGHAI

Beijing and Shanghai are still trying to get a grip on the virus

SINCE JUNE 1st, when the authorities in Shanghai lifted a months-long lockdown, many aspects of life in the city have returned to normal. The once-deserted freeways around China's financial hub are again full of traffic. The workers who moved into their offices during April and May have at last returned home. The number of cases of covid-19 found outside quarantine has dropped to single digits.

But Shanghai's officials are still on edge. Many residential communities reopened only to be locked down again when a positive case, or merely a close contact of one, was found in their vicinity. Residents continue to be taken away to quarantine centres if they live in the same building as someone infected. A case linked to a hair salon resulted in hundreds of people being whisked into isolation and several housing compounds being locked down. The city ordered most of its 25m residents into mass testing on June 11th and 12th.

This is what the new version of China's "dynamic zero-covid" campaign looks like. "Micro-lockdowns" and mass testing are meant to replace economically destructive citywide closures. The strategy is supposed to be more targeted, finding and quarantining cases and their close contacts quickly. But calibration is proving difficult.

In Beijing hundreds of cases were recently traced to Heaven Supermarket, a bar. Local officials had only just declared the latest outbreak over and allowed such establishments to reopen. Now they have cancelled plans to reopen many schools, calling the situation "severe". Thousands of residents were put into quarantine and neighbourhoods sealed off. Sun Chunlan, a deputy prime minister in charge of fighting covid, even went to inspect Heaven Supermarket herself (probably the bar's first visit from a Politburo member).

Despite calls by some experts to rethink the zero-covid strategy, the government is doubling down. Hundreds of thousands of testing facilities are being built. Cities are required to be able to screen all residents within 24 hours. In Beijing and Shanghai residents must take a test every few days in order to enter public spaces. There are often long queues to get swabbed. People joke that the common Chinese greeting of "Have you eaten yet?" is giving way to a new one: "Have you got tested yet?"

Humour, though, is in short supply. In Beijing, Shanghai and elsewhere the move-

Virtual idols Real problems

BEIJING

China ponders the people behind computer-generated stars

WHETHER IT'S for marketing or entertainment, hiring a real-life celebrity is expensive and carries risks. Several Chinese stars have been caught up in scandals recently. Some get into trouble for being out of step with the Communist Party. The party, for its part, has attacked fan culture, banning online rankings of celebrities. It wants public figures to be upstanding role models. Little wonder, then, that many Chinese firms are choosing to work with "virtual idols" instead of the human kind.

Virtual idols are generated by computers. Often, though, these digital avatars are controlled by anonymous human performers wearing motion-capture gear. The most popular virtual idols sing and dance before millions of viewers on live-streaming platforms. Fans tip real money and buy merchandise. Some virtual idols are influencers or used in marketing campaigns. It makes for big business. China's virtual-idol market was estimated to be worth nearly \$16bn in 2021, says iiMedia, a consultancy.

Virtual idols have problems, too, though. Take Carol (pictured), the lead singer of A-SOUL, one of China's most popular virtual bands. Its creators are backed by ByteDance, a Chinese tech giant. Carol alone generated over 2m yuan (\$300,000) in revenue, mostly from tips, in a single month last year, according to reports. But in May it was announced that Carol was leaving A-SOUL. According to fans, the performer behind the virtual idol had complained that she was bullied, overworked and underpaid. Her employers denied all of this, noting



All too human

that human performers receive 10% of live-stream earnings. Nevertheless, the virtual Carol has disappeared.

Such issues will inevitably arise as Chinese firms pursue opportunities in the metaverse. They poured billions of yuan into such ventures last year; ByteDance spent a small fortune on Pico, a maker of virtual-reality headsets. A paper published in October by the China Institutes of Contemporary International Relations, a state think-tank, spoke of the need for laws and regulations surrounding "virtual labour". Young people, meanwhile, are increasingly fed up with "996" schedules (ie, working 9am to 9pm six days a week). Virtual idols offer them an escape. But behind some avatars are humans with similar gripes.

ment of residents is tracked and restricted using a mobile-phone app, which produces a coloured QR code. Green means you are allowed to move about; red means quarantine. People are anxious to avoid being ensnared by such controls. The authorities in Henan province are suspected of using the app to block the movement of people who demonstrated outside the local banking regulator last month.

Small businesses in Beijing and Shanghai have received little guidance from officials. Many are preparing for disruptions that could last months. They were already suffering. Tensions boiled over in Shanghai on June 13th, when hundreds of people protested. Most of them ran stalls at the city's biggest wholesale market for clothes. After months of lost business, they chant-

ed: "Return our rents!" The government has done little to help.

Some hope that the government will ease restrictions after an all-important Communist Party congress later this year. For that to happen without many deaths, the vaccination rate among the elderly must rise. To win over holdouts a number of cities are offering to insure people 60 and over against jab-related side-effects.

But in other ways, the government has signalled its intent to stay the course. China has already pulled out of hosting next year's Asian Cup football competition. "Victory comes from perseverance," says President Xi Jinping of his covid policy. Frequent testing, invasive tracking and targeted lockdowns: this is the new normal. Few expect it to end soon. ■

Chaguan | Wrong'uns, not rights

China blames a brutal assault on gangsters, rather than sexism



AN UNPROVOKED ATTACK on several women by drunken thugs has revealed something striking: Chinese leaders are more threatened by feminists than by violent gangsters. Communist Party bosses could hardly avoid addressing widespread public horror after the assault was captured by security cameras at a late-night barbecue joint in the northern city of Tangshan, earning billions of views online. Faced with this challenge to China's self-image as a harmonious, low-crime society, officials, state media, China's largest social-media platform and even a university dean have lined up to denounce the notion that China has a problem with gender-based violence. Instead, the ruling establishment has played up the problem of organised crime.

At least initially, several news outlets declined to report the assault as an example of the harassment that Chinese women endure all too often, whether from strangers, colleagues or lecherous bosses. *Beijing Toutiao*, a news outlet with 27m followers, called the attack a "scuffle" after men failed to "strike up a conversation" with women diners in the early hours of June 10th. Those bland words did not match images of women being clubbed with bottles and chairs, dragged outside and kicked in the head by several men, sending two of the victims to an intensive-care unit.

Rather than talk about endemic violence against women, officials and police commanders in Tangshan, a steelmaking city of 7.7m people, portrayed the attack as a glimpse of an underworld that—despite repeated anti-mafia campaigns—lurks in a few corners of their home town. Police said that five of the men arrested and accused of beating women who refused their drunken advances or who tried to stop the violence had been charged previously with crimes including assault and unlawfully detaining others. The city's leaders announced a two-week "thunderstorm" anti-crime campaign, involving intensive patrols and a gang-reporting hotline, which has been swamped with tip-offs. They pledged that this would "comprehensively rectify outstanding problems in the field of public safety". The public has heard such promises before, notably in 2018 when national leaders ordered a three-year campaign against organised crime, dubbed "Resolutely Root Out Black and Evil Forces". Shrugging off questions from netizens and even some newspapers about the value of short-term

campaigns against crime, police in several other cities staged shows of force, sending officers to guard pavement barbecue stalls or bark public-safety messages at diners through megaphones.

The readiness of officials to talk about violent gangs is all the more striking because China's relatively low crime rates are a mainstay of propaganda about the superiority of one-party rule. In 2018 the recorded murder rate per 100,000 people in China was almost a sixth of that reported in India, and a ninth of America's murder rate. Reports of mass shootings or racist attacks in America are a staple of Chinese television's main evening news broadcast. Some netizens have thrown such boasts back at the authorities after the Tangshan assault. Particular sarcasm was directed at reposts of a blog about the perils of overseas study, originally published by the Communist Youth League in 2017, which advised its young members, "Going out late at night for barbecue skewers? I'm sorry, America can't give you that safe feeling."

There are several explanations for this eagerness to blame thugs rather than sexism. One is that China, a control-obsessed state, often treats societal ills as problems of national security and politics. The oath of office for Chinese police opens with a vow to defend "the absolute leadership of the Communist Party" before it mentions enforcing the law, and emphasises "political security and social stability". This emphasis on politics cuts both ways. A gripping research paper published in 2021 by Liu Yuchen, a political scientist now at Peking University, draws on interviews with dozens of police officers to explore how "Root Out Black and Evil" campaigns are undermined by tensions between top-down orders from party chiefs to arrest gangsters and the incentives of individual police, who know that local crime bosses may have powerful political patrons. The paper, "The Art of Criminal Investigation in China, a Typology of Policing Crimes", describes police tipping off gang leaders and targeting lower-level thugs instead. Petty crimes such as street fights that do not lead to deaths are ubiquitous but rarely reported, Mr Liu writes. To keep local crime statistics low, officers may lean on victims to drop charges. Assaults may end up as *chouti anjian*, or drawer cases, languishing under desks for ever.

The People's Republic is a patriarchy

Ordering yet another gang crackdown keeps the party in familiar, safe territory. It helps that street violence has been declining for some years, not least as fewer Chinese live by muscle-power alone and increasingly work in service jobs that impose certain standards of behaviour, says Xu Jianhua, a former Chinese policeman who is a sociologist at the University of Macau. In contrast, feminism is "more politically sensitive", says Mr Xu, because it draws energy from social movements not under the party's control.

Party leaders see China as a socially conservative country, and rarely seek to challenge that chauvinism. Just one member of the 25-strong Politburo is a woman. President Xi Jinping lauds China's "excellent traditional culture". Women such as Peng Shuai, a tennis champion, who accuse powerful men of abusive behaviour are scrubbed from public life by censors. Judges routinely deny divorces to women assaulted by their husbands, even when shown medical records of injuries. Above all, feminism is called a foreign threat. A note sent on June 12th by the dean of the school of sociology at Wuhan University went viral after he told students concerned about the Tangshan assault to beware the "American ideology" of "fist-waving women", a crude pun on the Chinese word for feminism. China's elites would rather blame social ills on wrong-doing by criminals than admit that individuals have rights. ■



America's latest policy

Change you can't believe in

WASHINGTON, DC

In substance if not style, Joe Biden's Middle East policy looks much like Donald Trump's

JOE BIDEN wants you to know his trip is not about oil. You may think otherwise. He once vowed to make Saudi Arabia a "pariah" and has refused to talk to Muhammad bin Salman, the crown prince. Now he is rushing off to the kingdom, the world's second-biggest oil producer, at a time of sky-high oil prices, and will meet the prince after all. But his administration insists that oil is not the focus of his flying visit. "It has to do with much larger issues," Mr Biden said on June 12th.

Such protestations may be a tacit admission that the trip, planned for next month, is unlikely to do much to reduce the oil price. Such realism has been in short supply since Mr Biden took office. He at first promised a different Middle East policy from his predecessor's. He would restore the nuclear deal with Iran, signed in 2015 but abandoned by Donald Trump in 2018. He would shun the Saudis. And he would put human rights at the centre of America's foreign policy.

None of that has happened. Mr Biden has overpromised and underdelivered. His tone has differed from Mr Trump's; American officials argue there are some policy differences, too. As well as seeking to revive talks with Iran, they have more keenly sought a ceasefire, which is now holding, in Yemen. But the substance is increasingly similar: many of Mr Biden's policy outcomes are the same as Mr Trump's.

Start with the nuclear deal, known as the Joint Comprehensive Plan of Action (JCPOA), which eased sanctions on Iran in return for curbs on its nuclear programme. Mr Trump hoped to beggar Iran into stopping nuclear work altogether and changing

its foreign policy. But his so-called "maximum pressure" campaign failed. Iran did not bend, but resumed prohibited nuclear work and launched attacks on American allies in the region.

Rather than return to the old deal, Mr Biden sought what Antony Blinken, his secretary of state, called a "longer and stronger" agreement. But negotiations in Vienna did not start until last April, just two months before a presidential election in Iran. The president it brought to power, Ebrahim Raisi, is a hardliner even by Iranian standards. Unsurprisingly, he is less amenable to a deal than his predecessor.

Still, Iran and America were close to one this spring. One of the final sticking-points was America's labelling of the Islamic Revolutionary Guard Corps (IRGC) as a terrorist organisation. American negotiators had offered last year to reverse that, which would have been controversial but meaningless, as the IRGC would have remained under a heap of other sanctions. But Mr Biden hemmed and hawed for months about whether to agree before deciding not to.

The talks are now at a standstill. The International Atomic Energy Agency, the UN's nuclear watchdog, reported last month that Iran has 43kg of uranium enriched to 60% purity, a bomb's worth of fissile material if enriched up to 90%. Even those in Washington who still hoped for a deal think it is dead, though they doubt Mr ►

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► Biden's team will admit it. They grumble that the president burned through political capital for a year to negotiate with Iran, only to duck a hard decision at the end.

He has done the opposite with Saudi Arabia. Boycotting Prince Muhammad was popular with Democrats angered by his ties with Mr Trump, his war in Yemen and his role in the murder of Jamal Khashoggi, a Saudi journalist butchered in 2018. But this was never sustainable. Saudi Arabia has been a close American ally since 1945, when Franklin Roosevelt met King Abdulla-ziz on an American warship (pictured on the previous page). Prince Muhammad will probably ascend the throne soon and may stay on it for decades. Not talking to him is not an option.

But Mr Biden seems to have reversed himself in the worst possible way. Despite his protestations, many in Washington see oil as the main point of his trip. Yet the Saudis are reluctant to break their so-called OPEC+ agreement with Russia and pump more. Some cartel members are already struggling to meet output quotas. The Saudis insist that even if they did open the oil taps, bottlenecks at refineries would still keep petrol prices high.

The benefit to Prince Muhammad is clearer. He will have the pleasure of an American president bending the knee. Mr Biden may bring other goodies. Brett McGurk, his top Middle East adviser, has been negotiating a deal over the status of Tiran and Sanafir, two islands in the Red Sea that Egypt agreed to cede to Saudi Arabia in 2017 but whose transfer has been held up by Israeli security concerns. There is talk of America negotiating fresh defence pacts with other Gulf states.

The administration hopes Saudi Arabia may take a step towards normalising relations with Israel. Two of its neighbours in the Gulf, Bahrain and the United Arab Emirates (UAE), did so in 2020. Some American officials bet that closer Israeli-Arab ties will allow them to reduce Uncle Sam's presence in the region: if those countries can protect each other, there will be less need for American security.

Saudi Arabia and Israel have compelling reasons, chiefly their shared hostility towards Iran, to pursue warmer ties. Barring drastic change in either country, Saudi recognition of Israel seems a question of when rather than if. But the Saudis are unlikely to make a deal on Mr Biden's timetable. Instead they will probably drag the process out, hoping to pocket as many gains as possible before signing up.

Mr Biden will stop in Israel before flying on to Saudi Arabia. He cannot be entirely sure who will greet him: the fractious coalition elected last year is teetering near collapse. America has donned kid gloves in dealing with Naftali Bennett, the prime minister. It fears its criticism of Mr Bennett

may help Binyamin Netanyahu, his predecessor, who is plotting a comeback from the opposition benches.

As a result Mr Biden's people have been mealy-mouthed about the expansion of Jewish settlements in the West Bank and the daily abuses of occupation. They have spoken lamely about the killing of Shireen Abu Aqleh, a Palestinian-American journalist shot dead in the West Bank last month (witnesses and forensic evidence indicate she was shot by an Israeli soldier).

In the Middle East, at any rate, human rights have not been the centrepiece of Mr Biden's foreign policy; they are barely on the table. Diplomats trumpet the decision in January to cut \$130m in military aid to Egypt (10% of its overall annual package) because it refused to take a few modest steps to improve its ghastly human-rights record. But officials in Cairo see it the other way round: they can rebuff America and still take home more than \$1bn.

All of this disappoints many Democrats. The fault is not Mr Biden's alone: Iran was an obstinate negotiating partner. But they point to a broader failure to rethink America's role in the region, which three successive presidents have been eager to shrink. The Middle East has changed dramatically in the past decade. American policy has yet to change with it. ■

Syria and its president

Gobbling up whatever is left

Bashar al-Assad is hollowing out what remains of his ravaged state

FORGET FLAMBOYANT Arab dictators in military attire laden with medals or clad in swirling tribal robes. Bashar al-Assad, Syria's president, is the picture of modesty. Usually he wears no jewellery, no wedding ring nor even a glittering watch. His preferred garb is a plain black suit and tie. His speeches are a cure for insomnia. Yet in a region of kleptocratic rulers, few have plundered their country so completely.

Life for his people should have improved after the defeat of Islamic State in 2019 and the regime's recapture of large chunks of rebel-held territory. Instead it is worse. Electricity is more often off than on. The population of the areas under the regime's control has halved since the start of the rebellion in 2011; 90% of them live in poverty, many surviving on foreign aid and remittances. The currency has lost 90% of its value. Officials blame Western sanctions, covid-19, the collapse of banks next-door in Lebanon and, most recently, the war in Ukraine, a big source of wheat. But a



Bashar's bash

prime cause is Mr Assad's cannibalising of his country. "He rules like a Mafia boss," says a confidant who recently defected.

Copying Saudi Arabia's crown prince, a few years ago Mr Assad decided to shake down the monied establishment. Senior businessmen were summoned to the Damascus Sheraton Hotel. Some of those who refused to hand over assets or shares were detained for further interrogation in Branch 251, one of his security service's detention centres in Damascus that is notorious for torture. Rami Makhlouf, Mr Assad's first cousin and the regime's top middleman, was put under house arrest. Several of Syria's richest men—bankers, traders and a winemaker—fled. Hundreds of businesses were seized or closed.

A shabbier crop of tycoons took their place, according to a report by Harmoon, a think-tank based in Istanbul. Many are warlords who launder the proceeds of smuggling. Rather than invest in manufacturing enterprises which the regime might seize, they prefer to own fancy restaurants. A new one recently opened in Damascus, with Lamborghinis and Teslas parked outside. Racketeering is rife. Thousands are said to have passed through Branch 251 for not paying protection money.

Mr Assad also makes a fortune from gas, petrol and electricity. While ordinary Syrians are often in the dark and immobile, he supplies Lebanon's power brokers, who pay in dollars. Hizbullah, Lebanon's Iranian-backed political movement-cum-militia, gets fuel as a reward for fighting for Mr Assad's regime. Another presidential scam is the sale of passports to the many Syrians desperate to leave. Agents charge \$1,000 for fast-track processing or to get names cleared from blacklists at checkpoints.

Mr Assad's most lucrative source of revenue is drugs. According to the New Lines Institute for Strategy and Policy in Wash- ►

ington, 15 factories within his fief produce captagon, an amphetamine; another 20 smaller outfits make the stuff near the borders with Lebanon and Jordan. Some have diversified into crystal meth. So large is the operation that Syrians call it the *niqabeh*, or syndicate. Bedouin once used to smuggle pills in sheep stomachs and vegetable trucks. These days illicit drugs are exported in armoured vehicles protected by drones and heavy weapons.

Mr Assad dismisses claims of involvement. But comrades who have recently turned against him say the *niqabeh* operates out of the financial department of the presidency, supervised by an aide described as "Syria's Pablo Escobar" after a dead Colombian drug lord. This shadowy figure is said to co-ordinate transport onto ships off the Mediterranean coast, using his private security company to escort convoys. He also summons businessmen on Mr Assad's behalf with demands for contributions to the Syria Martyrs' Fund, another nice earner. Traders are said to arrive at the presidential palace with suitcases of cash.

Some say Mr Assad's narco-business allows him to buy the loyalty of his fellow Alawites, the Muslim religious minority that has long served as his regime's base. Many Syrians from the Sunni majority were chased off their land, swathes of which were handed to Alawites, who at first cheered on the regime's brutal repression. But in the end few benefited from Mr Assad's demographic engineering.

Recently many Alawites have deplored Mr Assad's rapprochement with Sunni leaders, especially in the United Arab Emirates, sensing a betrayal. They also disliked his decision to free hundreds of Sunni detainees during the recent fasting month of Ramadan. They are angered, too, by cuts in the subsidies for basic food and fuel. Protests on- and off-line have been growing. "The groups who fought for Mr Assad have turned against him," says an Alawite defector. A new cyber-crimes law punishes anyone who "stirs up negative public opinion" with years in jail.

With his Russian ally distracted by the war in Ukraine, Mr Assad is less confident of his own security. On June 10th Israeli missiles struck Damascus's main airport; some say it will be out of action for weeks. Reports in Israel's press say Mr Assad's palaces could be next. Syrians fear being drawn into a war as an ally of Iran.

Yet the general impoverishment has advantages for Mr Assad. Seeing the wreckage of the country, fewer foreigners are keen to fight for what is left of it. And even as Syria's currency collapses, those in Mr Assad's inner circle with dollars are still able to thrive. Besides, most people seem crushed and pliant. "However bad things get," says a UN official, "Syrians are too tired to return to war." ■

Uganda

The son also rises

ENTEBBE

After 36 years in power, is Yoweri Museveni building a political dynasty?

HE IS THE SON OF THE president and a vainglorious Twitter user. He is also a belligerent general whose soldiers are accused of kidnapping and torturing opponents. And in a series of extravagant birthday parties and public events, Lieutenant-General Muhoozi Kainerugaba is stirring talk of a future presidential bid. "Uganda belongs to Team MK!" he boasts in one tweet. "We will not stop until we are in complete control!" runs another.

What does this mean? "I'm mostly talking about the young generation and their interests," says General Kainerugaba, dressed in combat uniform at an army base. Does he want to be president? "It's not something I've yet fully assessed and there are still things I want to do in the military." Will he stand in the next election? "I am not considering running in 2026," he says.

Divining Uganda's future is like peering into thick fog while walking on the edge of a cliff. In 1986, when General Kainerugaba was a schoolboy, his father Yoweri Museveni marched into power at the head of a rebel army, soon winning support from the West. The talk back then was of restoring democracy and peace. These days the main question is whether the 77-year-old will ever step down, having removed all obstacles to remaining president for life.

If Mr Museveni has a plan, he is not letting on. He faces the same challenge as all ageing autocrats: how to preserve his position as his vigour wanes. Others in Africa

(and elsewhere) have built dynasties. Togo and Gabon are ruled by the sons of dead dictators. Last year Mahamat Idriss Déby Itno took over in Chad after the death of his father. In Cameroon the son of Paul Biya, who has ruled for even longer than Mr Museveni, is said to covet the top job.

Mr Museveni practises a personalised style of leadership which has enfeebled institutions, replacing them with informal networks of power. His wife Janet, the education minister, has a web of well-placed friends and relatives. His brother, Salim Saleh, a retired general with tentacular business interests, is considered the country's second-most powerful man.

These networks could unravel when Mr Museveni is gone. There is a lesson in Angola, where José Eduardo dos Santos stepped down in 2017 after 38 years in charge, only to see his children prosecuted for corruption. When power is concentrated in one family, it is safest to keep it there.

That may explain the ascent of General Kainerugaba, who was promoted to the post of commander of the land forces last year. His first name, "Muhammed", means "avenger"—because, according to the president, "This is the one who will avenge me in case something is done to me." A generation of officers have risen alongside him, often passing through Special Forces Command (SFC), a feared presidential guard. In a sign of his growing clout he was recently dispatched to mend relations with Rwanda, ending a three-year border closure.

There is, however, one snag in bequeathing power: General Kainerugaba himself. He shows none of Mr Museveni's charisma or nous. Old friends who trained with him at Sandhurst, a British military academy, remember an avid *Daily Telegraph* reader who was obsessed with soldiering. On Twitter he brags that his parties have "the hottest women on earth". His erratic tweets about the conflicts in Congo, Ethiopia and Ukraine jar with official policy and befuddle diplomats.

More troubling still is his record on human rights. During last year's general election, the security forces allegedly abducted hundreds of opposition activists and tortured them, sometimes by electrocution or applying hot irons to bare skin. Mr Museveni said 242 people were detained by military intelligence and 53 were held by SFC, which was then under the command of his son, who was named in a complaint in 2021. ▶



The original Avenger

► to the International Criminal Court alleging abuse by the security forces. In another case Kakwenza Rukirabashaija, a writer, was dragged from his home by soldiers after insulting Mr Museveni and his son on Twitter. He reappeared a month later with scars on his back. He alleges that he was tortured at SFC's headquarters under the supervision of General Kainerugaba.

"That's a figment of his imagination," says General Kainerugaba in response. As for the detained activists, they were held by "another unit, not SFC". What about the shooting dead of more than 50 people during riots in 2020, when he was a presidential adviser? "Every soldier has a right to self-defence," he says, insisting he played "no role" on the day. He cannot explain what threat was posed by the likes of Amos Ssegawa, a schoolboy shot while walking home with his mother.

Moreover, the coronation of General Kainerugaba is far from assured. It is whispered that some in the president's family have doubts. In January Odrek Rwabwogo, a son-in-law to Mr Museveni, warned that those "pushing narrow succession agendas" could generate a "backlash" against the ruling party. The president has never made his own preference clear and may be testing his son in the spotlight. "He wants to see: can this country stomach a family succession?" suggests Andrew Mwenda, a journalist and close friend of the first son. Barring ill health, few expect Mr Museveni to step down before he dies.

But the push for the son could take on a life of its own. General Kainerugaba tells *The Economist* he wanted to retire from the army in March—a prerequisite for entering politics—but was persuaded otherwise. He says young people are pleased that he has been "protecting them, fighting for them, securing the country". His backers paint the 48-year-old as the antidote to Bobi Wine, a singer who ran against Mr Museveni in the most recent election.

They are deluding themselves. Ugandans are fed up with joblessness and corruption. Mr Museveni relies on violence and patronage to maintain his grip. "To think that he can switch in anyone else using the same manipulative methods he has been using is really playing Russian roulette," says Mugisha Muntu, who led the army in the 1990s. "Something always gives."

Another disenchanted veteran, Kizza Besigye, compares the country to an absolute monarchy. He has run four times for president against his old comrade, and been tear-gassed and arrested for his troubles. He has just spent two weeks in jail for protesting against rising consumer prices. "Whereas the military captured the power of Uganda, the family captured the military," he says. A chaotic transition can still be avoided. But the fog is as thick as ever, and the cliff edge nears. ■

Haircutonomics

Cutting costs

DAKAR

A brush with a barber shows how economists can assume too much

ECONOMICS OFTEN seems oversupplied with theory—all dogmatic assumptions and curves with obscure names. Yet economics students in the rich world can get surprisingly practical advice from wild-haired professors explaining non-tradable goods: "When in poor countries, get a haircut."

The prices of goods that are traded internationally should not vary nearly as much as prices of things like haircuts that cannot be stored or shipped. This is because a trim depends largely on local costs such as wages, which are much lower in poor countries.

Your excessively frugal correspondent ignored this and chose to cut his own hair in Dakar, the capital of Senegal. Chaos swiftly ensued. So did a desperate search for a salon to fix the troubled thatch. A friendly Senegalese *coiffeuse* provided an expert clip—and a bill to make any hairdresser in Manhattan blush. What happened to one of the most cherished dictums in economics?

This particular stylist had lived briefly in Paris. Perhaps her prices came from the chic sixth *arrondissement*. Yet Dakar is bristling with cheap salons. Competition ought to have snipped her hopes of selling costly cuts. Instead her business is bustling, as is a rival salon that merrily charges similar prices. The clientele at both are mainly well-heeled Senegalese, along with a few expats. Might jet-setting customers have their expectations anchored to prices in Paris or London,

making haircuts, in effect, seem more tradable than they are?

That seems unlikely. Heady prices may instead be a signal that a barber is as good as a Parisian one. Patronising such an outlet, in turn, may be a way of displaying wealth. At any rate, haircuts are clearly less fungible than professors profess, since their prices differ wildly within the same city. This suggests another of economists' assumptions rarely applies: that of perfect competition.

For competition to be perfect, products must be nearly identical. Yet the market for mohawks in Dakar casts doubt on this idea. Some barbers pull in clients by blasting Afrobeats. Others have comfier chairs or screen football matches. Perfect competition also requires clients to have perfect information about the options on offer. Yet many of Senegal's best snippers do not show up on the internet; most do business by word of mouth. And even omniscient customers might be loth to cross Dakar to get the best deal. The tangled traffic may keep extortionate stylists in business in swanky suburbs, while high rents and red tape may keep competitors out.

This admittedly small study suggests that parsimonious profs ought to update their advice. Students should get their hair cut not just in poor countries but, once there, in poorer parts of town. They might also add that, just as there are no free lunches, cutting one's own hair may well be a false economy.



Would you like your hair in a Laffer Curve or Kondratieff Wave?



The future of tank warfare

Old-model army

Russia's poor use of tanks in Ukraine is no reason to write off the weapon

ARMIES ON THE attack need ways to move their troops forward. They also need to shield those soldiers as they advance. Most important, they need firepower to punch through defences that stand in their way, ideally causing havoc in the enemy's rear. The tank combines these capabilities in a single device. For that reason, every significant army uses them. There are more than 70,000 around the world.

Yet since the tank first rolled onto the battlefield, at the Somme in 1916, the vehicle's future has been in question. At the battle of Cambrai a year later 400 British tanks broke through German defences and penetrated five miles so quickly that the astonished attackers were not prepared to exploit their success. Gradually, armies learned how. In May 1940 the Wehrmacht's massed tanks sliced through the Ardennes forest on their way to France, in synchrony with infantry and air power, in what would become known as blitzkrieg.

Numbers have declined sharply since

the end of the cold war, however, and current scepticism about the tank's future is particularly vehement. Critics argue that the vehicle is ponderous, expensive and ill suited to modern combat. America's Marine Corps has said it will scrap all its tanks to focus on preparing to fight China in the Pacific. Many European armies have cut their fleets to the bone since the cold war (see chart on third page of this section). Boris Johnson, Britain's prime minister, declared that the old concept of fighting big tank battles on the European landmass was "over", even as Russian forces were gathering on the Ukrainian border.

The Ukraine war has turbocharged this criticism. Russia is advancing slowly in eastern Ukraine thanks to its advantage in artillery (see Science section). But it is a grinding campaign rather than one of bold armoured manoeuvre. Russia has lost at least 774 tanks since invading, according to a count by Oryx, a blog that tracks the war. Around half of those were destroyed, a

third were captured by Ukraine and most of the rest were abandoned. This implies that Russia has lost a quarter of its estimated pre-war inventory of almost 3,000 tanks. Some elite units, such as the 4th Guards Tank Division, appear to have lost an even higher share. Vladimir Putin envisioned his tanks rolling into Kyiv; instead they ended up bogged down on the city's outskirts, before being forced to retreat.

The war in Ukraine has underlined two potent threats to armoured vehicles. One is the anti-tank guided missile (ATGM). Its potential has been clear since the Yom Kippur war of 1973, when Egypt's Soviet-made Sagger ATGMS smashed Israeli M60 tanks. A memo written by the American army after the war assessed that the Sagger, if not disrupted, had a 60% chance of achieving a "kill" against the American-made M60 tank from as far as two miles out.

The Sagger was guided by a command wire that unspooled as the missile made its journey. Today's missiles, including American Javelins and the short-ranged British-Swedish NLAWs, are "fire and forget". They home in on a hot engine or use magnetic and optical sensors to predict where the tank will be in a few seconds. Just as important, modern ATGMS strike where a tank's armour is thinnest. In its "top-attack" mode, the Javelin arcs into the sky and plunges down; the NLAW flies a metre or so above the tank with a warhead point-

→ The Russian T-72 tank was conceived to be compact and cheap to produce, but the design has fatal drawbacks

The T-72 is the Toyota Corolla of armoured vehicles—a mass-produced stalwart of armies around the world. It was first used in combat by Iran and Syria in the 1980s. Today it is in the vanguard of Russia's invasion of Ukraine. But its woeful performance is raising questions about whether tanks have a future.



Russian tanks like these are well protected against frontal attacks. The glacis [A] is slanted, which both increases the amount of armour a missile must penetrate and makes it more likely that it will be deflected away from the tank.

The sides of the hull [B] have weaker armour. Most tanks lack protection here, but Soviet designs are particularly vulnerable. The most exposed point, however, is the turret [C].

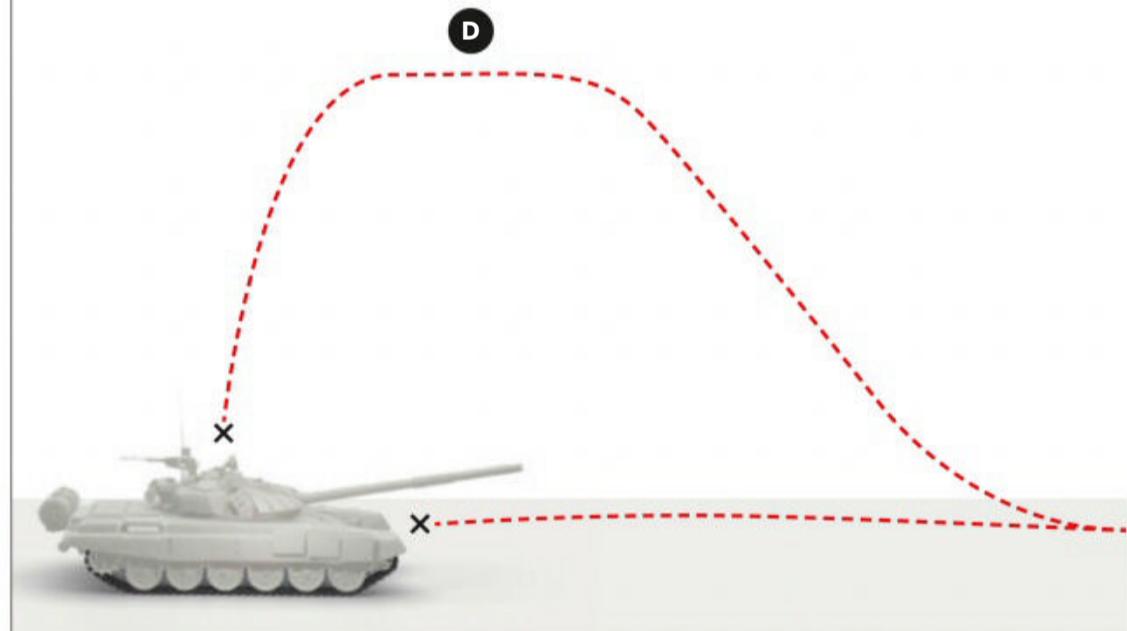
Older anti-tank rockets would hit the well-protected glacis. But when a Javelin missile is fired at a tank, it shoots up as high as 150 metres before plunging down and striking the turret from above [D].

The missile is much more likely to penetrate the armour and blow up the ammunition [E], which sits underneath the crew in a mechanical carousel known as an autoloader.

The autoloader removes the need for a fourth crew member, which allows the tank to be more compact—and therefore lighter and cheaper. But there is no blast door between crew and ammunition.

The American M1A1 is bigger than the T-72, in part because it has a crew of four, one of whom is a loader. This makes the tank harder to hide—but also makes it easier to separate crew and ammunition [F] using thick blast doors. In modern warfare, where missile attacks increasingly come from above, the separation of crew and ammunition makes the tank less likely to experience a catastrophic explosion.

Missile trajectories of a Javelin v conventional anti-tank rocket
Not to scale



The M1A1 compared with the T-72



ing down 90 degrees.

The second threat is armed drones, which offer a cheap and simple way of attacking from the air. In recent years Turkish-made TB2s, which are slightly smaller than a Cessna light aircraft, have destroyed large amounts of armour in Libya, Syria, Nagorno-Karabakh (part of Azerbaijan that is populated by ethnic Armenians)—and now Ukraine. Ukraine is also using alternatives that range from the basic (quadcopters armed with Soviet-era anti-tank grenades) to the more advanced. A cutting-edge example is the American-made Switchblade, a dive-bombing drone that explodes on impact and is known as a loitering munition. Ukraine reportedly began using them in early May.

It would be wrong, however, to write the tank's obituary based on its performance in the war, precisely because Russia has made such poor use of it. Many military analysts had expected that drones would be little more than a nuisance in any conflict. But Russia's failure to eliminate Ukrainian air defences in the first days of the war means that its warplanes cannot freely patrol the skies, giving TB2s more freedom to operate. Meanwhile, Russian air defences, designed to detect larger aircraft, seem to struggle with the smaller drones, though there have been improvements in recent weeks.

Modern armed forces prize the idea of combined-arms warfare, in which the various elements of a military formation compensate for each other's weaknesses. Tanks clear the way for infantry, but only infantry can go into a warren of tunnels to weed out enemy squads armed with anti-tank weapons. Warplanes provide cover for advancing tanks and infantry, but need air defences stationed on the ground to keep enemy planes away. Ben Barry, a former commander of a British armoured infantry battalion, now at the International Institute for Strategic Studies, has called it "a lethal version of scissors, paper, stone".

Russian tanks have fought in isolation from reconnaissance units sweeping the path ahead or dismounted infantry flushing out anti-tank squads in woodland or urban areas. Such tactics "have existed since the time the Egyptians first hit the Israelis", says B.S. Dhanoa, a retired major-general who once commanded an Indian armoured brigade. Only recently have Russians begun to use artillery methodically to pound Ukrainian positions ahead of a ground assault.

Dave Johnson of RAND, an American research institute, has observed that in the American and Israeli armies it became common practice after the Yom Kippur war to aim artillery at locations where soldiers with ATGMs might be hiding. That forced the enemy to hunker down, making it harder for them to keep tanks in their

See online

For interactive analysis of the tank's future, including an annotated 3D T-72 and video accompaniments, visit the digital version of this piece at economist.com/FutureOfTheTank

sights. "One of the major lessons is that you cannot have armour bumbling along without fire support, or its own eyes and ears well ahead through a reconnaissance screen," concludes General Dhanoa.

An example of what happens when that lesson is not heeded comes from Brovary, a suburb of Kyiv. Drone footage from mid-March shows a densely packed Russian armoured column driving into an ambush. The commanders on the ground were not solely to blame. One reason for the initial failure of the Russian advance on Kyiv was that artillery support was stuck to the rear of congested columns—a function of poor planning. As Wilf Owen, editor of *Military Strategy Magazine* and an expert on armoured warfare, puts it, "If the Russian army had done any competent training at all, you would not have seen anything like this level of losses."

Certain problems are also specific to the layout of Russia's T-72 tanks, now fighting in Ukraine (see illustration on previous page). The Soviet decision to use autoloaders made it possible to reduce tanks' crews from four men to three, and contributed to the goal of assembling a large fleet of relatively light and inexpensive tanks. This was a defensible choice at the time, but it has created "eggshells with hammers", says Lieutenant-General Sean MacFarland, a former commander of America's 1st Armoured Division, echoing a criticism originally applied to warships that had big guns but were themselves ill protected. The use of autoloaders makes it more difficult to shield the crew when a strike blows up the tank's ammunition. These trade-offs were known long before the war in Ukraine. "Almost every conflict that has in-

volved Soviet-era tanks from the T-64 [an early model] onwards has shown the vulnerability of these designs to attacks from above and from the sides," write Sam Cranney-Evans and Sidharth Kaushal, analysts at the Royal United Services Institute, a think-tank in London.

Newer Russian tanks are designed differently. The T-14 Armata, the latest model, keeps an autoloader but sensibly encloses the crew in an armoured compartment. The Armata also has another advantage: an active protection system (APS), which uses radar to detect incoming rounds and fires projectiles to stop them. That would all be good news for Russia's unfortunate tank crews, were it not for the fact that the Armata is still being tested and is nowhere to be seen on the battlefield. Nor will the costly Armata be procured in large numbers; at Russia's Victory Day parade in Moscow in May, just two were shown off.

In the long race between the tank and its foes, anti-tank forces appear to have the upper hand. But vulnerability is not the same as obsolescence. Armies need something that can move quickly, break through enemy lines, lead the way for infantry and destroy the other side's armoured vehicles. If the tank does not do these jobs then something else must. That alternative will, in turn, become prey to the same anti-tank weapons. "If people want to say the tank is dead, then every armoured fighting vehicle is dead for the same reasons," says Mr Owen. "Because if tanks aren't there to kill with an ATGM, you will use ATGMS to kill whatever vehicle is there."

Dear tracks

But tanks are increasingly expensive. They are beginning to approach the heady sums spent on modern fighter jets. A high-end one can cost as much as \$20m, says Mr Owen. An F-35A, a cutting-edge warplane, is around \$80m, though estimates vary. One reason for this inflation is the growing expense of tacking on ever more armour to protect the tank. APS will add to the cost. On top of that, operating a heavy-tracked vehicle can cost up to \$500 a kilometre, Mr Owen notes. A large fleet requires lots of dedicated support, from bridging equipment to fuel trucks.

Some countries will keep piling on armour, resulting in more ponderous but tougher tanks capable of absorbing bigger blows. But many more are likely to opt for lighter vehicles. These might be more vulnerable to Javelins and Switchblades but would be more affordable in larger numbers (and could be safer than T-72s). And much as sixth-generation warplanes are likely to become mother ships for drone swarms, tanks might become hubs for autonomous ground vehicles that can scout ahead and perform other tasks. Tanks will not die out; they will evolve instead. ■

Tanks for the memories

Armed forces, battle tanks, '000



Source: International Institute for Strategic Studies



EU enlargement

The unclubbable in pursuit of the unwelcoming

PARIS

War on its doorstep has rekindled talk of enlarging the EU. But it will be a long process

COME THIS autumn the European Union will enter its longest stretch in five decades without having welcomed a new member. A club that expanded from six countries in 1957 to 28 when Croatia joined in 2013 had appeared to have reached its limits, give or take a few former Yugoslav republics laboriously negotiating their way in. But war on the continent's eastern fringe has given impetus to the idea that Ukraine should join, perhaps with Moldova and Georgia in its wake. Their process of accession, a decade-long slog at best, could start on June 23rd, when EU leaders meet in Brussels to discuss the issue.

Few thought Ukraine remotely close to becoming a member of the EU before it was invaded by Russia on February 24th. Days later, even while enemy troops were marching towards Kyiv, President Volodymyr Zelensky signed a formal request for accession (Moldova and Georgia soon followed). Ukraine's neighbours already

within the bloc, most notably Poland, say giving it the nod is a moral duty. Ukrainians are dying for European values; a promise of a future within the EU would be a morale-booster on the battlefield and help the recovery once the fighting is done.

Joining the EU is arduous even for places not ravaged by war. Six countries in the western Balkans have been at it since 2003—and Turkey for even longer, though its drift towards autocracy means it is in effect no longer angling for membership.

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The first step is to be recognised as a “candidate country”, after which applicants get a chance to ensure that their laws are in line with existing EU legislation. On June 17th, after *The Economist* went to press, the European Commission was expected to say Ukraine is ready to begin such talks.

But merely embarking on the process to become an EU member requires unanimous approval from all those already in the club. Some are sceptical. A few northern European governments, led by the Netherlands and Denmark, fret about welcoming applicants with not much of a track record of maintaining democratic standards. Ukraine is far poorer than any current EU member. It had struggled to combat corruption before the war; its courts need to be overhauled. Moldova has a well-regarded president and prime minister but a rickety state. Georgia has fallen from grace of late thanks to truculent and sometimes EU-bashing leaders. Russia controls bits of territory in all three places.

The prospect of a super-size bloc gives pause to even the most ardent fans of enlargement. Bringing Georgia in would mean that bits of continental Europe would be closer to America than they are to the farthest reaches of the club. Ukraine, with a population of 44m before the war, would become the EU's fifth-biggest member. Its farmers would absorb a huge slice ➤

► of subsidies once earmarked for France.

The fact that some existing EU members such as Poland and Hungary have flouted democratic norms in recent years has made the sceptics all the warier of considering newcomers. This comes on top of fears that giving Ukraine candidate status would raise its hopes of quick accession, when in fact the process is likely to drag on for ten years or more—probably longer than the current goodwill towards Ukraine can be sustained.

The experience of the western Balkans is a cautionary tale. Serbia, Montenegro, North Macedonia and Albania are all official candidates for accession; Bosnia-Herzegovina and Kosovo (which is not even recognised as a country by some EU members) are “potential candidates”. The lure of membership was meant to bring the region into the EU’s orbit. But the snail’s pace of talks—which have not even started, in the case of North Macedonia and Albania—has led to disenchantment. It has pushed the likes of Serbia closer to Russia and China.

For France, Germany and Italy, the EU’s founding big states, welcoming Ukraine as a candidate would be an easy sop to eastern Europeans who accuse them of complacency about Russia. Their respective leaders, Emmanuel Macron, Olaf Scholz and Mario Draghi, travelled to Kyiv on June 16th to meet Mr Zelensky. The French president has considered a looser European alliance that Ukraine and others could join quickly. But for now all are focused on membership of the EU proper.

Assuming Ukraine is given the candidate status it craves—perhaps with caveats, to assuage the Dutch—Europe will have to rethink the way accession works. For one thing, the Balkan enlargement process will have to be reinvigorated, lest countries there feel they are being leap-frogged. The region’s leaders will be in Brussels to meet their EU counterparts on June 23rd. Moldova and Georgia, for their part, could be given a few hoops to jump through before be-

ing granted candidate status.

One idea, put forward by Charles Michel, the president of the European Council, is for countries to feel the benefits of accession before joining the EU. Currently, candidates undertake painful reforms for years to adopt the bloc’s exacting standards on everything from competition law to pet passports. Most benefits come only once they become members, many years down the line. In future there may be ways to integrate-as-you-go: a country that had met EU standards in its labour markets could join its existing schemes on the free movement of workers, for example.

Barring reform of the EU, any current member has the power to derail any application, notes Luigi Scazzieri of the Centre for European Reform, a think-tank in London. So whatever is agreed next week will be only the first step of a long journey. Ukraine and others have been warned of this time and again. Thus far, it has not dissuaded them. ■

Rebuilding Ukraine

The \$500bn question

The EU has begun debating how to fund the reconstruction of Ukraine

ON FEBRUARY 23RD the Azovstal factory in Ukraine’s port city of Mariupol was one of the biggest steel plants in Europe, 11 square kilometres of blast furnaces and liquid metal. Its 11,000 workers poured more than 4m tonnes of steel a year. On February 24th the war began, and three months later Azovstal lay in ruins. Russia has reduced most of Mariupol, and other towns in eastern Ukraine, to burnt-out husks. Russian missiles and artillery have smashed railway stations, ports and telecoms towers, hit more than 1,000 schools and left roads and wheat fields pockmarked with craters. The physical damage came to \$104bn at the end of May, according to the Kyiv School of Economics and the economy will shrink by up to 50% this year.

Ukraine’s allies have promised cash to keep the country running during the war, and to rebuild it afterwards “to help a new Ukraine rise from the ashes of war”, says Paolo Gentiloni, the EU’s economy commissioner. An accurate estimate of the total cost is impossible, but guesses are in the range of \$200bn-500bn and rising. One question is where to get the money. Another is how to organise the aid without running foul of institutional rules or political sensitivities. Finally, there is the question of whether Ukraine can handle the cash.

The prospect of paying for reconstruc-

tion dwarfs more immediate issues, such as keeping Ukraine’s government solvent. “If we see that...there is no discussion of how to share the cost, then we are concerned,” says an Italian official. The EU could borrow the money collectively, as it did for its covid-recovery splurge. This idea has support among cash-strapped members. France may also see such a fund as a welcome chance to enhance Europe’s role in international affairs.

But Germany is hesitant, partly because it worries about high public debt and partly because collective EU debt tends to anger its powerful constitutional court. The Dutch government agreed to the covid-recovery fund only as a one-off, and is reluctant to break that promise to voters.

Then there is the question of who spends the money, and on what. The European Commission has proposed a “Rebuild Ukraine” platform that it would supervise alongside the Ukrainian government. It would co-ordinate aid from the EU and its member states, other countries (including America, Britain, Canada, Japan and South Korea) and international lenders such as the IMF, the World Bank and the EBRD. Ukraine would take the lead in drawing up a reconstruction plan: it has already formed working groups of domestic stakeholders and international donors.

Everyone accepts that the EU should have a leading role, not least because Ukraine aims to join the club. Some worry, though, that the EU’s bureaucracy and need for consensus will slow it down. Furthermore, not all interested parties are members of the union. America and Britain play big roles in Ukraine’s war effort, and institutions like the World Bank have their own rules and priorities. This argues for a looser sort of co-operation among different donors. The EU may focus on institutional reforms, economic integration and development, while America helps Ukraine build up its armed forces and defence industry. The IMF would guide the restructuring of ►



That’ll cost someone

Slowing down

EU member states, by year joined

1957*	Belgium, France, Germany†, Italy, Luxembourg, Netherlands
1973	Denmark, Ireland, Britain‡
1981	Greece
1986	Portugal, Spain
1995	Austria, Finland, Sweden
2004	Cyprus, Czech Rep., Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia, Slovenia
2007	Bulgaria, Romania
2013	Croatia

*Came into force in 1958 †West Germany before 1990 ‡Until January 31st 2020

► Ukraine's debt and launch a new lending programme. Individual countries will take credit for their own aid projects.

Such decentralisation risks duplication. The scramble for funds, both by Ukrainians and foreign contractors, will be fierce. It could also make it harder for anti-fraud agencies to spot corruption. Ukraine has the worst score in Europe on Transparency International's corruption perceptions index, apart from Russia. It has improved since protests toppled a crooked government in 2014, instituting a transparent public procurement system and an independent anti-corruption investigator. Some say its poor image stems partly from Russian propaganda, but all stress the need for more accountability.

One way to reassure donors would be to work with foreign contractors experienced in big infrastructure projects, says Natalie Jaresko, a Ukrainian-American who was Ukraine's finance minister in 2014-16. Another might be to establish a court with foreign judges to adjudicate disputes linked to reconstruction. Bringing private-sector investment to a war-racked country with a reputation for corruption will take some doing. Yet the flowering of Ukrainian patriotism during the war will help. "Ordinary people on the streets are getting involved, scrutinising plans and discussing cost calculations of rebuilding projects," says Oleg Ustenko, an economic adviser to Volodymyr Zelensky, Ukraine's president. "Everybody believes that things related to the country are related to themselves." ■

Ukraine's weapons plea

Keeping faith

KYIV

Europe must arm Ukraine faster, says its defence minister

THE DEFENCE minister of a country under invasion doesn't have much time for reading, but Oleksii Reznikov makes a point of studying the front pages. He is concerned by what he sees. "Either the world doesn't quite understand what is happening," he says, "or it does understand, is tired and is content with a few Ukrainians dying." When Russia attacked his country on February 24th, few expected Ukraine to survive. Heroic resistance transformed fatalism into hope, and led to promises of military support. But cracks in the Western alliance are appearing just as the war enters a bloody new phase. Ukrainian losses are now running at an average of 100-200 men a day. "We need assistance, quickly," he says, "because the cost of any delay is measured in Ukrainian blood."



Read online

On Sunday June 19th, *1843 magazine* will publish an interview with Olena Zelensky, wife of Ukraine's president. To read it go to economist.com/1843



When Russian tanks crossed Ukraine's borders the 55-year-old former lawyer had been in charge of his department for less than four months. Mr Reznikov had expected largely to busy himself with bureaucratic reforms. Instead he found himself overseeing the country's defence as missiles rained down on Kyiv. His war began with a 4am phone call from Valery Zaluzhny, the commander of Ukraine's armed forces, and a laconic message: "It's started. Strikes on air defences and radars. Invasion." That was the signal for Mr Reznikov to kiss his wife goodbye and leave for the office. The next three weeks were spent with a core team of advisers, all armed with automatic rifles. The group moved around secret sites in the capital. "One of the most uncomfortable things was waking up each morning in a new bed."

The Ukrainians had a few surprises up their sleeves. The main trick was to declare "routine" military exercises to mirror Russian and Belarusian drills in early February. "This was the excuse that allowed us to secretly move our military units out from their permanent bases. When the strikes came in, our guys were not all together in one place, but were ready with weapons, munitions and scattered around the country." They also hid air-defence systems and attack aircraft, replacing them with mock-ups. They enacted a new law on territorial defence to arm around 100,000 civilians in three days. But the key moment was Volodymyr Zelensky's decision to stay in Kyiv. "Everyone expected the president to run and form a government in exile. But Mr Zelensky had his own script."

With every victory on the battlefield, Western governments began to believe that Ukraine actually had a chance of winning. Opposition to sending weapons faded. A conference convened by America at Ramstein air base in Germany on April 26th appeared to endorse the principle of arming Ukraine for victory. "The West started to believe David was beating Goliath," says Mr Reznikov.

But vicious battles in eastern Ukraine show that assessment to be premature. Russia is now squeezing Ukraine's elite troops from a salient around the industrial town of Severodonetsk. Fighting is also hotting up on the nearby approach to Slovyansk. If the news appears grim for both sides, it is worse for Ukraine. Returning soldiers talk of chaotic command and depleted ammunition. Inexperienced soldiers from volunteer units are sent to the front lines to replace fallen comrades. The minister says this is an inevitable consequence of Russia's invasion. "How else can it be? Young guys end up on the front lines, where no one wants them to be, and they die...the world needs to know about it."

Ukraine needs Western help to stop the onslaught, and it is not coming fast enough, he adds. In some areas Russian forces have ten times Ukraine's firepower. Multiple-launch rocket systems are in the pipeline, due to arrive "soon...perhaps in a week, perhaps two." But Ukraine needs them in large numbers, and whether or not its allies agree to send them may depend on how Russia reacts to their deployment.

Western military chiefs have also expressed concerns that Ukraine may not be able to absorb the new hardware as fast as it would like. Mr Reznikov dismisses this: his soldiers mastered Western artillery in just two weeks, he says. The country stands ready to switch its weaponry to NATO standards within a month, he claims, rather implausibly. "As comrade Churchill said, give us the tools and we'll finish the job." ■

Germany's China policy

A new yawn

BERLIN

Germany is recalibrating its ties with China—cautiously

IN RECENT YEARS members of parliament from parties across the political spectrum had pushed for a rethink of Germany's China policy, without much success. Angela Merkel, Germany's chancellor for 16 years until the end of last year, stuck to a course that prioritised ever-closer commercial ties over concerns about human rights or China's geostrategic ambitions. This was always set to change with the advent of a new government, led by Olaf Scholz, which had promised a new China strategy in its coalition agreement. But the war in Ukraine has focused minds even more on the dangers of close business relations with an autocracy.

The most important aspect of the new China policy, whose publication has recently been postponed, will be a robust ef-

► fort to reduce China's economic leverage. Last year China was Germany's top trading partner for the sixth consecutive year, with combined exports and imports of more than €245bn (\$255bn). Exports to China represent around 8% of Germany's total.

"Germany is unique in the dependence of its biggest companies on the Chinese market," says Noah Barkin, a China expert at Rhodium Group, a research firm. Volkswagen, BMW and Daimler, three big carmakers, and Infineon, a maker of semiconductors, depend on the Chinese market for the lion's share of their business. Bosch, a car supplier, employs 60,000 people in China. Of Germany's 15 most valuable listed firms, ten derive at least a tenth of their revenues from China, according to *The Economist's* rough estimates.

The war in Ukraine is a stark reminder that even close business relationships can come unstuck very quickly. VW and BMW both announced at the start of March, days after the war began, that production at their factories in Russia would be suspended, and all exports to Russia stopped. But the pain would be far greater if the two giants had to halt their much more lucrative operations in China.

European business has hit the pause button on new investments in China, says Jörg Wuttke, the German head of the European Union's chamber of commerce in China. This is related to travel restrictions and China's policies to contain the covid-19 pandemic rather than the war in Ukraine. German business fell out of love with China a while ago. The government has allowed German firms only very selective access. And the mounting evidence of human-rights abuses has become impossible to ignore. This suits Mr Scholz's ministers, who are pleading with companies to diversify their markets and supply chains away from the Asian behemoth. The government recently declined to renew risk insurance covering losses related to political strife for VW's Chinese operations, citing China's brutal treatment of Uyghurs, a Muslim ethnic minority.

Speeding up

Germany, trade with China, % of total



Reshoring, near-shoring and other forms of relocation are already happening, says Wolfgang Niedermark, a member of the board of the Association of German Industry (BDI), who until 2020 headed the German chamber of commerce in Hong Kong. But there are limits. Last year the BDI published a paper on "Responsible Coexistence with Autocracies in Foreign Economic Policy Making". Though it recommends that Western firms lead by example in protecting human rights and fighting climate change, it also states that cutting commercial ties with autocracies is not a realistic option. "We cannot defend democratic values any better if we considerably weaken ourselves economically," says the paper.

The new government agrees. Its focus is on reducing dependence on China in areas

that might limit its options in a serious geopolitical crisis, not decoupling from China altogether. Like many other countries, Germany depends on China for a big chunk of its imports of critical goods such as rare-earth minerals, solar panels and computer chips. But while lessening these vulnerabilities, Germany must continue to work with the Chinese to help them reduce their carbon emissions, say policymakers. China accounts for as much as 30% of the world's emissions.

Germany's foreign ministry now says it will unveil the government's new China strategy at the end of the year, six months late. It will not shy away from mentioning the abuse of Uyghurs. But many critics fear that pragmatism will, once again, be the order of the day. ■

French legislative elections

Losing his grip

PARIS

The president's majority is in doubt

EMANUEL MACRON, France's president, is fighting to hold on to his parliamentary majority after the first round of legislative elections on June 12th. His centrist alliance, Ensemble, suffered at the hands of Jean-Luc Mélenchon's radical-left grouping, the New Popular Ecological and Social Union (NUPES). Each won a quarter of the vote.

Under France's two-round system, Ensemble is predicted to win many more races than NUPES. But Ipsos, a pollster, nonetheless projects that Mr Macron's alliance will secure just 255-295 seats in the National Assembly at the run-off on June 19th, well down from the 350 it won in 2017. All but the upper end of the predicted range would see the re-elected president's grouping fall short of the 289 seats it needs to retain its majority.

In 272 of France's 577 constituencies the run-off will pit Mr Macron's candidates against those of Mr Mélenchon's alliance, which includes the Socialists, Communists and Greens. The 70-year-old firebrand, who wants to pull France out of NATO and bring back a wealth tax, has imposed improbable unity on the fractious French left, which dreams of seeing Mr Mélenchon become Mr Macron's next prime minister. This remains unlikely. But NUPES does look set to replace the right-of-centre Republicans as the main opposition.

Marine Le Pen, who lost to Mr Macron in the presidential election in April, looks well placed to be re-elected as an MP. Her nationalist-populist National Rally (RN) won 19% of the national vote and is expected to claim 20-45 seats, up

from eight in the outgoing parliament. Eric Zemmour, a rival on the far right, was eliminated in the first round.

In the showdown between Mr Macron's centrists and Mr Mélenchon's left-wing alliance, much will depend on where the votes of eliminated candidates go. Mr Macron may pick up some from the centre-right. Mr Mélenchon could draw some from Ms Le Pen, who shares a base in working-class industrial towns.

A low turnout reflects a muted campaign, with Mr Macron appearing to treat the election as a vote of confirmation for his presidency. This week he left his electoral worries at home to visit French troops stationed in Romania as part of a NATO mission, followed by a stop in Moldova and, as *The Economist* went to press, by a long-awaited trip to Ukraine.



Can he keep it?

Charlemagne | NATO's loose cannon

Is Recep Tayyip Erdogan's Turkey more trouble to the alliance than it is worth?



THE RECEIVED wisdom is that Russia's invasion of Ukraine has breathed new life, and a new sense of purpose, urgency and unity into NATO. Someone forgot to tell Recep Tayyip Erdogan. Over the past month the Turkish president has blocked NATO enlargement, warned of a new offensive against American-backed Kurdish fighters in Syria and stoked tensions with Greece, also a member of the alliance. A few pundits, in the West but also in Turkey, are once again debating whether NATO and Turkey should part ways. This time, they are not alone. "Leaving NATO should be put on the agenda as an alternative," Devlet Bahceli, leader of a nationalist party in Mr Erdogan's coalition, recently said. "We did not exist because of NATO and we will not perish without NATO."

Frustation is also mounting in Western capitals, and in Kyiv, over Turkey's willingness to accommodate Russia. Many in those places had hoped that the war in Ukraine would force Mr Erdogan to reconsider his romance with Vladimir Putin, Russia's president. Opportunism has prevailed instead. Turkey has sold armed drones to Ukraine and closed access to the Black Sea for Russian warships, but it opposes Western sanctions against Russia and openly courts Russian capital. According to a report in the Turkish media, dozens of Russian companies, including Gazprom, are planning to move their European headquarters to Turkey.

Aside from a few words of condemnation at the start of the war in Ukraine, Turkey has remained on good terms with Russia throughout. When Russia's foreign minister, Sergei Lavrov, visited Ankara this month his Turkish counterpart kindly suggested that the West should ease sanctions against Russia if Russia relaxed its blockade of Ukrainian ports. When Mr Lavrov repeated his claim that Russia had invaded Ukraine to liberate it from neo-Nazis, his host said nothing.

Mr Erdogan's move to block Sweden's and Finland's accession to NATO has further damaged Turkey's standing in the alliance. The strongman has signalled that he wants the Nordic countries to extradite several members of the Kurdistan Workers' Party (PKK), an outlawed armed group, and to drop a partial arms embargo against his country. He may also be shopping for concessions from America in exchange for withdrawing his veto, or from Russia for doing the opposite. Mr Erdogan occasionally sounds hostile

to NATO enlargement as a matter of principle. In a recent guest column for *The Economist*, he went as far as to blame Finland and Sweden for adding an "unnecessary item" to NATO's agenda by asking to join the alliance.

Mr Erdogan may have reasoned that a couple of foreign crises were needed to distract Turkish voters from their fast-diminishing circumstances, as galloping inflation, officially measured at over 70%, devours their savings and wages. In late May he warned of a new military offensive against Kurdish forces in Syria. Forced to shelve such plans, presumably because of opposition from Russia or America or both, he has since lashed out against Greece, demanding that it demilitarise Greek islands hugging Turkey's western coast. He has also suggested that American bases in Greece pose a threat to Turkey (which hosts American forces itself). This might be bluster, and blow over. But obstructing Finland's and Sweden's NATO membership while war rages in Europe is bound to have consequences, even if Mr Erdogan backs down. Sweden had been one of the few countries keeping alive Turkey's hopes of membership in the European Union. That support has now gone.

That may seem a price worth paying to Mr Erdogan if the row fires up his nationalist base. Mainstream Turkish politicians, as well as many humbler Turks, see the PKK purely as a security threat, and have long criticised the West for not taking their concerns about the group seriously. They have bristled especially at America's decision to team up with the group's Syrian wing to bring down Islamic State's caliphate. Westerners, meanwhile, tend to believe that Turkey bears much of the blame for the PKK's emergence by refusing to grant the country's Kurds the rights they demand. They have also concluded that Mr Erdogan cannot be trusted to decide who is or is not a terrorist. By applying the label to thousands of people, including bureaucrats, academics, peaceful protesters and Kurdish politicians, and often throwing them into the same prisons as armed militants, Mr Erdogan has cheapened the term as badly as he has Turkey's currency.

Turkey and the West will never see eye to eye on the issue, and Mr Erdogan's antics, as well as his habit of suggesting that the West, and not Russia, is the biggest threat to his country, will only make matters worse. Already, 65% of Turks say they do not trust NATO, according to a recent survey, although 60% support membership of the alliance.

Never say never

None of this spells doom for the relationship between Turkey and NATO. Western countries will try to work round Turkey's veto by providing Finland and Sweden with security guarantees. This may leave Turkey sidelined within the alliance. But its departure or eviction from NATO is still fantasy. Turkey is on the front line of the war in Syria and close to other conflicts in the Middle East; it controls access to the Black Sea, which has been central to all of Russia's recent wars; and it serves as a corridor for trade between Central Asia and Europe, especially in energy, notes Ben Hodges, a former commander of American forces in Europe. "I don't even want to think of NATO without Turkey," he says.

Especially in the wake of Russia's war in Ukraine, Turkey also has no interest in surrendering the power of deterrence that NATO membership offers. "I don't believe it will ever happen," says Takan Ildem, Turkey's former permanent representative to NATO. There is no credible alternative, he says. Turkey will probably remain a headache for the alliance, even when Mr Erdogan is out of the picture. But it is a headache NATO will have to live with. ■



Urban growth

A population puzzle

DIDCOT

British cities all grow at roughly the same speed. That is bad for the economy

**BRITAIN'S
GROWTH
CRISIS**



FEW ENGLISH cities are more successful than Oxford. Wages there are higher than the national average, and the proportion of adults with degree-level qualifications is far higher. Oxford University has a larger portfolio of patents than any other British university.

But in one important way Oxford is no better than mediocre. Over the past five years the city has added just 1,440 net homes, swelling its housing stock by 0.5% a year. That is slower growth than the English average. The Office for National Statistics (ONS) will soon update its population estimates to account for the 2021 census. For now, though, it calculates that Oxford's population of about 150,000 is not growing at all. Even if you include surrounding districts containing lots of commuters—which is how the OECD, a club of mostly rich countries, defines urban areas—its

growth is only average.

When it comes to population growth, British urban areas are all much of a muchness (see chart). Cambridge is just as successful as Oxford, yet the city and its hinterlands are growing slightly slower than its rival. Even London, whose success explains the government's promise to "level up" the country, only grows by about 1% a year—again counting the commuter belt as part of the city. Not one metropolis is losing inhabitants. This pattern helps to explain why Britain is not more productive.

Such homogeneity is unusual. Germany has several shrinking metropolises, ma-

ny in the former East Germany but some, like Saarbrücken, in the industrial west. French cities are also more varied in their growth rates than British ones. The range of population change in American metropolises, which stretches from -0.6% (Mahoning, Ohio) to 2.9% (Austin, Texas), is the widest of all.

Three things determine urban growth rates: domestic migration, international migration and the balance of births and deaths. British cities commonly gain more international migrants than they lose and have a surplus of births. But they tend to lose more people to the rest of Britain than they gain, as middle-aged residents seek quieter, more spacious digs in small towns and villages. That is true of Birmingham, Edinburgh, London, Manchester and Oxford, among many others. By contrast, says William Frey of the Brookings Institution, a think-tank, many cities in fast-growing American states such as Florida and Texas are positive on all three measures.

The main reason successful British cities do not grow faster is the planning system, which allows local governments to block development. Oxford is surrounded by a 34,500-hectare (85,250-acre) "green belt", a ring of land in which building is very difficult. Many green belts are much bigger: overall, 12% of England is so designated. "Green belts prevent cities from growing horizontally, height restrictions prevent them from growing vertically, and preservation rules prevent them from re-

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newing themselves," says Christian Hilber at the London School of Economics. Because most taxes are paid to central government, local authorities have little incentive to override planning restrictions.

Large cities used to lose inhabitants: Liverpool, London and Manchester all did between the second world war and the 1990s. These days even struggling ones tend not to. They house the people who might move to successful cities if the latter were building more homes. Besides, says Paul Swinney of the Centre for Cities, a think-tank, people living in social housing are reluctant to move because they might have to join the queue in a new city.

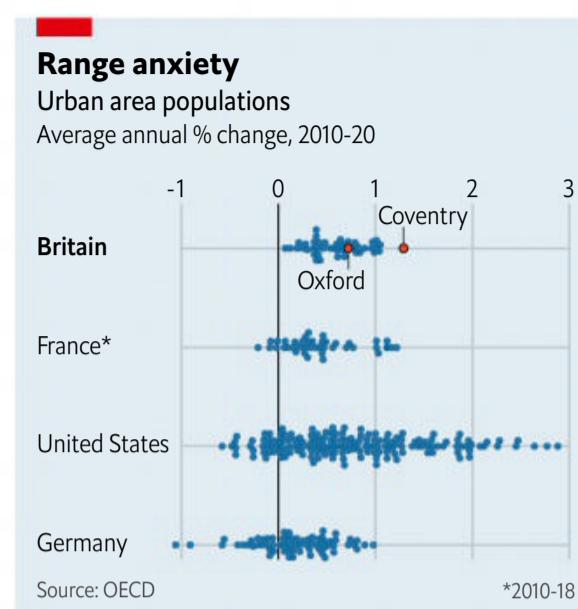
There is one exception to the rule, and it is a strange, revealing one. The ONS, which generates the numbers used by the OECD, has for several years reported a high population growth rate for Coventry. Far from welcoming this as a sign of success, the people of Coventry have balked at it. Activists, local MPs and the mayor of the West Midlands argue that the ONS's estimates are probably wrong. That is because the local authority is obliged to accommodate population growth. If Coventry is really growing quickly, it might have to build on the green belt.

Another effect of Britain's stringent planning rules is that new housing is pushed into places with weaker restrictions. South of Oxford's green belt and west of London's one is Didcot, a small town that is growing at almost Texan speed. Two- and three-storey houses have sprouted along newly built streets with generic names like Greenwood Way and Orchid Mews. Thousands more are planned.

Locals complain that homes are being built faster than roads, leading to traffic jams, and that open space is being lost. "Many people feel like they've paved paradise," says Debby Hallett, a Liberal Democrat member of the Vale of White Horse council. And although the new homes on the outskirts of Didcot are not far from lots of high-paying jobs, they are not close either: central Oxford is 13 miles (22km) away by car. Agglomeration effects, which raise people's productivity by concentrating minds, are weakened as a result.

In some ways the homogeneity of British cities is a boon. Although politicians complain about neglected, "left-behind" places, Britain has few examples of true urban rot. The sign of a struggling British urban area is a high street with empty shops, not a street of boarded-up homes. Even poor post-industrial towns like Hartlepool and Merthyr Tydfil tick along, gaining a few hundred residents every year. Considering the many problems associated with depopulating urban areas, from a surfeit of infrastructure to vandalism, the lack of them is welcome.

But the consistency of urban popula-



tion change is worrying, too. It suggests that Britons cannot easily move to places of greater opportunity, where they might become more productive. One question often asked about Britain by politicians keen on "levelling up" the country is why big metropolises like Greater Manchester and the West Midlands conurbation are less dynamic than London. That is not the only problem, however. Another one is that the country's most successful small cities cannot turn into big metropolises. ■

Brexit

Forms, frustration and fans

BELFAST

The Northern Ireland protocol divides opinion among local businesses

WHEN ASKED what he thinks of the British government's new legislation to tear up much of the Northern Ireland protocol, Dermot Johnson struggles to think of printable words. "Unbelievable," he eventually says. "Populist rubbish."

The protocol is the most contested part of the Brexit withdrawal agreement, which created a border between Great Britain and Northern Ireland in order to avoid hardening the land border on the island of Ireland. The legislation, which was introduced in Parliament on June 13th, would ditch large chunks of it unilaterally. Illegally, too, says the EU and very many lawyers.

The government claims it has to act to resolve political instability in Northern Ireland, where unionists have demolished the devolved government over the protocol. It also cites the red tape that the arrangement imposes on firms as a reason for dismantling it. Talk to local businesses, however, and the picture is more complex.

Mr Johnson is the archetypal small businessman who stands to benefit from the government's new bill, which among

other things would create different customs procedures for imports from the mainland that stay in Northern Ireland and those that head into the EU itself. His Lisburn-based firm, Johnson's Coffee, recently wanted to buy 28 boxes of beef-flavoured crisps from England. The manufacturer refused to sell them because it would mean hiring a vet to complete an export health certificate demanded by the protocol (due to the presence of small quantities of an animal product in the flavouring).

That cost would have come on top of the customs declarations that require British traders to choose the correct customs code from thousands of options when selling to Northern Ireland. Mr Johnson himself is deluged by paperwork. "It's forms, forms, forms—I don't think anyone even reads them." But he nonetheless supports the protocol if it can become less cumbersome, and has little time for his namesake in 10 Downing Street.

Four miles away, on the outskirts of south Belfast, Declan Gormley has a warmer view of the protocol. When the Irish Sea border came into force in January 2021, his company, Brookvent, took the opportunity to reach a big distribution agreement with one of the Irish Republic's largest builders' merchants. Mr Gormley, whose firm manufactures energy-saving ventilation systems, says that Brexit has hurt British rivals that must now navigate customs procedures to sell into the EU while he does so unimpeded. "Over time, this is going to benefit Northern Ireland enormously. Brookvent is now the only ventilation-manufacturing company in the British Isles with the same access to Great Britain and the EU. That's a significant advantage."

He now fears the protocol will be ripped up, as do many other local companies which picked up contracts when it became harder for businesses on the mainland to export to the province. Almac, a pharmaceutical manufacturer, has been using the protocol as a marketing tool, referring to "the Almac advantage" of full access to the EU and to British markets.

Others are opposed to the protocol. Peter Summerton, who runs McCulla Ireland, a haulier, believes the arrangement is disastrously unworkable, because it implements rules normally applied to containers or entire ships coming into the EU from places like Vietnam or Ecuador and applies them to tiny product movements within a small part of a domestic economy. "This was a plan to introduce the most complex sanitary and phytosanitary and customs controls anywhere in the world on one of the most fast-moving and integrated supply-chains anywhere in the world on one of most volatile border communities in the world. It was just a really bad plan."

In February one of Mr Summerton's lorries was stopped after coming off the ferry ►

► in Belfast. It was carrying Australian and New Zealand lamb to be made into ready meals in Northern Ireland, something which the industry had been told was legal. An unannounced change in the enforcement of the protocol meant that it was sent back to Britain after sitting in Belfast harbour for five days. And all this hassle is before the protocol has even been implemented in full. Most of the border procedures envisaged by the agreement have not yet been put into place; some which had been implemented were abandoned after a backlash last year.

That the protocol needs improving is clear. It is bureaucratic, often disastrously so. It creates barriers to entry for firms outside the province, never good news for consumers. But most firms want the protocol to be altered, not ditched; many actively favour it. And what nobody wants is deeper uncertainty or the possibility of a trade war. On June 15th the EU announced that it was restarting legal action against Britain for delaying checks that should have been in place by now at the Irish Sea border. "Boris and the boys are on a kamikaze ride," says the other Mr Johnson. "Europe's their biggest market and they're putting two fingers up to them." ■

People-smuggling

Traffic flights

DUNKIRK

The real test of the government's Rwanda policy lies across the Channel

BRITAIN'S DRACONIAN attempt to crack down on illegal migration played out on many stages on June 14th. In Wiltshire a chartered plane stood ready to make the first flight deporting asylum-seekers to Rwanda since that controversial policy was announced in April. In Strasbourg a late ruling by the European Court of Human Rights found that an Iraqi man who was due to be on the flight should not be deported until the legality of the policy had been scrutinised at a High Court hearing in July. That decision allowed others to win appeals against removal, causing the flight to be cancelled. In London Tory MPs fulminated against foreign judges and the government vowed to press ahead.

If the courts do eventually allow the flights to Rwanda, attention will switch to another location—the French coastline. Last year 28,526 people came to Britain by crossing the English Channel in small boats. At least 45 people died or went missing on the journey. The goal of the Rwanda policy, says Priti Patel, Britain's home secretary, is to break up the "evil trade in hu-

man cargo" by reducing demand for people-smugglers' "repugnant activities". If so, its success will depend on whether fewer people make the journey.

At a refugee camp near Dunkirk, volunteers say that the Rwanda policy is causing some people to have second thoughts about crossing. But it has not stopped the influx: 444 people crossed on June 14th alone. This continuing traffic reflects two inconvenient truths.

The first is about supply, and helps explain why the government came up with its new policy in the first place: the cross-channel smuggling networks are very hard to break up. France has recently beefed up its police presence and installed thermal cameras near beaches, partly funded by £54m (\$65m) from Britain. But smugglers have adopted new tactics to outwit the coastguard. They now co-ordinate mass launches of up to 40 vessels to overwhelm officers, and station people near beaches to figure out patrol times. Some have simply moved farther up or down the coast to avoid the guards: police must track a 130-mile (210km) stretch of coastline dotted with forests and wartime bunkers.

Finding the right people to arrest is another problem. The smugglers often employ poor asylum-seekers to run on-the-ground operations for them. "It's because of the empty pockets," says Abdul (not his real name), who crossed on a small boat last summer, referring to people who run out of money on their way to Britain and do smugglers' bidding for a period of time to finance the next stage of their journey. Asylum-seekers usually drive their own boats.

Law-enforcement agencies are having some successes. But higher numbers of arrests have not curbed the trade, partly because of the way it is run. Unlike drug-smuggling gangs, where there is more rivalry between bigger, hierarchical groups, people-smugglers often work together. Smaller gangs and freelance smugglers,

from Albanians to Kurds, frequently run different legs of someone's journey. "There is no kingpin," says Luigi Achilli of the Migration Policy Centre, a think-tank. "It's not an organisation where you decapitate the head and bring down the whole group."

Collaboration between smugglers makes it difficult to prosecute them. People are responsible for different, legal parts of the operation. Some buy engines; others provide accommodation. "There's nothing illegal in purchasing an inflatable boat," says Martin Grace of the National Crime Agency. Drug-smuggling often involves the exchange of large wads of cash. People-smugglers are paid smaller amounts, and rarely in cash. People who cross on small boats are also reluctant to give information about smugglers. Some are scared. But others see smugglers as saviours.

That leads to the second inconvenient truth: demand is likely to remain high. Most people who cross the channel in small boats are genuinely fleeing war, violence or persecution. In the year to March 2022 three-quarters of people seeking asylum in Britain were granted it. Abdul was fleeing the Taliban; they accused him of being a spy because he worked with Americans. Others are equally determined. "It's no problem if they take me [to Rwanda]. I just don't want them to take me back to Iraq," says Hamat, who is in the camp at Dunkirk but has family in Britain.

There are other ways to put the smugglers out of business: establishing legal routes for asylum-seekers to cross, such as a humanitarian visa scheme. Instead border security is being tightened and the British government has closed down avenues for claiming asylum. Such policies usually drive people towards smugglers, not away from them. Governments are "creating the very enemy that they are fighting. It's like extinguishing a fire with oil," says Mr Achilli. It will take an awful lot of deportations to Rwanda for that to change. ■



Final destination: Uncertain

Bagehot | Under the hood

The RMT is Britain's most potent trade union as well as one of its oddest



MICK LYNCH has a distinctive face. Friends of the general secretary of the National Union of Rail, Maritime and Transport Workers (RMT) call him “The Hood”, after the glabrous villain in “Thunderbirds”. The *Daily Mail*, a right-wing newspaper, suggests the union leader likes the character’s reputation as the “world’s most dangerous man”. Mr Lynch has a prosaic explanation for the nickname: “[it’s] because I’m bald and I have massive eyebrows”.

Britons should expect to see more of this visage. From June 21st Britain’s railways are in effect due to shut down, after the RMT launched the sector’s biggest bout of industrial action in three decades. The strikes will all-but close the network for a week. Cuts worth £2bn (\$2.4bn) are coming to Britain’s railway budget, bringing probable job losses, service alterations and changes to working conditions. As well as haggling over that, the RMT has requested a pay rise to deal with inflation.

The RMT is Britain’s most potent union and among its oddest, revealing both the problems and the potential power of Britain’s trade-union movement. Start with the flaws. The British left has a curious affection for authoritarian regimes, obsessing over the latest goings on in Venezuela or Cuba. (“Why do you have so many events and fringe meetings celebrating dictators at your congress?” asked one perplexed Norwegian trade unionist after visiting the annual meeting of the Trades Union Congress.) The RMT is no exception. A senior RMT official visited separatists in eastern Ukraine before the recent invasion; its store sells t-shirts pledging solidarity with Cuba.

All organisations are hypocritical. Charities are often horrific places to work; hard-charging financial firms can be perfectly pleasant. Likewise, the unions that protect workers’ rights can be an HR nightmare. In 2020 an external report into the GMB, the second-largest private-sector union, said: “Bullying, misogyny, cronyism and sexual harassment are endemic.” (A new general secretary has now taken over.) When acting general secretary, Mr Lynch briefly stepped down after accusing his executive committee of “bullying”. His predecessor quit citing stress.

Where the RMT differs is in its ability to get things done. It is easy to paint the RMT as antiquated and, at times, insane. It is impossible to argue it is ineffective. Railway workers have kept bene-

fits—such as final-salary pensions—that others have lost, even in industries with similar amounts of leverage. Only well-organised and motivated unions can prosper under strict anti-union laws, which demand a turnout of over 50% for a strike ballot to be valid. It takes around 4,000 signallers to run Britain’s railways. On the coming strike days only 400 or so will be working, according to industry estimates. Others mistook size for power. Unite joined up with their peers, which gave them impressive numbers of members but reduced their ability to act quickly.

Bigger unions were also preoccupied by their fractious relationship with the Labour Party. Jack Jones, a former trade unionist, once said of their relationship with Labour: “Murder, yes; divorce, never.” By contrast, the RMT disaffiliated years ago. Now other unions are beginning to pursue a more distant relationship. Unite’s new general secretary, Sharon Graham, promised less “Westminster politics” when running for office. Her predecessor, Len McCluskey, had been one of Jeremy Corbyn’s closest allies. The RMT’s politics may be crackers but they do not affect the day job.

A summer of discontent, as some in the union movement have demanded, is risky. It would be welcomed by the government, which relishes the idea of a scrap with “union barons”. The Tories are sticking to trusty tactics, dubbing the action “Labour’s strikes”. Grant Shapps, the transport secretary, has threatened to change the law and allow agency staff to plug gaps during strikes.

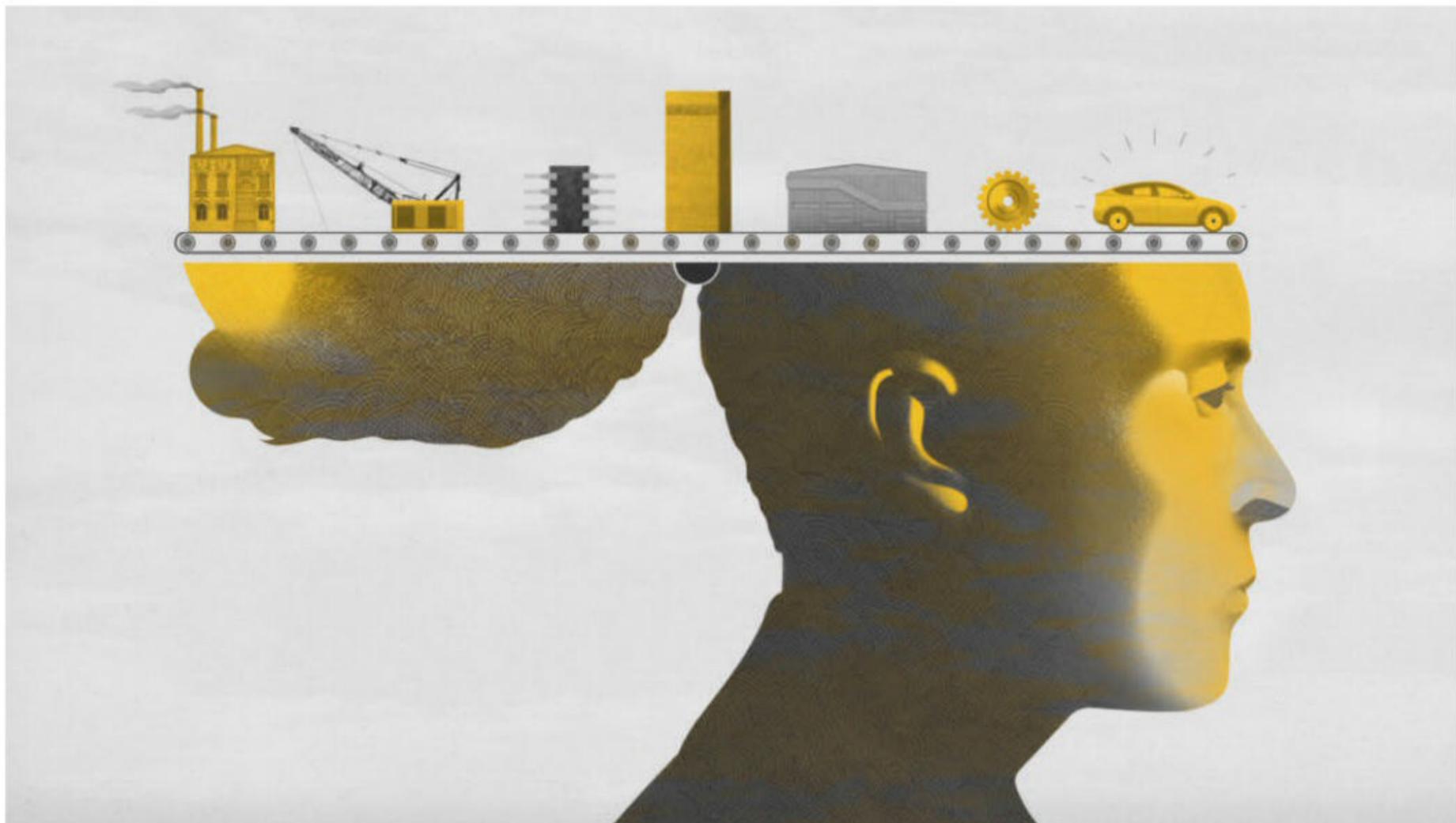
Changing commuting patterns also weaken the rail unions’ leverage. Leisure travel has recovered to pre-pandemic levels but commuters are moving around less. Inconveniencing people on the way to Glastonbury has less impact than ruining the week of City workers. Likewise, strike-breaking has never been so easy. In the 1980s Margaret Thatcher’s government spent years plotting how to counter miners, stockpiling coal and preparing for metaphorical and physical fights. Now advice to work from home may suffice (although this tactic is anathema to a government which has made reducing home-working a bizarre priority, despite its popularity among all age groups save the retired).

Rather Moderate Tankies

But compared with the wild demands of the 1970s the RMT’s wish-list is tame. The most militant union in Britain hints that it would accept a deal that kept wages flat after inflation. By comparison, in one dispute in 1972, when inflation was about 7%, miners demanded a 25% increase. They got it, too. Any summer of discontent would be a diluted version of its wintry 1970s cousin.

And Britons may sympathise with demands to keep pay level with inflation. The Conservatives have swung from promising a high-wage economy to a much less popular position: warning against pay rises to ward off a potential wage-price spiral. Union barons are less unpopular than they were: a plurality of Britons think trade unions have a positive impact. Only the over-65s, who remember the 1970s and 1980s, have a negative view of them. Ahead of a summer of industrial action, a new generation of voters is approaching unions with an open mind.

Get it wrong, however, and the results for workers and their industries may be dire. The history of Britain’s trade-union movement is one of formidable organisations brought low by hubris and misjudgment. Britain’s miners once seemed impregnable. An advert in 1975 for a career in the coal industry showed miners kayaking, shooting and skiing after work. It ended with the slogan: “People will always need coal.” Mr Lynch has bet people will always choose the train. ■



The car industry

The great Teslafication

How supply-chain turmoil is remaking the car industry: learning from Elon Musk

IF YOU WANT to see how technology and deglobalisation are changing the global economy, there are few better places to look than the car industry. Not only is it going through an epochal shift: away from the internal-combustion engine (ICE) and towards electric vehicles (EVs). Automobiles are also becoming, in effect, computers on wheels, running as much on processing power as the horse variety. And the pandemic has wreaked havoc on car companies' complex global supply chains, most prominently of semiconductors. As carmakers electrify, computerise and refashion their supply chains for the new reality, the giant sector is undergoing the greatest transformation in decades.

Having outsourced much of the manufacturing process in the past half-century to focus on design, supplier management and parts assembly, car firms want greater control over their value chain—from the metals that go into EV batteries to the software those EVs run on and the shops in which they are sold. And they want to turn their EV arms into tech startups.

In both respects, control and startupi-

ness, Big Auto wants to be more like Tesla, the world's undisputed EV champion. As with earlier examples of tailgating a rival that tries something that works, from Ford's moving assembly line or Toyota's just-in-time manufacturing, Teslafication of the car business will prove disruptive.

Doing everything under one roof is an idea both old and new. Tesla's industrial system is at first glance an embrace of Silicon Valley's "full stack"—internalising all aspects of production, and therefore all the profits. Elon Musk, Tesla's opinionated boss, once claimed that his company was "absurdly vertically integrated" by any standard, not just the car industry's. In fact, Mr Musk borrows heavily from carmaking's past. Henry Ford often sourced

raw materials, like rubber for tyres and steel for chassis, from plantations and blast furnaces owned by his firm. His River Rouge factory in Detroit was powered by coal from Ford mines.

In an echo of Fordism, Tesla has struck recent deals with lithium miners and graphite suppliers, and last month confirmed a deal with Vale, a Brazilian mining giant, to purchase nickel. The plan is to acquire most of its lithium, over half its cobalt and around one-third of its nickel directly from nine mining companies. It will use those minerals in its "gigafactories", the first of which started making batteries in 2017 in Nevada in partnership with Panasonic of Japan. It plans to make more cells on its own at its three other gigafactories around the world.

Tesla has also pulled other bits of the powertrain in-house. It makes its own motors and a lot of its own electronics, giving it more control over costs as well as over the technology, says Dan Levy of Credit Suisse, a bank. Although rumours swirling last year that Mr Musk might buy his own chip factory have faded, Tesla designs its own semiconductors and has closer links than other carmakers with those who manufacture them. That has helped it weather the global chip shortage better than rivals. Tesla's software engineers have created a centralised computing architecture to run on those chips, ensuring smooth integration with the four-wheeled hardware. Mr Musk has even ditched the dealership-based sales model, instead ►

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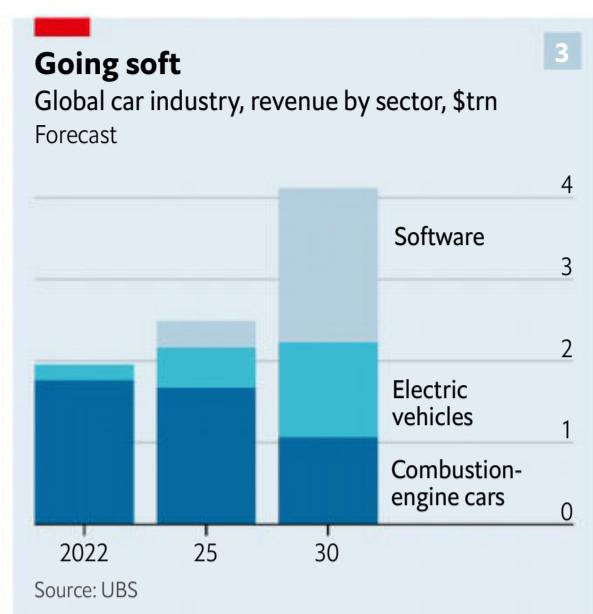
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while Stellantis and Mercedes entered an arrangement with Umicore, a Belgian chemicals giant, to supply cathode materials for ACC, the two carmakers' battery joint venture. A month earlier BYD, a more Tesla-like Chinese firm that started out making phone batteries before turning into one of the world's biggest EV-makers, announced a nearly \$500m investment in a Chinese lithium miner. It is said to have bought six mines in Africa. The terms of such deals are as opaque as the sums involved are eye-catching. Car bosses agree that they will become commonplace.

Efforts to emulate Tesla's battery gigafactories are also getting into gear. Carmakers are hoping to break the stranglehold of China and South Korea on battery-making, bringing production closer to home to keep costs in check and supplies reliable. Volkswagen (vw) is creating some in-house battery-making capacity. It has earmarked €2bn (\$2.1bn) for its German factory, and says it will build six battery factories in Europe by 2030.

Plans for such fully fledged in-house battery units remain rare (see chart 2). Most companies still prefer to team up with specialist producers. Ford and SK Innovations of South Korea will stump up



\$7bn and \$4.4bn, respectively, for three joint gigafactories in America. Last year GM unveiled an investment of \$2.3bn for a battery plant in Tennessee built with LG, another South Korean firm. Sometimes, as with ACC, rival car companies band together to share the cost of battery production. Stellantis and Mercedes (along with Total-Energies, a French oil giant) will invest \$7bn in ACC factories in France and Germany. vw has a 20% stake, worth €1.4bn, in Northvolt, a Swedish firm that also counts Volvo as an investor.

Buying off-the-shelf electric motors is also falling out of favour. Hyundai and the Renault-Nissan-Mitsubishi carmaking alliance are mostly going it alone. BMW, Ford, GM, Mercedes and vw are planning to make more motors in their own factories.

Although no car boss is about to outdo Mr Musk and make the leap into chipmaking, the 7.7m cars in lost production last year as a result of the global semiconductor shortage has made the industry forge closer links with chip designers such as Qualcomm and Nvidia, which would once have sold chips to firms far down the carmakers' supply chain. The car companies are also employing chip specialists to help them semi-tailor specifications and turn them into, as one car boss puts it, "smarter buyers". vw is hatching plans to design its own custom silicon, as Tesla does.

Something similar is happening in software development. Last month vw's boss, Herbert Diess, told a meeting of his employees that developing its "own software expertise is the biggest switch the automotive industry has to make". Mr Diess's fellow industry leaders share his analysis. In the next few years software is expected to become the biggest source of revenue for ►



*Scale of 1-5 (5=maximum integration) †Considers vertical integration, software know-how and recent supply track record ‡Considers battery cell-supply diversification, quality of joint-venture partners, direct raw-material procurement and cell-production insourcing \$Forecast **Great Wall Motor Source: UBS

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▶ opening his own swanky Tesla stores.

Jealously eyeing Tesla's market value of \$724bn, which is roughly as much as the next nine biggest carmakers combined (see chart 1), other car bosses are desperate to emulate Mr Musk's digger-to-dealership control. According to UBS, another bank, "integration represents a strong competitive edge in an environment of structurally tight supply chains." As Jim Farley, Ford's current boss, recently declared, "The most important thing is we vertically integrate. Henry Ford...was right."

This reverses decades of outsourcing to big suppliers such as Bosch, Continental and Denso in order to concentrate on managing supply chains, integrating separate parts, design and marketing. Suppliers sold similar components to many customers using scale to keep prices low. This freed up capital for carmakers but put technological innovation at one step removed. Carlos Tavares, chief executive of Stellantis, an Italian-American giant (whose big shareholder, Exor, also owns a stake in *The Economist*'s parent company), has said that his cars are 85% "bolt-on parts". Mercedes-Benz estimates its value-added split at 70-30 in favour of suppliers.

Established car firms now want their ratios to more closely resemble Tesla's, which Philippe Houchois of Jefferies, an investment bank, puts at 50-50 and rising in favour of in-house. This starts with raw materials. As demand for battery minerals, notably cobalt, lithium and nickel, and processing capacity continues to outstrip supply, car firms are striking deals which would have Henry Ford nodding with approval. Getting their hands dirty by short-circuiting supply chains is, in the words of one former mining titan, "extraordinary".

BMW said in 2021 that it had put \$334m into an Argentine lithium project. Last year Stellantis and Renault each signed deals with Vulcan Energy Resources, and GM revealed a "multimillion-dollar investment" in Controlled Thermal Resources, in each case for lithium. In April Ford inked a deal with Lake Resources for the same mineral,

► the industry. UBS reckons that worldwide car-software sales will bring in around \$1.9trn annually by 2030 (see chart 3 on previous page).

Small wonder that car companies want to appear more techie. In September Ford poached Doug Field, who had been in charge of special projects at Apple, a tech giant with its own long-rumoured automotive ambitions. Jim Rowan, who took charge of Volvo in March, is a former boss of Dyson, an electronics firm. Even Ferrari, an Italian sports-car brand defined by the roar of its petrol engines (which is also part-owned by Exor), has been run since September by Benedetto Vigna, recruited from STMicroelectronics, a Swiss semiconductor company.

In 2020 VW created a separate software arm, CARIAD, to sidestep its slow decision-making bureaucracy. Despite teething troubles with the programs for its ID.3 hatchback that surfaced at the end of 2019, the firm has recently said that it aims to develop most of its own software in 15 years' time, up from about 10% now. That includes plans for a proprietary operating system, something that Mercedes and Toyota are also contemplating. (Ford and GM are instead adopting Google's Android operating system.) To that end, VW plans to invest around €30bn over the next five years. Stellantis wants to hire 4,500 software engineers by 2024. Several carmakers are setting up research-and-development centres in tech hubs, from Silicon Valley to Shanghai, in order to tap those places' existing talent pools.

As for sales, the established giants have no intention of dismantling the time-honoured dealership system. It serves useful functions in servicing, for example—as Tesla's long-running struggles in this area illustrate. Still, more car companies are shifting to an "agency model", selling vehicles directly to motorists, as Tesla does, rather than through a third party. Charging fixed prices could boost margins. Direct sales also forge a closer bond with buyers who might go on to purchase additional services and upgrades.

If they really want to catch up with Tesla, let alone overtake it, car companies will have to "move at Silicon Valley speed", as Barclays, a bank, puts it. That means simplifying not just their supplier networks but their corporate structures, which have become Byzantine and siloed. As long ago as 2019 Volvo and Geely, its Chinese parent company, merged their ICE operation as a stand-alone business. That has allowed the Swedish marque to go full speed to becoming electric-only by 2030. In March Ford said that it would create an EV unit, Ford Model e, and separate it from the ICE operations. Renault is considering doing something similar, also with a view to accelerating innovation.

All this amounts to a once-in-a-century upheaval for a globe-spanning industry encompassing thousands of companies, millions of workers and billions in sunk ICE-age costs. Refashioning value chains will require spending lots of time and money, and comes with the risk of failure. For suppliers, it potentially means less business, as vertical integration makes them less central to carmaking—a prospect reflected in the sliding share prices of some, including large ones like Continental, in the past few years.

For car bosses, that means more headaches, as they consider how best to deploy their firms' resources and skills, without provoking a backlash from governments and unions fearful of the loss of well-paying manufacturing jobs. As a result, the sector's Teslification drive will be uneven and fitful. But the direction of travel is unmistakably Muskian. ■

Sports broadcasting

Bowled out

SINGAPORE

Disney loses the streaming rights to India's top cricket league. Phew

THE INDIAN PREMIER LEAGUE (IPL) is awash with cash. CVC Capital, a European buy-out firm, paid \$750m for the Gujarat Titans, one of the cricket extravaganza's newest teams. In an auction ahead of this year's competition, which concluded last month (with the Titans' victory), the IPL's ten sides splurged \$71m on 204 players, five times the amount spent five years ago (when there were eight of them).

Another auction, held between June 12th and 14th, attracted even more serious dosh. Media heavyweights fought for the right to show IPL matches to cricket-mad Indians for the next five years. Disney, which owns the current package, managed to hold on to the TV rights by agreeing to part with \$3bn. It lost the online-streaming rights to Viacom18, a joint venture between Paramount Global, a fellow American media firm, and the media unit of Reliance, an Indian conglomerate, which will pay \$2.6bn for the privilege. For another \$500m or so, Viacom18 also scooped up the international rights for Australia and New Zealand, Britain and South Africa, the other big cricket markets, and a smaller domestic package for high-profile games.

In all, the auction has netted the IPL \$1.2bn per season—less eye-watering than, say, the English Premier League's reported \$4.2bn-a-year media haul in football. But if you adjust for the IPL's leaner season—74 matches, against 380 in the English Premier League—that makes it the second-most-lucrative sports series per game. Only the gladiatorial contests of America's National Football League score higher (see chart on next page).

The bidders believe it is money well spent, for two main reasons. The first is the promise of advertising riches. Perhaps half a billion Indians watch at least some IPL, and millions tune in religiously. The tournament's format, with play stopping every few minutes, is an adman's dream. Last season's broadcasts featured more than 110 different advertisers, from sellers of paan, an Indian digestive, to Unacademy, an education-technology firm (when a batsman whacks the ball for the maximum score, commentators describe it as an "Unacademy Let's Crack it Six").

The IPL's second big attraction is as a



Batting and eyeballs



▶ gateway to the Indian consumer. For a company like Paramount, which plans to launch its own streaming service in India in 2023, the IPL serves as a beachhead. For Reliance, India's dominant digital platform, it is a way to engage the 400m Indians that already subscribe to its mobile network, Jio—and to get them to spend more on Reliance's multiplying offerings.

Disney's failure to capture the streaming rights will make it more difficult for the Hollywood giant to reach its target of 260m global subscribers across its online services by 2024. In the first quarter of 2022, when the IPL season got going, Disney added nearly 8m new subscribers, more than half of them in India. It may now lose 20m subscribers, according to Media Partners Asia, a consultancy.

Disney insists that its local content, along with other sports broadcasts (including the national cricket team's matches), will keep viewers hooked. More than four-fifths of the estimated \$500m in ad revenues from the IPL last year came through TV, which Disney has held onto. Attention may anyway be waning: this season saw a decline in viewers, though the IPL insists it was a one-off.

Most important, investments in Indian streaming offer meagre returns. Indian subscribers pay Disney just 76 cents a month on average, compared with \$6.30 in America. That may explain why Alphabet, Amazon and Meta, three American tech giants with big ambitions in India, did not take part in the auction despite earlier interest. Nor did Apple, which is said to have just signed a \$2.5bn ten-year deal to stream America's football league (the proper kind). Paying billions for access to the Indian consumer is one thing for Reliance, with its aim to dominate all things digital in its home market. For Disney, the loss looks like a sticky wicket avoided. ■

Management

Human capital in the 21st century

Modern executives are different from their forebears

SPIRITUAL GROWTH is an odd mandate for business schools preparing graduates to make manna in a secular world. One such institution, HEC Paris, has nevertheless decided to send students on a trek through the French countryside to a remote village, where a Benedictine monk (a former lawyer) guides them through ethical dilemmas. Whether or not the three-day seminar represents a shift away from the profit-driven logic of business and towards a kinder, gentler form of capitalism is up for debate. But it shows that expectations for what makes a great MBA programme—and, by extension, a great executive—are in flux.

MBA courses (our ranking of which you can find at economist.com/whichmba) used to focus on number-crunching and business strategy. Executives must still master these skills. Yet the corporate world has changed since the MBA first became a rite of passage for high-powered executives. Management teams answer to a growing number of "stakeholders", from employees to social activists, and face public scrutiny on their companies' environmental, social and governance (ESG) record. Simply creating shareholder value no longer cuts the mustard.

One consequence of this trend is that running a modern business requires an ever-expanding list of credentials and competences. In addition to financial and

digital literacy, strategic acumen and communication skills, executives are expected to be clued in on supply chains, climate science and much else besides. They must ensure that their workforces are diverse and inclusive. And as work life goes hybrid, mixing time in the office with home working, they are also asked to spend more time checking in on subordinates.

Some of these new duties are delegated to new corporate roles. Prince Harry is the "chief impact officer" of a Silicon Valley firm. Clifford Chance, a law firm, has appointed a global "wellbeing and employee experience" chief. Nearly 5,000 people on LinkedIn, a social network, describe themselves as "chief happiness officers". Still, most high-ranking managers will almost certainly need to perform each of these novel tasks to a greater or lesser extent.

Since a day has 24 hours—and even hard-charging executives need sleep—their workload is changing. Devoting more time to employees and other stakeholders leaves corporate leaders less for other things, including mission-critical ones like coming up with a strategy for their firm. Since 2006 Michael Porter and Nitin Nohria of Harvard Business School have tracked what CEOs do all day. They find that bosses spend 25% of their working lives on fostering relationships with insiders and outsiders, more than they devote to strategy (21%), corporate culture (16%), routine tasks (11%) and dealmaking (4%).

Although Messrs Porter and Nohria do not yet have the relevant data, anecdotal evidence suggests that hybrid work may be skewing executives' workday even more towards people management. Human-resources chiefs report that managers spend more time hand-holding staff, for example. Bosses were hybrid workers before covid-19. The pre-pandemic CEO spent ▶



The class of the new millennium

▶ around half their time in the office and the rest in external meetings, travelling or otherwise working remotely. More than a third of their communications was via video chat, email or the phone. The difference now is that everyone else spends just as little time in the office—if not less. This further reduces opportunities for face-to-face contact, which makes building relationships with employees more difficult, and almost certainly more time-consuming.

As the 21st-century executive's workload is changing, so too are MBA curriculums. Many institutions are busily incor-

porating new, cuddlier modules. Harvard Business School now has one entitled "Re-imaging capitalism". INSEAD, a French organisation, teaches students about "Business and society". Plenty of MBA programmes offer courses on interpersonal skills. Some are tailoring classes for the Zoom age, for example pointing out the common traps of virtual negotiations. That necessarily leaves less time for other, more traditional instruction.

A few schools are even fundamentally rethinking their recruitment policies to reflect the evolving character of modern

management. That may involve conducting group interviews to assess candidates' soft skills rather than their intellect alone, or screening candidates for emotional traits such as empathy, motivation and resilience through questionnaires, letters or essays. Changes to whom business schools recruit, as well as to what they teach, may in turn affect who applies. Given that a business-school degree is designed in part to send a powerful signal of executive competence, that may determine what type of person rises up the corporate pecking order. It might not be your parents' MBA. ■

Bartleby Work, the wasted years

Logging in, deleting emails, mistyping things. It all adds up

FEW THINGS are more depressing than estimates of how much time people spend on a specific activity over the course of their lives. You know the sort of thing: you will spend one-third of your life asleep, almost a decade looking at your phone and four months deciding what to watch on streaming services.

A new study, by academics from the Maryland and Delaware Enterprise University Partnership (MADEUP), applies this approach to the workplace. By conducting a time-use survey of 5,000 office workers in America and Britain, the researchers identify the number of minutes that people waste on pointless activities each working day. (Meetings are excluded: they often turn out to be useless but not always and not for everyone.) The authors then extrapolate these figures to come up with a "weighted total futility" (WTF) lifetime estimate of time that could have been better spent. The results are literally unbelievable.

Correcting typos takes up an average of 20 minutes in every white-collar worker's day, the equivalent of 180 days, or half a year, over a 45-year career. Some words are mistyped so frequently that on their own they can waste days of the average employee's existence. "Thnaks" is the worst offender in the English-speaking world, followed by "teh", "yuo" and "remeber". The amount of time the average worker spends writing "Bets wishes" is also counted in days.

The gestation period of a goat is around 145 days. Which is also how long the average worker spends logging into things during his or her working life. Security concerns mean that some time is bound to be absorbed in this way. But months are wasted trying to remember passwords, entering them wrongly or updating them. Just as much time is



spent waiting for something to happen, a great economy-wide period of vacant staring at a screen.

If getting into things wastes lots of time, so does closing them down. Eliminating help windows and tool-tip boxes takes up days over a career. Rejecting repeated requests to schedule updates to your operating system is another chunk of existence that you will never get back. Zapping pop-up ads and trying to pause auto-playing video absorbs time that could have been spent learning to knit or visiting Machu Picchu.

A bundle of "tidying up" activities absorbs over four months of the average worker's life. Deleting emails takes up about six weeks of your life. Clicking on Slack channels to read through messages that are not meant for you, or clearing notifications on your phone screen for articles that you will never look at: tasks like these each eat up several days.

Various types of formatting tasks constitute another huge time-suck. Think of those attempts to change the margins on Word or Google documents, or the hours

spent trying to work out where exactly you need to put the missing bracket in that broken spreadsheet formula. Shakespeare wrote "King Lear" in the time an average office worker spends changing font sizes during their career.

Redoing work that you have failed to save is in a category all of its own, because of the psychological trauma involved. This problem has been mitigated now that revisions are saved automatically on many programs, but it has not been solved. Batteries still run out at crucial moments, internet connections still fail. Making a series of deeply insightful comments in a Google doc, failing to save them and then closing everything down causes a special kind of despair. So does creating an org chart with hundreds of arrows and text boxes, and realising you missed someone out.

These are only some of the many ways in which time is routinely wasted. Co-ordinating diaries for meetings that will later be cancelled: another month. Waiting for people to repeat themselves because they were on mute by mistake: a fortnight. Spending hours crafting an email and then leaving it in the drafts folder: two days. Desperately opening and shutting various flaps on a recalitrant printer: a day.

The MADEUP study shows that technology lies at the heart of this squandered time. Technology can also help. Services that sync up diaries and auto-correct options already do; passwords will doubtless end up being replaced by facial recognition and fingerprint logins. Whether the time thereby saved would be put to more productive use, like reading this column, is a reasonable question. But years of workers' lives are wasted on utterly pointless activities. All improvements warrant heartfelt thnaks.



Schumpeter | The too-much-of-everything store

Amazon's problem is most obvious in its hinterland



AS EVERY WARTIME quartermaster knows, it is only when things go really wrong that you get noticed—or shot. The same is true in the logistics business. That is why it made news recently that Dave Clark, Amazon's former logistician-in-chief, left the Seattle-based online giant to become CEO of Flexport, a shipping-software company. His departure comes just as Amazon is deluged with overcapacity in its vast warehousing and distribution business, which he captained during most of his 23 years at the firm. Some wondered whether he had faced the firing squad.

In fact Mr Clark's move looks to have been a voluntary one—with a hint of masochism. After doing a job that would have finished off most people, namely blitzkrieging through the retail landscape to bombard the world with Amazon packages, he now wants to prop up firms battling to get to grips with global supply chains. In doing so, Mr Clark leaves behind him a severe headache for Andy Jassy, Amazon's boss. The titan of e-commerce is not just overbuilt and overstuffed. For the first time in its 28-year history it is in the midst of an inflationary whirlwind, which is playing havoc with its ability to predict the future. The situation is bad enough in Amazon's American heartland. It is worse in its operations elsewhere. That makes it harder to fix.

When looking at Amazon, most attention is paid to its North American retail business—mainly the United States, but also Canada and Mexico. It accounts for the vast bulk of sales, almost 60% in the first quarter. The hinterland, which is to say its international business, includes dozens of countries, from Japan to India, parts of western Europe and elsewhere, that punch well below their weight. Strange as it sounds to non-Americans tied to the tyranny of the doorbell, collectively they contribute just 25% of Amazon's overall sales. Amazon Web Services, the fast-growing cloud business, makes up the rest.

Unsurprisingly, then, Amazon's frenetic logistics drive in the past two years began at home. Since the early days of the covid-19 pandemic, the firm realised that lockdowns would fuel demand for online shopping. It threw caution to the wind and went on a domestic warehouse-building and hiring binge. In two years, as Marc Wulfraat of MWPVL, a logistics consultancy, puts it, Amazon created as much fulfilment square footage as Walmart, America's

ubiquitous supermarket giant, has built in half a century. Its logistics business, started only in 2014, has leapfrogged FedEx and is catching up with UPS. Amazon's total workforce almost doubled after 2019, to 1.6m. The feat was a Herculean one—with Hydra-headed consequences when inflation and covid-19's contagious Omicron variant hit. In round numbers, overbuilding, overstuffed and inflation each added \$2bn to Amazon's costs in the first quarter, year on year, driving it into the red. The next epic task is to squeeze those costs out.

This is where the rest of the world becomes a big problem. For cost control may prove harder abroad than at home. Although Amazon says it will keep building American fulfilment centres, it plans to sublease some of the space until demand recovers. It also hopes to reduce staffing through attrition and allow third-party sellers to use some of the spare capacity. It assumes that domestic retail growth will pick up later this year. Prologis, the world's largest warehouse operator (and a big supplier to Amazon), showed similar faith in the future on June 13th when it agreed to buy Duke Realty, an American rival, for \$26bn.

Look outside the United States and such optimism becomes harder to sustain. Amazon's international business is, as in America, awash with overcapacity. But whereas North American sales grew by 8% year on year in the first quarter, in the rest of the world they shrank by 6%. Worse, in some big foreign markets, such as Britain and Germany, conditions may be deteriorating. Mark Shmulik of Bernstein, a broker, notes that overall e-commerce penetration is shrinking in Britain and mainland Europe for the first time in years. Consumer confidence is plummeting. Europe's woes may be exacerbated by its proximity to the war in Ukraine. They may also be a harbinger of trouble in America.

Some of the deep-seated problems in these non-American markets were easy to make light of when business was booming, but loom larger now. The biggest is profitability. Amazon's international operations are almost perennially loss-making, mainly because of the huge amounts of cash it is ploughing into expansion; the losses were particularly severe in the first three months of this year. Another is spending power. Mr Wulfraat calculates that Amazon sells \$881-worth of stuff and services a year for every American. No other country comes close; the figure is \$436 in Britain, \$97 in Italy and \$13 in Mexico. Third, in the poorer regions where the company operates, such as India and Latin America, the infrastructure is shoddy and local competition intense. That makes it look like it is throwing good money after bad.

Amazon says it intends to continue its international expansion. It believes the slowdown in e-commerce penetration in Europe is partly a reaction to excessive dependence on online shopping during lockdowns. And whatever happens to the world economy, Amazon is confident that the structural shift from offline to online commerce is real and permanent.

Cutting down the Amazon

When Jeff Bezos was running the company he founded, few would have second-guessed such assumptions. But this is new leadership in turbulent times. Mr Jassy, who took the helm less than a year ago, is still on probation. If Amazon's forecasts are correct, pretty soon the successor to Mr Clark will be building yet more warehouses and Amazon will be back to the races. If they are wrong, the newish CEO may have little choice but to consider reducing Amazon's exposure to some of the more peripheral parts of its hinterland. Would he have the guts? ■



The Fed and inflation

Eight days that shook the markets

Investors wake up to the fact that conquering inflation will be painful

“I DO NOT expect moves of this size to be common,” said Jerome Powell, chairman of the Federal Reserve, on June 15th. The central bank had just raised its benchmark interest rate by 75 basis points (0.75 percentage points) to 1.5%-1.75%. It was the third increase in as many meetings and the biggest jump in short-term rates since 1994. The move was both expected and surprising. Mr Powell had warmed up markets weeks ago to the prospect of a 50-basis-point increase at this monetary-policy meeting. But in the days leading up to it, investors had quickly and fully priced in a larger rise—with more to come.

Mr Powell’s comment about uncommonly large increases was enough to spark a partial reversal of the sharp rise in bond yields over the preceding days and a relief rally in share prices. But however much he tried to sugar-coat the message, rates are going up by a lot more and the chances of a hard landing for the economy have surely increased as a consequence. Recession is now more widely expected, if not (yet) by the Fed. And the rapid changes in the market mood show just how much the Fed and

other rich-world central banks have lost control of events.

The Fed’s interest-rate decision came at the end of an extraordinary few days in financial markets, in which bond yields shot up at a violent rate, share prices plunged and riskier assets, notably bitcoin but also Italian government bonds, were trashed. The story begins not in Washington or New York but in Sydney where, on June 7th, the Reserve Bank of Australia raised its benchmark interest rate by 50 basis points, citing growing worries about inflation. It continued in Amsterdam, where in the following days the European Central Bank (ECB) held its monetary-policy meeting, in a break

from its usual setting in Frankfurt. Christine Lagarde, the central bank’s boss, confirmed that a 25-basis-point rate increase would be on the cards in July. But she went much further. The ECB, she said, expects to raise interest rates perhaps by 50 basis points in September and anticipates “sustained” increases thereafter. The catalyst for this more hawkish stance was a sharp upward revision in the central bank’s forecasts for inflation.

This set the stage for a dramatic shift in bond markets, which events elsewhere added impetus to. The yield on ten-year German government bonds, known as bunds, rose quickly to above 1.75% over the following days. The yield on riskier sorts of euro-zone government bonds, notably Italian BTPS, rose by even more. The spread (excess yield) on BTPS over bunds widened sharply, taking Italy’s ten-year yield above 4%. Indeed spreads had risen so swiftly that the ECB’s rate-setting council held an emergency meeting on June 15th to address the matter (see next story).

But it was news from America that really moved markets. Figures released on Friday June 10th showed that annual consumer-price inflation rose to 8.6% in May, the highest rate since 1981. Underlying price (“core”) pressures were unexpectedly strong. To make matters worse, a survey by the University of Michigan showed that consumers’ expectations of medium-term inflation had risen markedly. Taken together, the reports suggested that inflation would be much harder to bring down. ➤

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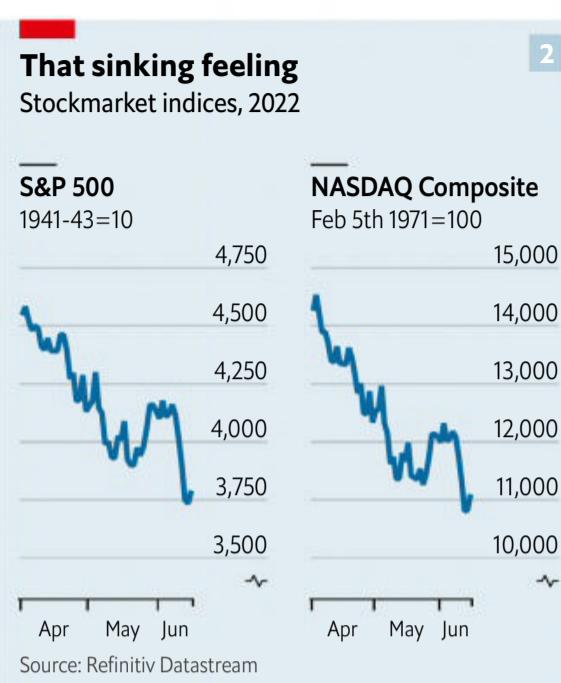
64 Free exchange: Vacancies v layoffs

Treasury yields rose sharply as the bond market began to price in more and faster interest-rate increases by the Fed. The biggest moves were at the short end of the yield curve, which is most sensitive to shifts in monetary policy. Yields on two-year Treasuries rose by 57 basis points in the space of just two trading days. But longer-term rates shifted, too (see chart 1).

Stocks could hardly escape the reckoning (see chart 2). The S&P 500 index of leading shares fell by 3% on June 10th and by 4% the following Monday. The cumulative losses took the stockmarket firmly into bear-market territory, defined as a fall of more than 20% from its recent peak. The tech-heavy NASDAQ index has fallen by even more. Higher Treasury yields have weighed on share prices, but have been a fillip to the dollar. The DXY, an index of the greenback against half a dozen rich-world currencies, is up by 10% this year. The strength is particularly marked against the yen, which has fallen to a new 24-year low. While the Fed is tightening policy to bring down inflation, Japan's central bank is furiously buying bonds in order to raise it.

The recent volatility, particularly in the bond market, has been quite extreme. What might explain this? As bad as the inflation backdrop had seemed before last week, investors had consoled themselves with the idea that the worst of it was now in the past. The Bank of America's global fund-manager survey suggests that in recent weeks, investors had increased their allocation to bonds—perhaps judging that bond prices had stopped falling. (Bond prices move inversely to yields.) If so, the poor inflation figures caught them out.

A market that leans heavily in one direction often snaps back when the wind changes. And poor liquidity amplifies the effect. Changes in regulation have made it costlier for banks to hold large inventories of bonds to facilitate client trading. The Fed, once a reliable buyer of Treasuries, is winding down its purchases. When investors want to sell, there are too few willing to take the other side of the trade. The viol-



ent market moves in the days leading up to the Fed meeting may have exaggerated the sense of panic.

Yet it is hard to argue that investors are bullish. The Bank of America survey shows that optimism among fund managers about the economic outlook is at an all-time low. Can a hard landing be avoided? Even Mr Powell sounded rather unconvinced. Prepare for more trouble ahead. ■

debt levels, leading to gaps ("spreads") between their bond yields and the German bund yield, which is regarded as the risk-free rate. Investors routinely debate the threat of a country defaulting, or exiting the euro. By contrast, there is little doubt that the Bank of England stands behind gilts; no one worries that Britain might leave sterling.

Differences in liquidity and the extent to which a government's bonds are seen as benchmark assets matter, too. In a recently published paper, Hanno Lustig of Stanford University and colleagues estimate that this "convenience yield", the yield that investors are willing to forgo for safety and liquidity, explained more than half the variation in spreads between euro countries from 2008 to 2020.

In times of stress—as when the pandemic struck in March 2020—investors seeking safety drive up the spread between, say, Italian and German bonds (see chart). These spreads between government bonds then translate into differing borrowing costs for firms and households. Despite sharing a currency (and the Alps), borrowers in Tyrol, Austria, and South Tyrol in Italy could face quite different interest rates, because their respective national governments are charged different rates by investors. And too big a divergence can be a problem for the ECB, because it sets short-term interest rates for the euro area as a whole. The wider the spreads, the less likely it is that its desired interest rate is reflected in conditions on the ground. But the precise point at which spreads become wider than economic differences warrant is controversial.

In a speech on June 14th Isabel Schnabel, a member of the ECB's executive board, explained the bank's thinking. She argued that safe interest rates were rising around the world at a time when threats to growth were becoming more prominent. Widening spreads meant that financial conditions had tightened more in some parts of the euro zone than in others. The ECB would seek to avoid any "disorderly repric-

The European Central Bank

Moment of truth

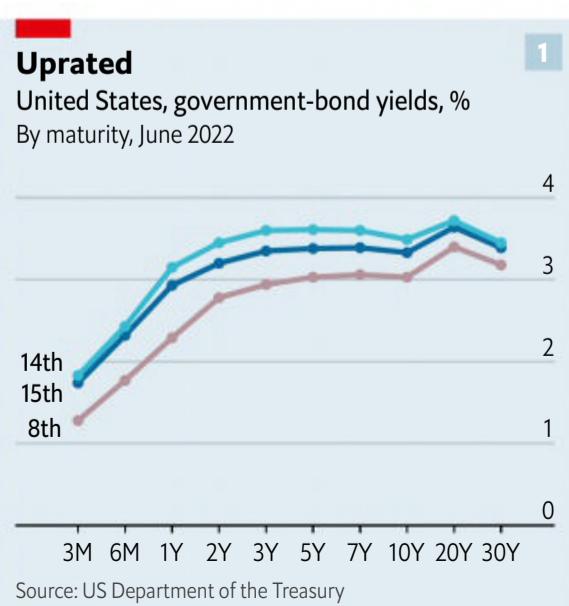
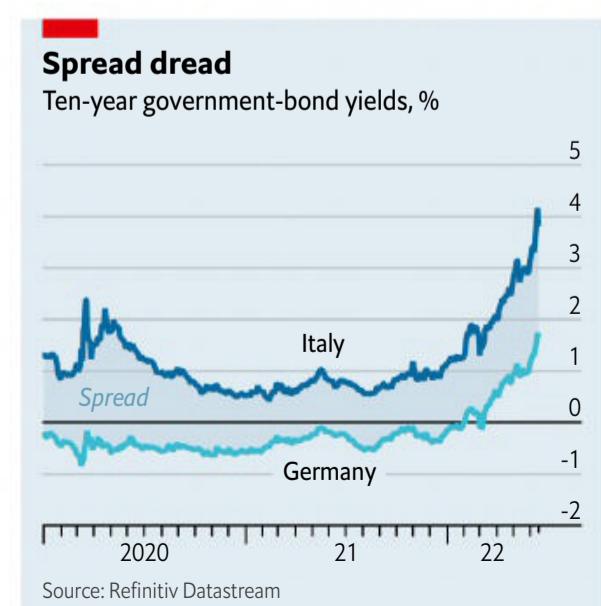
BERLIN

The ECB gets into bond-spread management

URGING INFLATION and a weakening economy are not the only worries pre-occupying the European Central Bank (ECB). As inflation rose higher still, the bank promised on June 9th to raise interest rates over the coming months and to end its asset purchases. Then, in subsequent days, financial markets decided to remind the central bank that the new policy could mean Italy's public debt, at 150% of the country's GDP, might look wobbly as interest rates start to rise. Italian government-borrowing costs started to climb.

As the yield on Italy's ten-year sovereign bonds surpassed 4%, the central bank called an emergency meeting on June 15th. Its governing council tasked the staff with coming up with an "anti-fragmentation" tool, a government-bond-buying scheme that would help prop up sovereigns in distress. The announcement marks a fundamental change in how the ECB sees its role in bond markets.

Being a central banker in a monetary union is hard. The euro's members differ according to their growth prospects and



►ing of risk" that could impair the functioning of monetary policy, and so pose a threat to ensuring stable inflation.

The question is what counts as "disorderly". Shortly before the emergency meeting, Italian ten-year spreads on bunds rose to 2.4 percentage points. Not everyone agrees that was a problem. Volker Wieland, a former member of the German council of economic experts, argues that Italy's debt is not unsustainable and that spreads did not warrant action by the ECB. In addition, he points out, the ECB already has the means to contain panicky rises in spreads.

Yet the existing tool, outright monetary transactions (OMT)—announced in 2012 when Mario Draghi, the ECB's former president, said he would do "whatever it takes" to preserve the euro—has become politically toxic. It comes with tough conditions—namely that the countries in need of ECB support subject themselves to an IMF-style reform programme.

Luis Garicano, a Spanish member of the European Parliament, argues that the ECB will seek to recreate OMT without the toxicity. The central bank itself has been at pains to emphasise that any new tool to

contain spreads would "remain within its mandate": in other words, that any bond purchases would be either limited, or tied to conditions.

Unless the euro zone comes closer to being a federal entity, with a common finance ministry and shared taxes and benefits, spreads will be a fact of life. Further banking or fiscal integration could help narrow them without central-bank action. But progress on those cannot be counted upon. With its announcement, the ECB has made clear that it sees managing spreads as part of its job. ■

Buttonwood Inequity in equities

Is trading in America's stockmarket fair?

IN EVERYDAY PARLANCE equity means fairness. To an investor or a stockbroker, though, it is an ownership stake. The word means both things thanks to the English Court of Chancery, which operated from around the 15th to the 19th centuries and handed out rulings based on "equity", or fairness, rather than common law. Under common law a borrower who missed a mortgage payment would forfeit their land, but in Chancery they could reclaim it by repaying the debt. Over time, "equity" came to mean the ownership stake in property itself.

Today's legal and regulatory systems are tasked with ensuring that finance is fair. And Gary Gensler, the head of the Securities and Exchange Commission, America's markets watchdog, is not happy. In a speech on June 8th he worried that "market segmentation and concentration" mean there is no longer a "level playing-field" in the stockmarket. It is "not clear", he said, that the "market system is as fair and competitive as possible for investors".

A fair market is transparent, accessible and uses a reasonable method to arrange buyers and sellers—think of a public farmers' market with clearly stated prices and an orderly queue. A decade ago this was a decent (if simplified) description of most equity trades. Three-quarters of them, by volume, were conducted on public exchanges; only a quarter were done "off-exchange". No more. In 2021, during the "meme-stock" craze when retail bets sent GameStop shares soaring, the share of off-exchange trades swelled to a peak of 47%. Retail punters are far less likely to have their orders executed on public exchanges than institutional investors. More than 90% of retail orders are sent to a concentrated group of marketmakers that pay

brokers to deliver the orders to them (a practice called payment for order flow).

At first glance, this system is not obviously bad for retail investors. Brokers—Charles Schwab, say, or Robinhood—are obliged to seek "best execution" for their customers. In order to direct a retail order to a marketmaker, like Citadel Securities or Virtu, they must beat the prevailing price offered by public exchanges—the so-called "national best bid and offer" (NBBO)—a feature known as "price improvement". That means retail traders probably get better prices than most institutions. Marketmakers are happy to pay for their business because the flows are not risky. It is easy to match retail flows against each other. By matching trades they can give a lower price than the best offer to the buyer, a higher price than the best bid to the seller, and have some left over—a slice of which they pay to the broker, and the rest of which they keep. The payments mean brokers do not need to charge customers commission.

Yet there are flaws. Post-trade price improvement makes it impossible for

punters to know ahead of trading which broker would ultimately give them the best execution price. As Mr Gensler put it, "price improvement without competition...is not necessarily the best price improvement." Marketmakers and brokers might start to hang on to more of the benefits, instead of passing them on to punters. Larry Tabb of Bloomberg, a data firm, has found that American retail investors in March 2022 collected 47% of the benefit (\$3.7bn on an annualised basis), while brokers were paid 13% (\$900m). The marketmakers themselves took some 40% (\$3.1bn).

Moreover, the system of price improvement relative to the NBBO only benefits customers if the NBBO is a good benchmark—a claim that is getting shakier. For a start, the NBBO is measured for orders of 100 shares or more. This was sensible in 2014, when just 15% of trades were in smaller quantities. By March 2022, though, the share had climbed to 55%. And if trading volumes continue to move off-exchange, the benchmarks will become ever less meaningful.

One solution from Mr Gensler is for exchanges to hold auctions for retail stock orders, a practice typically used to fill retail orders for equity derivatives. By redirecting retail flows to exchanges, this would radically reshape American stockmarkets—to the benefit of exchanges and the detriment of marketmakers—and is therefore likely to be fiercely resisted. Hours after Mr Gensler spoke Dan Gallagher, a former SEC commissioner now at Robinhood, said the current structure represented "a really good climate for retail". A breakup could face legal challenges, too. But Mr Gensler is right to be trying. Taking a punt on today's violent stockmarkets is daunting enough. Investors should get a fair shot at it.



China's economy

A non-fungible policy

HONG KONG

In stamping out covid, China has stomped on confidence

FOREIGN ECONOMISTS are forever urging China to increase its consumer spending. On June 18th each year, the country tends to oblige. That is the date of the “618” shopping festival, promoted by JD.com, which was founded on the same day in 1998. The company started life in a modest, four-square-metre shop in Beijing, selling VCDs and DVDs. But during the SARS epidemic of 2003-04, when the capital’s shopping districts fell quiet, it moved online. It was hugely successful, becoming one of China’s biggest e-commerce firms—a triumph of commerce over a coronavirus.

China’s retailers will hope this year’s 618 marks a similar victory. After months of lockdowns and restrictions to contain another coronavirus outbreak, China’s shoppers now have a bit more freedom to move about and an occasion to splash out.

China’s vast machinery of production and distribution also appears more ready to serve them. By June 10th, almost 55% of the listed companies operating in Shanghai had announced a resumption of work, notes CICC, a bank. And over half of the couriers surveyed by Kuaidi100, a data provider, said that they have been busier in the build-up to this year’s 618 than last year’s.

In Shanghai and the nearby provinces of Jiangsu and Zhejiang, power plants are now consuming about as much coal as last year, points out CICC, a sign that their local economies are plugging themselves back in. Indeed, despite all the logistical impediments they faced, China’s manufacturers, miners and utilities were able to churn out more stuff last month than they did in 2021, according to figures released on June 15th. Industrial production rose by 0.7% in May compared with a year earlier, defying fears of another decline.

China’s exports also fared better than expected, growing by almost 17% in dollar terms in May, compared with a year earlier. Much of the shipping traffic that could not pass through Shanghai migrated to the port of Ningbo in Zhejiang instead. China’s proliferation of ports, which once looked like overcapacity, now looks like helpful redundancy. When a country has to shut down a vital global trade hub, it is handy to have a second one 150km to the south.

The constraints on China’s ability to make things and distribute them are, then, lifting. But what remains fettered and caged is the consumer’s willingness to buy them. Consumer confidence is at a record

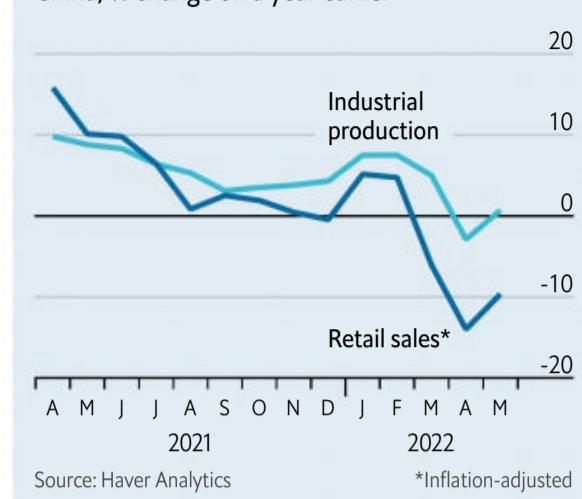
low. Retail sales fell by almost 10% in real terms in May, compared with a year earlier, having declined by 14% the month before (see chart). Catering shrank by more than a fifth. In places like Shanghai and Beijing, people still face mandatory covid testing and “mini-lockdowns” in neighbourhoods where cases appear. That makes mingling in markets and malls a risky endeavour.

Demand for housing is also strikingly subdued. Sales of new flats (measured by floor space) fell by over 30% in the year to May. The government has cut mortgage rates a little. It has also allowed local authorities to ease some regulatory curbs on property purchases. But the main restriction now seems to be poor morale. China’s forever war against covid seems to have vanquished another formidable foe: property speculation.

The one exception to this gloomy consumer data is online sales, which grew by 7% last month, compared with a year ago. During this year’s 618 festival, many retailers are hoping to usher their customers into virtual-shopping spaces in the metaverse. They are dangling before them digi-

On the mend?

China, % change on a year earlier



tal collectibles and non-fungible tokens, based on characters from “Journey to the West”, a classic of Chinese literature, and “Transformers”, a movie franchise. Under China’s draconian zero-covid policies, “real life” can lose much of its vivacity and spontaneity. The metaverse might seem unusually appealing. At least you don’t have to take a covid test to get in. ■

Greening property

A tall order

Buildings are responsible for a big chunk of global energy-related emissions. Making them greener will not be easy

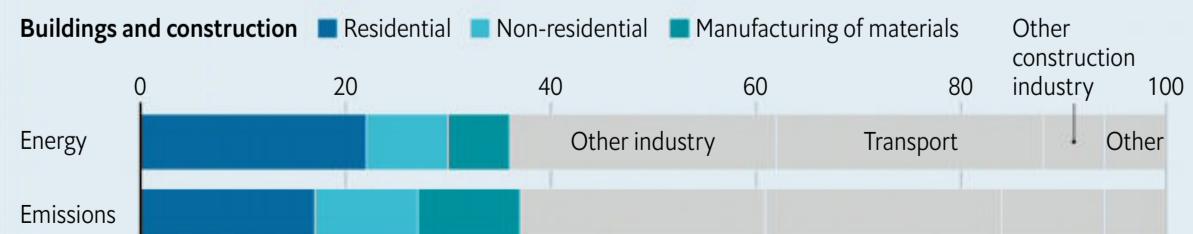
COVID-INDUCED lockdowns may have upended the world of work, but they have not killed the skyscraper. Even as workers stay home to avoid the commute, cities’ penchant for these concrete marvels of engineering continues unabated. In midtown Manhattan, JPMorgan Chase has knocked down its old headquarters in favour of a new glass tower that will rise 18 storeys higher. Across the city, more than a dozen supertall structures—which rise higher than 300m—are in the works. In London, where gleaming new landmarks are given irreverent nicknames such as “Walkie Talkie” or “The Gherkin”, more than 200 towers have transformed the sky-

line since 2009. The construction frenzy is not limited to big cities. By one estimate, the planet will add floor space the size of New York City every month until 2060.

Some worry that this pace of construction could literally cost the Earth. Today, buildings are responsible for almost 40% of global energy-related carbon emissions, with homes alone accounting for nearly 20%. Property emissions are a combination of two things. The first is the day-to-day running of a building: energy used to light up, heat or cool homes, office blocks and shopping malls. The carbon produced in this way is “operational”, in the vernacular, and accounts for 27% of all annual car- ►

Home truths

Global industry share in final energy demand and energy-related CO₂ emissions, 2020, % of total



arbon emissions globally. The other type is “embodied” carbon, which refers to emissions tied to the building process, maintenance and any demolition. Overall, embodied carbon is responsible for around 10% of annual emissions, though it will vary depending on the type of building.

Worryingly, the carbon footprint of buildings is growing. On the current path, carbon emissions related to buildings are expected to double by 2050. It is true that in 2020 emissions from managing property fell, after hitting a record high in 2019, according to the Global Alliance for Buildings and Construction (GlobalABC), an industry body. But that was mostly owing to lockdowns, which lowered emissions from all sorts of other activities too. Efforts to build greener played a minimal role.

Worse still, advances in building energy efficiency are stalling. The global rate of annual improvement fell by half between 2016 and 2019, according to GlobalABC's tracker, which measures indicators such as incremental investment in the energy performance of buildings, along with the share of renewable-energy use.

Policymakers are scrambling to find solutions. New energy-efficiency standards for buildings in England and Wales mean that one in ten offices in central London risks becoming obsolete in 2023. Nearly 60% could become unusable by 2027. Across the EU, where nearly two-thirds of the building stock relies on fossil fuels for heating and cooling, officials want nearly half of a building's energy to come from renewable sources by 2030. Cities are setting lofty targets, too. New York is aiming for carbon-free electricity by 2040; Los Angeles, for zero-emissions buildings by 2050.

Hot property

Homeowners are also being urged to go green. In Britain energy-performance requirements for new homes will be dramatically tightened from 2025. In Italy the government has pledged to cover the full cost of green renovations, plus an extra 10% to incentivise those still unsure about switching, through tax deductions of up to €100,000 (\$104,000) per home. More than €21bn has been paid out since the scheme was launched in July 2020.

Even so, progress is slow. To meet the goals of the Paris climate agreement, global emissions must hit net zero between 2050 and 2070. Today, less than 1% of buildings are net-zero. Nudging homeowners is proving challenging. Total greenhouse-gas emissions for American houses have fallen by 2% since 2005, versus the 7% that would be consistent with the Paris agreement, according to Citi-group, a bank. This is mirrored in many big economies. In Britain the CO₂-equivalent emissions of homes fell by around 1m tonnes between 2018 and 2019—less than



In need of a green revolution

half the cuts made by the transport sector.

Three obstacles make it harder to build sustainably. First, the property industry has focused almost entirely on making buildings more efficient to run at the expense of embodied carbon emissions. As a result, little progress has been made on monitoring and restricting embodied carbon. Britain, for example, has passed legislation requiring new homes to produce at least 75% less carbon from 2025. Yet it places no limits on the upfront carbon emissions needed to build or dispose of them.

There are exceptions. The Netherlands has required whole-life carbon assessments for some large buildings since 2013. California imposes carbon-intensity limits on certain construction materials. For now, embodied carbon accounts for a smaller share of global emissions than the operational sort. But that will change as buildings become more energy-efficient. In many modern buildings, embodied carbon already represents as much as half of total lifetime emissions.

The second hurdle is the indestructible appeal of the wrecking ball. The building sector would sooner knock down a structure than reuse it, resulting in a carbon-intensive cycle of demolition and construction. This is partly because the costs of revamping properties often exceeds their value. Tax structures across the rich world incentivise demolition over reuse. For example, until March 2022 most new buildings in Britain were exempt from value-added tax, while most renovation and repairs were liable for VAT at 20%. VAT has since been scrapped on some energy-efficiency measures but will rise from 2027.

This economic model is costly for the planet. Construction gobble up nearly all of the world's cement, half of all steel production and around a quarter of aluminium output and plastics, all of which spew vast amounts of emissions a year. In the

process, construction generates around a third of the EU's waste, measured by weight. In Britain construction, demolition and excavation amounts to nearly two-thirds of all waste produced.

Pockets of the sector are innovating. Startups, venture capitalists and some cement-makers are all looking either to replace concrete or to make it greener. New methods such as modular construction, which reduces waste by assembling components in a factory before moving them on-site, are also gaining traction. Nearly half of new homes in Finland, Norway and Sweden are factory-built.

Yet the overall pace of innovation is desultory, because of a third obstacle: the chronically underwhelming productivity of the construction sector as a whole. Global productivity growth in the industry has long lagged behind that of the wider economy. Building methods for new homes have barely evolved in over a century. At the same time, the pandemic has exacerbated long-standing labour shortages in construction. The sector was already struggling to produce enough tradespeople skilled in building sustainably.

Meanwhile, calls to go green will only grow more urgent. Population growth and voracious demand for housing mean the size of the built environment is expanding at a faster rate than efforts to slash energy use. An explosion of new buildings in China, South-East Asia and Africa will continue to fuel construction. In these places, more than half of all buildings that will exist 30 years from now have not yet been built. If the world is to reach net-zero emissions, the construction sector will need to make enormous strides—and fast. ■

Free exchange | Don't bet on Beveridge

The central bank thinks it can reduce job vacancies without causing job losses. Don't count on it

AMERICAN ECONOMISTS are no longer hawks or doves, but optimists or pessimists. With annual inflation running at 8.6% in May, everyone agrees the Federal Reserve needs to raise interest rates sharply, and on June 15th it did so by 0.75 percentage points. The disagreement now is not over whether the Fed must fight inflation but how painful the consequences will be. Pessimists point to the long history of bouts of monetary-policy tightening being followed by recessions. Optimists say the Fed can bring inflation down to its 2% target merely by slowing economic growth.

The Fed is in the optimists' camp. In a recent speech Christopher Waller, one of the central bank's rate-setters, spelt out the argument. It hinges on America's hot labour market. There were almost twice as many job openings as there were unemployed workers in April, with the ratio near a record high reached in March. And wages are more than 5% higher than a year ago. (Such is the heat that McDonalds is cutting workers from the kitchen, by shrinking its menus.) Although wage growth is slowing a little, the obvious imbalance between the demand for workers and their supply means the Fed cannot count on further cooling. Without it, prices are likely to continue rising fast, too, as workers spend their incomes and firms pass on their costs.

A pessimist would see plentiful job openings as a sign of how out of whack the labour market has become on the Fed's watch. The central bank sees them as evidence that it can cool things down without turfing anyone out of a job. Fewer vacancies, and therefore less competition for workers, might lower wage growth and inflation without raising unemployment. This idea motivates the belief of Jerome Powell, the Fed's chairman, that the economy could face only "some pain" from disinflation—akin to suffering from the side-effects of an inoculation, rather than the disease.

The argument can be cast as one about the slope of the "Beveridge curve", which traces the relationship between the vacancy and unemployment rates. It is named after William Beveridge, a British economist who in 1944 established the importance of vacancies in determining unemployment. The curve is a mysterious beast. It often shifts outwards during recessions, as it did after the global financial crisis, when more vacancies were needed to support any given level of unemployment. Economists speculated that it had become harder to match workers to jobs, perhaps because they were in the wrong place or had the wrong skills.

Since covid-19 struck, the Beveridge curve has moved outwards more dramatically still, perhaps reflecting the rise of home working, the decline of city centres and changing patterns of consumer spending (see chart). Its recent shape suggests that were vacancies to return to their 2019 level, when the labour market was arguably last in balance, the unemployment rate would rise from 3.6% today to more than 6%. That is hard to imagine without an accompanying economic contraction. A rise of just 0.5 percentage points in the three-month average unemployment rate, from its low over the preceding 12 months, is an indicator of recession. Every time it has occurred since 1950, it has either coincided with, or shortly been followed by, a downturn—a principle known as the "Sahm rule" (named for Claudia Sahm, an American economist).

Mr Waller, however, thinks that the shape of the Beveridge curve will change again as vacancies fall. The curve's outward shift during the pandemic reflects firing as well as hiring: lots of workers lost their jobs early on. Layoffs increase the unemployment rate for a given level of vacancies and push out the Beveridge curve. Today, though, few workers are being sacked. Perhaps the Fed can manage to cool the economy, and as a result lower the vacancy rate, but without increasing layoffs. In this scenario the curve would be steeper on the way down than it was on the way up. Reducing the vacancy rate to its 2019 level while holding layoffs constant would imply only a modest rise in unemployment, to around 4.5%. Though that would still trigger the Sahm rule, "the past is not always prescriptive of the future," said Mr Waller, noting that vacancies have never before been so high.

The perils of positive thinking

The Fed's maths are sound. Yet its argument looks like the latest instance of over-optimism among monetary policymakers, who have downplayed the extent of the inflation scare and underestimated the action needed to fight it. Why would tighter policy shrink vacancies but not increase layoffs? Higher interest rates reduce consumption and investment, which might cause the weakest firms to shrink or even shut down. Mr Waller said that "outside of recessions, layoffs don't change much". Yet recession is precisely the outcome that pessimists fear will follow from higher rates.

The historical record backs up that worry—and provides little support for the Fed's argument. Research by Alex Domash and Larry Summers, both of Harvard University and firmly in the pessimists' camp, finds that there has never been an instance in which the vacancy rate has fallen substantially without unemployment rising significantly within two years. A reduction in vacancies of 20% is associated with, on average, a three-percentage-point rise in the unemployment rate—comparable with what is implied by the recent Beveridge curve. Mr Waller's argument implies a drop in vacancies of fully 35%.

A final problem with the Fed's plan is that it does not preclude persistent inflation. Even if the labour market returns to balance, inflation could stay high if workers and firms come to expect rapid price increases. In economics textbooks it is high inflation expectations, not the difficulty of bringing demand back into line with supply, that makes it hard to slow price rises without causing a recession. That is why it is such bad news that people's long-term inflation expectations have recently risen noticeably, according to a survey of consumers by the University of Michigan. Getting expectations down typically means running the economy cold. Each time the Fed is proved to have been overly optimistic, its credibility ebbs, making a dire outcome more likely. ■

In left field

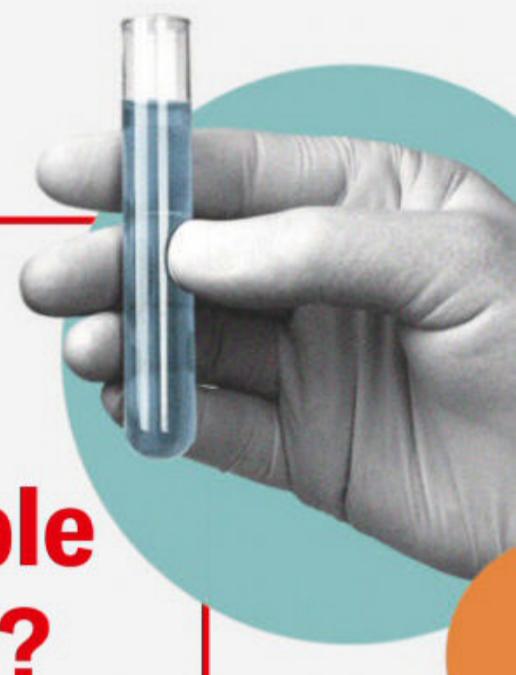
United States

Dec 2000-Dec 2008 Jan 2009-Dec 2017
Jan 2018-Mar 2020 Apr 2020-Apr 2022



Sources: Bureau of Labour Statistics; *The Economist*

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The promise of progress

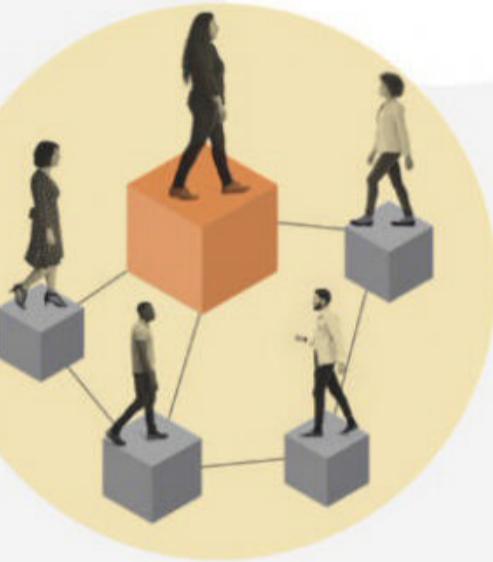
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Artillery technology

Engineering the god of war

Western artillery is arriving in Ukraine. What difference will it make?

HARD POUNDING this, gentlemen, but we will see who can pound the longest." Thus spoke the Duke of Wellington on the afternoon of the battle of Waterloo, when Napoleon's guns were pasting his troops. Those words come to mind as the war in Ukraine descends into an extended artillery duel, focused on the Donbas, in the country's east. Phillip Karber is a former American marine who now leads the Potomac Foundation, a research and policy outfit in Virginia, and who regularly visits the war's front lines to study the fighting. He reckons Russian artillery barrages are now responsible for about 80% of Ukrainian casualties. Figures on the other side are no doubt similar.

Whoever wins this duel will therefore probably win the war. And Ukraine is pinning many of its hopes of doing so on the sophisticated guns and ammunition it is receiving from well-wishers in the West.

Top of the list at the moment is the French CAESAR system (pictured above), made by Nexter, a firm in Versailles. This can hurl shells about 40km, which is 16km

farther than the firm's previous model, the TRF1, could manage. So far, France has handed-up five or six of a promised dozen CAESAR howitzers, enabling Ukrainian crews to smash targets 50% farther away than they could manage just a few weeks ago.

Top guns

The secret of CAESAR's range is its detonation chamber—the part of the gun where the propulsive charge explodes. At 23 litres, it is roughly four litres larger than the TRF1's chamber and can thus be packed with about 30kg of propellant. To contain this propellant's explosion, the chamber is made of a stronger steel alloy than is used in the TRF1. (The recipe for this is closely guarded.) To stop energy from the blast escaping through the barrel's rifling grooves, shells are fitted with a ring of softer metal

that creates a tight seal. And to give shells more time to gain speed, a CAESAR's gun barrel is, at just over eight metres, about two metres longer than the TRF1's.

There are other tricks to boost range. For long shots, a ring-shaped "base bleed" device is often screwed onto the bottom of a shell. In flight, this gizmo releases compressed gas that fills what would otherwise be a trailing area of low pressure. That reduces drag-inducing turbulence enough to add several kilometres to a projectile's range. Some shells are also designed with pop-out fins large enough to provide a "gliding phase" of flight. Nexter plans to introduce one such in 2025.

A far more expensive approach is to put rocket engines on shells. On May 31st America announced it would send Ukraine guided rocket systems. The M142 High Mobility Artillery Rocket System, known as HIMARS, can fire a munition called ATACMS a staggering 300km. Ukraine, however, is to receive shorter-range GMLRS rockets. These, which cost about \$160,000 a pop, can reportedly punch a 91kg warhead into a moving vehicle more than 70km away. The Russian Smerch and Uragan rocket artillery in wide use in Ukraine offer less precision but more punch. Those systems fire 280kg warheads.

A three-man HIMARS crew can launch a salvo without leaving the lorry's armoured cab. And Lockheed Martin, the American firm that makes GMLRS rockets, says the satellite-guidance kit works even amid

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jamming. Britain and another, unnamed, country are meanwhile sending a similar system, MLRS, to Ukraine. Training people to use this sort of kit will take three weeks. But Ukraine is unlikely to receive the 60 launchers that an adviser to Volodymyr Zelensky, the country's president, has said would be needed to halt Russia's advance.

As for the accuracy of non-rocket-propelled artillery, Nexter says that, at ranges up to about 30km, CAESAR drops unguided 43kg shells within 140 metres of the target. In practice, precision is often greater than this. In one test in windless weather a CAESAR howitzer lobbed eight out of eight shells into a "box" 40 metres square, says Olivier Fort, a former colonel who led studies in artillery doctrine for the French army, and is now Nexter's programme manager for future artillery. BAE Systems, a British arms giant, offers similar accuracy. In good weather its ARCHER howitzer lands unguided rounds within about 20 metres of targets 30km away. Ukrainian officials have requested ARCHER guns.

Staying alive

Even temperatures matter. Andrii Moruha, a Ukrainian veteran who now works for Come Back Alive, a local charity that, among other endeavours, trains artillery crews in the country's east, says every drop of 10°C shaves about 55 metres off a 4km shot. Artillery crews routinely loft instruments on a helium balloon to measure temperatures and wind speeds. Systems also take into account the temperature of the propellant loaded into the detonation chamber. Doppler radars clock the speed of projectiles as they leave the gun barrel.

Today's NATO standard for shell size is another plus. NATO artillery rounds have a diameter of 155mm, 33mm more than munitions fired by much of Ukraine's legacy Soviet fare. The extra calibre roughly doubles the amount of explosive that fits inside. If tanks are separated by just ten or so metres, as many of Russia's have been in this conflict, a single 155mm shell can obliterate one and disable two others. Shot for shot, Western artillery is deadlier than Russia's guns, says Dr Karber, who was himself injured by shrapnel from a Russian barrage in 2015.

These bigger calibres have also helped engineers design specialised munitions such as incendiary and illumination rounds. NATO armies now fire dozens of shell types, including ones fitted with delay fuses that detonate after penetration, in order to wreak greater destruction. These rounds are optimised to punch deep into a specific material, such as steel, concrete or soil. With the latter, the idea is to generate a bunker-collapsing shock wave. A NATO 155mm anti-personnel airburst shell that uses a radar fuse to detonate at programmable heights sprays enough shrapnel to

kill exposed infantry across a hectare.

That is fearsome firepower. But to be effective, an artillery crew must also avoid enemy fire. Operators of spotter drones consider enemy artillery positions a priority. And then there is the matter of counter-battery radars. These lorry-mounted systems work out where incoming shells were fired from. One such system that Russia is using against Ukraine, the Zoopark-1M, can simultaneously pinpoint the origins of a dozen incoming 155mm shells from as far away as 12km. But COBRA, a European-made counter-battery radar that Germany is supplying to Ukraine, can do likewise for as many as 40 artillery pieces roughly 100km away.

These radars crunch numbers fast. The technology has allowed Russian units to hammer Ukrainian artillery positions just four minutes after they fire an opening shot. Perhaps it is little wonder, then, that artillery technologists are obsessed with shortening the time it takes to drive into a position and "shoot and scoot".

With CAESAR, a crew can prepare an initial shot in just 40 seconds. The gun can then be fired ten times a minute, four times more often than was possible with the TRF1. To help achieve such performance, Nexter redesigned the mechanism that seals the detonation chamber. After a final shot, the gun is ready to drive away within 40 seconds. As for BAE's ARCHER, it can fire four shells 40km and drive off before the first one hits its target 55 seconds later. Jim Miller, a former American-army gunner who is now vice-president for combat systems with BAE in Virginia, puts it thus: "If anyone shoots back, they're just hitting the ground where you used to be."

Those operational speeds are made possible in part by hydraulic autoloaders. A good example is that in the Panzerhaubitze 2000, an artillery piece made by Krauss-Maffei Wegmann, in Munich, of which Germany has said it is sending Ukraine a dozen. Inside the armoured vehicle

which carries the gun a robotic arm slides on a track, grabs a shell stored upright on a rack and places it flat on a conveyor, which carries it to a hoist mechanism. Here, it is lifted and placed into the cannon's breech. A pneumatic "flick rammer" shoves the round into the chamber. The system loads and fires a round in six seconds, though a special burst mode can shoot three rounds in ten seconds.

Firing rates have also been improved by better software. To aim shots at Russian-backed separatists in 2014, Mr Moruha used a pen, paper and calculator to work out the trajectory. That took several minutes. Today, Ukrainian units usually type target co-ordinates from a drone (or, less frequently, a forward observer) into software that immediately determines the necessary adjustments. With today's best artillery, barrel settings are precise enough to adjust distant landing spots in increments of a mere 20 metres or so.

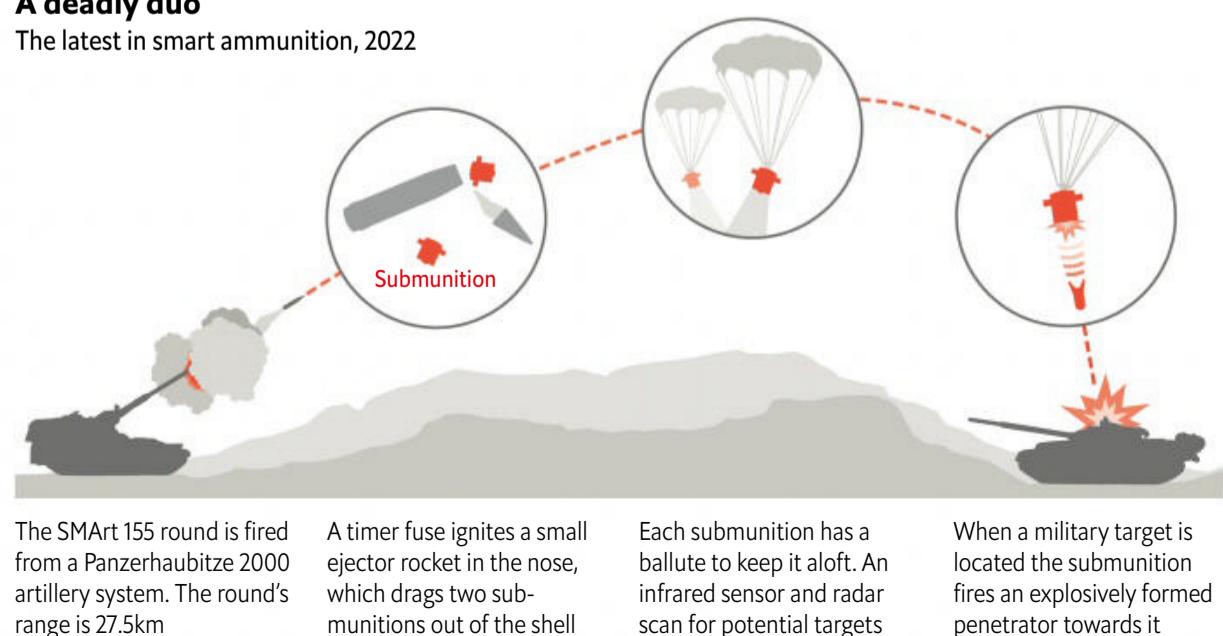
Another advance has been a shift from towed to self-propelled guns mounted on a wheeled or tracked chassis, of which CAESAR and the Panzerhaubitze 2000 are good examples. Towed artillery takes longer to move, especially off road. Brent Eastwood, a one-time infantry officer who left the American army in 2004, likens positioning the towed artillery common in his day to manoeuvring "a Winnebago RV". Moving such equipment away from a firing position can take as long as five minutes. Improvements in counter-battery radars have turned that delay into a death trap.

Then there are guided artillery shells. With fins to steer them in flight, the West's best are accurate to within a metre or two. The Excalibur S, for example, uses a scanner in its nose cone to spot an infrared laser beam aimed by a drone or forward observer. Its maker, Raytheon, says the round can fly 40km and hit a moving vehicle.

Other sorts need no laser to "paint" their destination. One such is the SMART 155 produced by Diehl and Rheinmetall, a pair ►

A deadly duo

The latest in smart ammunition, 2022



► of German firms. While descending on an area with potential targets in it, the 47kg shell ejects two submunitions (see diagram on previous page). Each of these has a so-called ballute (a cross between a balloon and a parachute) to keep it aloft for as long as possible, and an infrared sensor and a radar that together scan for potential targets. If an object's scanned signature matches something in a library of military targets which the submunition carries in its memory bank, the submunition fires an explosively formed penetrator at the target. Nexter and BAE produce a similar system called 155 BONUS, though its two submunitions descend on winglets rather than ballutes.

Smart shells do have drawbacks. Some use the global positioning system, which is jammable, to work out where they are. And a shell packed with electronics has less room for explosives. Those electronics, moreover, have a tendency to degrade over the course of time. Such a shell may thus have a shelf life as short as 15 years. That might not sound too bad. But a single 155 BONUS shell costs about \$40,000, an order of magnitude more than a standard round, so reordering is expensive.

I need ammunition, not a ride

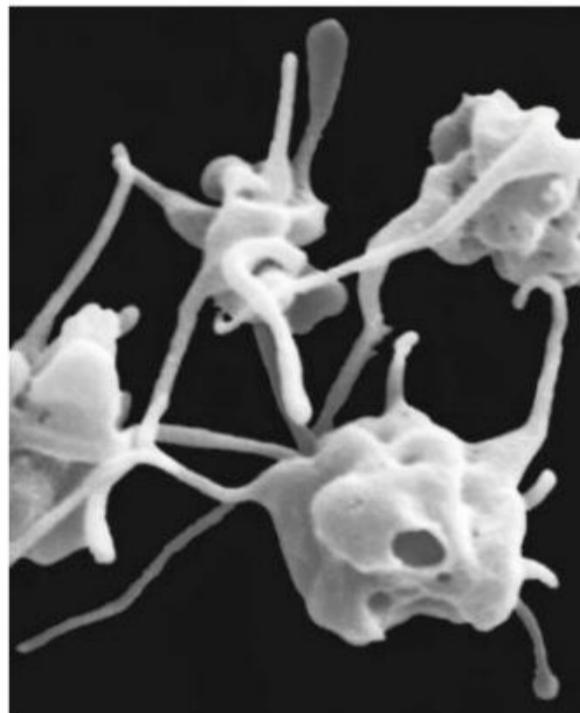
How much firepower of this sort has been sent to Ukraine is not public information. But the Ukrainians claim it is insufficient. A colonel who requested anonymity laments that his country remains "in waiting mode" for these systems. Andrew Milburn, founder of Mozart Group, a charity that trains soldiers in Ukraine, agrees. Mr Milburn, who was until 2019 a colonel in the American Marine Corps and who led special operations in the Middle East, reckons not enough high-tech Western artillery has been sent to give the Ukrainians an edge.

Perhaps, though, the balance of power will change anyway. According to Molfar, a Ukrainian intelligence firm with eight analysts who collect data on Russian artillery shots, the accuracy of Russian artillery strikes is broadly declining. (Users of the information Molfar provides include the Security Service of Ukraine, known as the SBU, and America's defence department.) Russia's stocks of precision shells are therefore probably dwindling.

Aiming is another difficulty. Mr Milburn says Ukraine suffers from a woeful shortage of longer-range reconnaissance drones like the ScanEagle, a product of In-situ, a subsidiary of Boeing. He says many more such drones are needed to transmit the co-ordinates of targets to the fire-direction centres that assign shots to artillery crews. But Russia also appears to be struggling to collect good data on targets.

Olga Khmil, one of Molfar's intelligence analysts, says Russia is now using group channels in messaging apps like Telegram

to aim its artillery better. Russians pretending to be Ukrainians on these channels feign fear of shelling in order to elicit information about infrastructure that has and has not been hit. On May 24th the SBU revealed an even more devious approach to such espionage. The agency said it had discovered that Russian intelligence was using smartphone games to induce unwitting youngsters to snap and upload geo-tagged photos of critical infrastructure, military and civilian. In exchange, players receive virtual prizes of no value outside the video-game world. And Russia gets to wreck their country. ■



Stent technology

Painting with platelets

How to hide surgical implants from the immune system

PLATELETS PLAY an essential role in healing. These curious beasts (pictured above), are cell fragments rather than complete cells—though they are still surrounded by cell membranes. Their main job, in collaboration with a protein called fibrin, is to stem the flow of blood from wounds by causing clots. They also encourage the regeneration of damaged tissue.

This sort of activity at wound sites might normally draw the attention of the immune system, but that does not happen because platelets carry special proteins in their membranes which render them invisible to immune surveillance. Now, Wang Yunbing at Sichuan University in China writes in *Matter* that he has developed a way to apply these membranes to medical equipment of the sort destined for installation inside the human body. That

may stop the immune system attacking such grafts as foreign objects.

The idea of coating equipment with platelet membranes has been around for a while. Since the relevant proteins were characterised 20 years ago, they have been used on numerous occasions to disguise nanoparticles employed for drug delivery. That involves manipulating the surface electric charges of the nanoparticles to make them sufficiently and uniformly negative in a way which encourages the membrane to fuse with them.

For such small objects, this is reasonably simple. But not for large ones. Manipulating charge uniformly across a wide area is tricky, and no one has yet done it well enough to achieve successful fusion. Dr Wang therefore wondered if it might be possible to entice membranes to fuse to a large surface by manipulating that surface in other ways. Besides being attracted to negative charges, platelet membranes also spread easily and defect-free over "superhydrophilic" (exceptionally water-loving) surfaces. With this in mind, he tested a superhydrophilic material based on a substance called polydopamine, which he knew from previous work binds to a range of materials including plastics, metals and ceramics. So he gathered a team of colleagues together to fuse it to a metal stent.

Stents are used by heart surgeons to open up blood vessels that have got clogged. They are extremely effective at keeping people alive, but do attract the attention of the immune system, causing inflammation of the tissues around them, which results in scarring. If enough scar tissue forms, that can itself impede blood flow. Worse, it can result in part of the scar breaking off and causing a stroke or pulmonary embolism. Over the past two decades, types of stent have been designed that slowly release anti-inflammatory drugs and so reduce these risks. But success is not guaranteed, and the consequences of failure are severe.

The team coated their experimental stents by dipping them in a solution of dopamine and a substance called sodium periodate. They then charged the coated stent to an appropriate negative voltage and dropped a suspension of "platelet-derived extracellular vesicles" (small bubbles of membrane that platelets can be induced to cough up by appropriate treatment) onto it, before incubating it at 37°C for a couple of hours.

Hidden in plain sight

This done, examination with a microscope indicated that the stent was indeed covered in platelet membrane. But, to be sure the immune-shielding proteins were still there, the team used two special techniques, immunofluorescence and western blotting, to check for their presence. ►

The acid test, however, was to try out the stents in animals. To that end they picked a group of rabbits and implanted into their abdominal aortas stents which had no coating, stents coated only in polydopamine, and stents which had also had platelet membranes attached to them. After eight hours, they removed some of the stents and looked for a build-up of inflammatory cells. They left the rest in place, allowed the animals to recover from the surgery, and then let them go about their lives for a month before killing them and collecting their stents for analysis.

As expected, even after eight hours, let

alone a month, the uncoated and the polydopamine-coated stents were saturated in cell growth triggered by immune activity. On both occasions, however, the membrane-coated stents were clean.

Translating this preliminary result in rabbits into a clinical application in human beings will be a hard graft, as it were. How long the coating will last remains unknown. And rabbits are not people, so the details of their physiologies are different. But as a start, Dr Wang's work is remarkable, for it opens a whole, new avenue of investigation into the problem of sustaining medical implants. ■

from three of the bodies indicated they had indeed been plague victims. Second, two of the genomes involved could plausibly have come from a common ancestor of all four known *Yersinia* branches. This suggests, they say, that the Issyk-Kul outbreak was a crucial moment in the history of the Black Death, and dates the poltomy to the first half of the 14th century. Dr Spyrou suspects it began in marmots, which to this day remain a plague reservoir, and spread to people as a zoonosis—a transfer from another animal species—which is how many new human pathogens get going.

Dr Spyrou's proposal conflicts with a high-profile hypothesis published recently by Monica Green, a historian of medicine, that the Black Death was spread westwards by the advance of Mongol armies under Genghis Khan's successors throughout the 1200s. This would explain historical mentions of pestilence dating to this period (during the Mongol siege of Baghdad in 1258, for example). It does, however, depend on the poltomy having happened in the 1200s (the middle of Dr Cui's estimate), rather than the 1300s. In a paper proposing this timeline, published in 2020 in the *American Historical Review*, Dr Green wrote that her version of events could be falsified by the discovery of the right kind of ancient DNA. It is just such evidence that Dr Spyrou claims to have found.

Dr Green disagrees. She says she admires Dr Spyrou and her colleagues' facility with DNA extraction, and agrees Issyk-Kul is a plausible place for the poltomy. But she questions their conclusion that the poltomy happened shortly before the burials. There is no reason, after all, why something resembling the common ancestor should not hang around for a while, even when its "daughter" strains are established. Though the stakes are lower than in the case of covid-19, the debate on the Black Death's origin is just as fraught. ■

Pandemics

And you thought covid was bad

The origin of the Black Death

HISTORY'S DEADLIEST pandemic was the Black Death, an outbreak of plague that ravaged Europe, the Middle East and north Africa between 1346 and 1353. Where it struck, it killed up to 60% of the population. Even after this first, exceptionally lethal wave had passed, local plagues continued for about 500 years, and the disease still spills over into people from rodent "reservoirs" from time to time.

Insight into the Black Death's origins came in 2012, when Cui Yujun's team at the Beijing Institute of Microbiology and Epidemiology sequenced genomes of *Yersinia pestis*, the plague bacterium, collected from five countries. Dr Cui's results suggested four lineages of the bug had emerged in quick succession during an evolutionary big bang. Calculations based on the estimated speed of evolution led them to suggest this so-called poltomy happened between 1142 and 1339.

A paper published this week in *Nature*, by a team led by Maria Spyrou of the University of Tübingen, in Germany, builds on Dr Cui's work. It claims an ancestor of all four lines existed in part of modern-day Kyrgyzstan as recently as 1338—the nearest extremity of Dr Cui's distribution. This suggests the explosion of diversity he observed was a direct precursor to the plague's devastating eruption.

Dr Spyrou and her colleagues concluded this by analysing samples from two cemeteries alongside Lake Issyk-Kul, near the border with Kazakhstan. The grave-stones here, which are disproportionately marked with dates corresponding to 1338 and 1339 AD, have attracted plague scholars' attention for decades, both because of the high mortality rate they imply and of the

epitaphs' invocation of an unnamed pestilence as the cause of death. Not until now, however, has DNA analysis been brought to bear on the question.

The study just published began when Philip Slavin, a historian at the University of Stirling, in Britain, traced bodies exhumed from the Issyk-Kul cemeteries to a museum in St Petersburg. He then called Dr Spyrou, who is an expert in the genetic analysis of ancient DNA. She and her team extracted dental pulp from seven individuals whose epitaphs suggested they were plague victims. They chose this tissue for testing because it is protected from decay by the tooth's enamel.

When they compared what they had found with previously published *Yersinia* genomes, they noted two things. First, DNA



Bring out your dead...



Power and planning in Ethiopia

Make me a city

ADDIS ABABA

Ethiopia's capital is a showcase for its leader's vaulting ambition

TO WALK AMONG the happy throngs in Sheger Park, Addis Ababa's newest and glitziest public space, is to encounter an idealised vision of Ethiopia's future. Gentle piano music wafts through the air. Beaming newly-weds pose for photographs beside a glittering artificial lake. Young professionals clink wine glasses as families donning traditional white shawls wander through a botanical garden. When the sun sets a spectacular display of water fountains erupts to rapturous applause.

All Ethiopia's modern history is on display, too. Looming above you is the palace of Emperor Menelik II, who founded the Ethiopian capital in the late 19th century. To the north, beneath eucalyptus-covered hills, are districts built by Italian colonists in the 1930s that were once racially segregated. To the east stands a grand circular building, in the style of an Ethiopian monastery, made for the national bank in the 1960s during the modernising phase of Emperor Haile Selassie's reign. A soaring bronze monument nearby commemorates

the socialist revolution of 1974. Squint a little, and in the distance you spy rows of hulking tower blocks, built during the era of the Ethiopian People's Revolutionary Democratic Front (EPRDF), a leftist rebel movement which seized power in 1991.

Addis Ababa is a fabled capital. Successive rulers have treated it as a "modernist monument for the rest of Ethiopia", writes Ellen Centime Zeleke, author of "Ethiopia in Theory". Its buildings, streets and public spaces are etched with the legacies of empire, war and revolution. From the racist master-plans of the Italian occupation, to

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the Haussmannian demolition schemes of the EPRDF years, each government has sought to recast the city in its own image. Now Abiy Ahmed, prime minister since 2018, is setting out to do so again—even as an atrocity-filled war with Tigrayan rebels has disgraced his regime and called the country's future into question.

The new park is one of a dizzying array of *grands projets* in the pipeline. Menelik II's nearby palace has already been converted into the first of several new exhibition centres. Earlier this year a massive public library opened. Next door a science museum and an amphitheatre are going up. Several more parks and green spaces are germinating. The swishest of these, set on nearby Mount Entoto, boasts hiking trails, adventure sports, boutique restaurants and a luxury resort. "These days you see new changes every week," gushes Gebre Sifer, a retired pastor visiting the library.

The city's existing infrastructure is also getting a facelift. Government offices have been spruced up. Public thoroughfares have been splashed with colour and adorned with flowers and murals. Last year Meskel Square, the historic central plaza, was lavishly refurbished at a cost of more than \$73m—a striking sum in a country in the midst of a civil war.

For Abiy, who has cracked down on dissent and imprisoned opponents, refurbishing the capital is a political project as well as an aesthetic one. "If you can change ►

► Addis, definitely you can change Ethiopia," he remarked in an early interview. Glossy promotional videos depict the renovation scheme as a symbol of national unity. In the run-up to elections last year, in which the ruling party won over 90% of the seats contested, state media broadcast drone footage of the revamped city at the top of the evening news. "Abiy believes that public spaces and monuments create the image of the Ethiopian state which he wants to project to his citizens and to the world," says a former adviser.

To grasp the kind of image he has in mind, compare it with the style of the EPRDF, Abiy's Marxist-inspired predecessors. They viewed the city in essentially functional terms; their flagship urban projects were mostly large-scale bits of infrastructure such as housing estates and a light-rail system. Aesthetic concerns were secondary. Alula Tesfay Asfha of the University of Tsukuba notes the constructivist style of the period, in which buildings were designed to a minimum standard and aimed to cater to as many people as possible. In practice this often meant drab high-rises built with cheap aluminium frames.

Abiy's priorities are very different. His ruling Prosperity Party has ditched the state-led economics of the EPRDF for a more liberal, consumerist kind of capitalism. In this new orientation, outward appearances matter. Asked about the flowers placed along the road to the airport, Abiy once said that "A mind that doesn't see a good thing will not create a good thing." In a recent televised meeting he berated officials for neglecting to promote a uniform colour for buildings in the city. Since then its administration has ordered them to be painted in one of 13 shades of grey.

The emperor's new roads

For Abiy, an evangelical Christian, the beautification may have a religious dimension, too. Tekalign Nega of the Ethiopian Graduate School of Theology argues that the stress on urban aesthetics reflects the tenets of the prosperity gospel, in which earthly splendour and divine favour are closely entwined. A clean and shiny Addis Ababa, according to this way of thinking, is a step on the road to both heaven and a peaceful, prosperous Ethiopia. "It's about giving you a foretaste of what is about to come," Tekalign says.

Yet it has provoked mixed reactions from Ethiopians. Few question the value of more and better used public spaces. The land beneath Sheger Park, for instance, had languished for years. Many architects and urban planners appreciate their newfound status. Recently the government opened a swanky urban-design centre; it is holding competitions for major public developments. "The city was sleeping," says Sofoniya Solomon, a finalist in one of them.

Artistic mysteries

The other da Vinci code

FLORENCE
Where did the "Mona Lisa" smile?

FOR CENTURIES, two of the most intriguing questions about Leonardo da Vinci's "Mona Lisa" were "Who?" and "When?" A discovery made at Heidelberg University in 2005 pretty much answered both. A note written in a manuscript in the library confirmed the account of da Vinci's first biographer, Giorgio Vasari: that the sitter was a merchant's wife, Lisa Gherardini. The note also helped date the masterpiece to between 1503 and 1506.

A third conundrum—"Where?"—is still in dispute. But on June 3rd a French engineer, Pascal Cotte, declared that he and a collaborator had identified the landscape in the background of the painting. Arguments had previously been made for stretches of countryside in the Marche region and between Milan and Genoa. During a presentation in Vinci, near Florence, Mr Cotte contended that the artist was more plausibly depicting a part of his native Tuscany—one

Look behind her

"These changes are necessary."

Others, though, worry about warped priorities. The first phase of the redesign was estimated to have cost \$1bn. As Abiy has pointed out when asked about his plans, much of the cash is from private sources or overseas (China and the United Arab Emirates). But Ethiopian taxpayers are on the hook too, even as their conflict-hit economy collapses. "The public must have a say in it," grumbles Simon Chernet, a 25-year-old resident of the capital.

Some disparage the prime minister's

that keenly interested him at the time. According to this theory, da Vinci represented the area not as it was, but as, in an unrealised scheme, he intended it to be.

Mr Cotte, who was asked by the Louvre (where the "Mona Lisa" hangs) to create a digital image of the painting, is the inventor of the multispectral camera: a device that can detect not only the drawing below the surface of an oil painting, but also, where they exist, intermediate layers of work. It was among these, under what appears to be a pointed rock, that he found a preparatory sketch showing that da Vinci intended it to represent a castellated tower.

The landscape of the "Mona Lisa" also includes a huge overhanging precipice. That is similar to one that da Vinci included in a sketch of a fortress contested by Pisa and Florence in the war that flared between them in 1503 (around the time he was painting Gherardini). The fortress with the nearby precipice—and a tower, known as the Caprona tower—all overlook the river Arno as it snakes from Florence to Pisa. All three also feature in drawings made by da Vinci to illustrate a plan about which, says Mr Cotte, he became "obsessive".

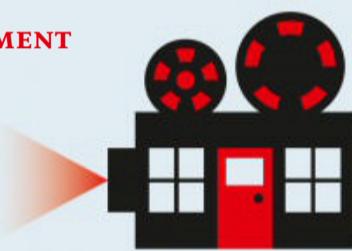
This involved diverting the Arno to cut off Pisa's water supply and give Florence an outlet to the Mediterranean. In the early 1500s, with the two city-states at war, the idea was under active consideration. Mr Cotte argues that a channel winding through desolate countryside at the right of the "Mona Lisa" is too wide to be a road, as some have speculated, and is instead the dried-up bed of the Arno as da Vinci envisaged it once his plan had been adopted.

It never was. But if Mr Cotte's theory is right, it might just explain why Gherardini, a Florentine, wears such a contented, if inscrutable, smile.

obsessive city management as befitting a mere mayor. Equally, though, it suggests a much grander precedent. When Haile Selassie saw the marble plaques installed in Africa Hall, the first seat of the African Union, he ordered the removal of the names of all the officials involved in its construction except his own. "What have *they* done?" he is said to have asked. Abiy was recently revealed to be following in his predecessor's footsteps by building himself a luxurious new palace. He seems to have a similar sense of his own place in history. ■



HOME
ENTERTAINMENT



The wisdom of "Mother Night"

War and words

Kurt Vonnegut dramatised the power of language to warp reality

"THIS IS THE only story of mine whose moral I know," wrote Kurt Vonnegut of "Mother Night". First published in 1961, his novel takes the form of a fictional memoir; the narrator, Howard W. Campbell junior, reflects on his experience as a double-agent in the second world war. The tale's theme, as the author saw it, was that "We are what we pretend to be, so we must be careful about what we pretend to be."

Campbell begins his account by explaining that he is in detention in Israel, awaiting trial for war crimes. Born in America, he was brought up in Germany as Hitler rose to power. He became a playwright, joined the Nazi party and mingled with its bigwigs; his writing soon attracted the attention of Joseph Goebbels and he was recruited to produce propaganda for English-speakers. Campbell worked hard at his trade, recording broadcasts full of anti-Semitic invective. He became a household name in America—loathed or venerated, depending on the listener.

Yet the narrator purports to be a consummate pretender, recruited by American intelligence in 1938. Though he was not motivated by any particular sense of moral duty, he agreed to conceal messages in his

broadcasts, a code conveyed in "mannerisms, pauses, emphases, coughs, seeming stumbles in certain key sentences". The problem is that no one can verify this assertion. Inconveniently, the American government denies that his handler was one of its operatives.

"Mother Night" suggests it doesn't matter whom Campbell was really working for, nor what he believed. He had been so convincing in his performance as "Hitler's right-hand man" that "nobody saw the honest me I hid so deep inside". His propaganda was ghastly and effective—witness the acolytes seeking to keep his ideas and rhetoric alive in America—so his intentions became irrelevant. And Campbell admits that, had Germany prevailed, he might have continued to ply his grim trade, "writing a daily column of optimistic doggerel for daily papers around the world".

Vonnegut is one of America's most celebrated writers about war. His novels explore the logic of conflict or, more often, the lack thereof. He had witnessed the horrors of fighting first-hand, enlisting in 1943 at the age of 20 before being taken prisoner during the Battle of the Bulge. Transported to Dresden, he saw the city's destruction by the Allies in 1945. Later he satirised the glorification of martial values. "When we remember wars," he wrote in "Cat's Cradle", "we should take off our clothes and paint ourselves blue and go on all fours all day long and grunt like pigs."

"Mother Night" is less fantastical than works such as "Slaughterhouse-Five". Its focus is not the war on the battlefield but the war of information. The novel was not a huge hit when it was published, but in subsequent decades it has been adapted into a film starring Nick Nolte (pictured) as well as stage and radio plays. It is particularly resonant in the context of today's bloodshed in Ukraine, underscored as it is by Russian propaganda. Language still has the power that Vonnegut intuited: to warp reality and sow division. ■

The American mall

Walking the floors

Meet Me by the Fountain. By Alexandra Lange. Bloomsbury; 320 pages; \$28

NEAR THE start of "Meet Me by the Fountain", Alexandra Lange encourages readers to picture their shopping mall. Maybe it is the place they frequented in their youth, had their first job or took their children for back-to-school buying sprees. This reviewer's memories are of suburban Chicago in the 2000s—of dimly lit shops selling skimpy clothes, and afternoons spent gossiping at the food court and wondering if your latest crush would show up.

Writing a history of shopping malls is a multifaceted task. They seem utilitarian, and were originally envisioned as venues for supermarkets, dentists and post offices. But the mall is also a social hub and an architectural challenge. Ms Lange examines the enduring influence of architects such as Victor Gruen and Jon Jerde as shopping centres developed into places of entertainment. In the 1940s Gruen used department stores to anchor his malls and help enchant suburban housewives; Jerde put an amusement park at the heart of the colossal Mall of America near Minneapolis, which opened in 1992.

True to her roots as a design critic, Ms Lange whisks readers through decades of this architectural evolution. But her book shines in its study of malls as symbols, and drivers, of American consumerism and urban sprawl. Their rise in the mid-20th century coincided with white flight from city centres to suburbs, and their form pointed to the intended patrons. "In proposing a downtown outside downtown, protected from the elements, ringed by parking lots", contends Ms Lange, Gruen "created a mechanism to protect white, upwardly mobile homeowners from those unlike themselves".

As the tendrils of suburbia and exurbia extended across America, malls became a feature of the landscape. They sprouted food courts, arcades and central atriums in which to see and be seen. This is the mall of teen movies such as "Fast Times at Ridgemont High" and "Mean Girls". Developers aimed to recreate the conviviality of city streets and shopping plazas on a private, controlled site. But only up to a point: mall police were used to restrict loitering and protests. The evolution of malls into de facto public squares prompts questions about what private spaces owe to those who use them as a commons. ▶



I shop therefore I am

▶ Though Ms Lange pays rapt attention to malls' shortcomings, her book is refreshingly optimistic. With their air-conditioning, level floors and abundant benches, malls are a lesson in accessibility. The author devotes many pages to mall-walkers: elderly Americans who power-walk around shopping centres for exercise in the mornings. For them, malls are a safe alternative to streets or parks.

The rise of e-commerce has prompted obituaries for the mall. Many have failed because they offer nothing distinctive. Joan Didion, an American writer whom Ms Lange considers one of two great cultural critics of the mall (Ray Bradbury was the other), skewered their sameness long ago.

"Valley Fair, Mayfair, Northgate, Southgate, Eastgate, Westgate, Gulfgate", Didion wrote: "They are toy garden cities in which no one lives but everyone consumes."

Yet Ms Lange thinks they can be reinvented. Already, as the suburbs have diversified, malls have begun to reflect their new clientele. Food is key. La Gran Plaza in Fort Worth, Texas, has become a destination for Mexican cuisine and culture (wrestlers and mariachi bands entertain shoppers). Mission Square Shopping Centre in Fremont, California, caters to the Bay Area's Asian-American population. These malls "are destinations unto themselves", says Ms Lange. "They don't try to represent all of America, but *an* America." ■

The Wirecard scandal

Wire fraud

One journalist's battle to expose the truth about a high-flying tech firm

Money Men. By Dan McCrum. Bantam Press; 352 pages; £20

EUROPE HAS long struggled to produce world-beating technology firms. Wirecard was, for a while, viewed as a sign that this might be changing. The Munich-based payments-processor, a "fintech" star, even won a coveted place in Germany's DAX stockmarket index in 2018, when its value soared above €20bn (\$23bn). But after a spectacular fall from grace in 2020, all that remains is an insolvent husk.

Wirecard might still be one of Europe's most feted tech firms, were it not for a small band of sceptics—including Dan McCrum. The investigative journalist at the *Financial Times* (*FT*) first heard about the company in 2013, jotting down its name with a question mark after a hedge-fund manager suggested he look under the bonnet. Over seven years, aided by a handful of short-sellers and carefully cultivated whistleblowers, he pieced together a picture of a firm built on fraud, with fake customers, invented profits and cash balances that looked flimsier the closer you got.

The battle to expose the truth had to be waged on several fronts. Wirecard fought back viciously and dirtily. Computers were hacked, offices suspected of being bugged, false stories put about. At one point, according to an ex-policeman the author interviewed, Wirecard had more than 30 private detectives "running round London" and trying to dig up dirt on Mr McCrum, *FT* colleagues and the short-sellers. This induced paranoia: Mr McCrum took to keeping his notebooks in a safe with six-inch steel walls, and jumping off Tube trains just as the doors were closing, in case he was being tailed.

The company also made full use of Britain's strict libel law, hiring Schillings and other firms to pound the *FT* with legal threats. Lawyers from another practice, alleges Mr McCrum, "played the part of the waiter carrying the tray, taking no view on whether its client had poisoned the drinks". (Schillings told him it acted entirely properly and complied with all legal and regulatory obligations.) Wirecard also sued in its homeland, spuriously accusing the paper of misusing its business secrets; the suit was dropped.

This response slowed Mr McCrum down, at one point causing a damning article to be spiked for fear of an injunction. The stories he was able to publish had to be toned down. A reader complained that one was like a French film: "I've read all the subtitles, I've paid attention, but I have no idea what the ending was all about."

Wirecard's critics also had to contend with its boosters in markets and the media. Many investors, caught up in the general tech optimism, refused to believe Wirecard could be rotten, even as the incriminating evidence mounted. Such frauds are common in China, but in orderly Germany? The highest-profile believer was SoftBank, which poured \$1bn into Wirecard in 2019, assuaging other investors' growing doubts—and cementing its own reputation as one of the world's least discerning tech investors. Equity analysts bought the lie, too. In 2019, more than five years after the first reports of accounting shenanigans, just two of 26 analysts covering the stock recommended selling it.

The German establishment, meanwhile, buried its head in the sand, or worse. Politicians refused to condemn Wirecard; some accused its critics of envy. The German press, including *Handelsblatt*, the business newspaper of record, mostly swallowed the firm's line that the attacks on it were illegal moneymaking schemes, or part of an Anglo-Saxon plot to destroy a continental European champion. The financial regulator investigated the *FT* and short-sellers (for alleged market manipulation) rather than the company, and, citing Wirecard's "importance for the economy", banned the shorting of its stock. ►

► Woven into the tale are colourful portraits of the two men who ran Wirecard: its perma-optimistic, turtleneck-wearing chief executive, Markus Braun, and Jan Marsalek, the cunning, narcissistic chief operating officer. Mr Marsalek, an Austrian tech whiz with a taste for the high life and a solid-gold credit card—as well as shadowy connections to intelligence services in Russia and Libya—allegedly orchestrated much of the fraudulent activity. He never stopped thinking big, even advancing an unrealised last-minute plan to distract attention from Wirecard's sins by

taking over Deutsche Bank. Mr Braun has been charged with fraud, breach of trust and accounting manipulation; he denies wrongdoing. Mr Marsalek is on the run, wanted by Interpol.

Wirecard finally ran out of road when it failed to convince KPMG, brought in to conduct a special audit, that €1.9bn it claimed to hold in two Asian banks was really there. Mr McCrum was vindicated: due reward for over half a decade of digging. The short-sellers finally made a profit—though one called it “the worst wage he'd ever made”, given all the time and money spent.

“Money Men” has flaws. Digressions into the world of payments-processing and the inner workings of the *FT* make a complicated story more so. The end is rushed: it could have done with more on the soul-searching, or lack of it, in Germany since Wirecard's demise. Nevertheless, the book should be required reading for investors and financial regulators. It is a compelling case study of a seemingly eternal truth: when a business is built on lies, there are always clues. You just have to be willing to see them—even if that means swallowing some national pride. ■

Johnson Far be it from me

How the subjunctive crossed the Atlantic and then came back again

IT IS OFTEN bemoaned in Britain that English is going to pieces—and Americans are generally to blame. Whether you call it decline or not, the moaners are on to something: America has indeed produced many of the innovations that have made their way into global (and British) English, for better or worse.

Bucking that trend is an intricate feature of old-fashioned English grammar that has not only survived in America but made a comeback in Britain, thanks to the unwitting preservation efforts of the Americans: the subjunctive. British commentators seem flummoxed by the unusual situation of Americans being more conservative than the mother country in this aspect of grammar.

The subjunctive in question is the present one, which can be distinguished by the lack of the usual -s on first- and third-person singular verbs, as in *take* instead of *takes*. (The subjunctive of *to be* is *be*.) Everyone knows a host of fixed phrases using it, even if they don't realise they are subjunctives. *Far be it from me. Heaven forbid. So be it.* These are not declarations but a sort of wish, equivalent to *May it be far from me. May heaven forbid. May it be so.* Britain and America even have distinctive national refrains with a subjunctive: *God save the queen* and *God bless America*. These look a bit like imperatives, but they are not; the faithful do not order the creator of the universe around.

The transatlantic difference is that, in America, the subjunctive remained what linguists call “productive”, meaning that people use it in sentences never uttered before. Americans naturally write or say things like *It is essential that every parent remain supportive* or *She suggested that he talk to someone else*.

In Britain, the subjunctive had a very

different 20th century. In 1906 the Fowler brothers, co-authors of “The King's English”, a venerable usage guide, thought the subjunctive would not last another generation, a disappearance they approved of. But it did not disappear. An article in the *Observer* in 1936 referred to “the most remarkable phenomenon in modern American syntax, viz., the pedantic revival of the subjunctive”.

By the middle of the century, revered usage writers in Britain such as Eric Partridge and Ernest Gowers were warning of the subjunctive as “a hallmark of officialise” which had “a formal, even pedantic air”. Another British commentator, Catherine Nesbitt, feared the return of the subjunctive was “now spreading so rapidly that, if left unchecked, it will do real damage to the structure of the language”. By the end of the 20th century it was firmly associated with Americans who, wrote Kingsley Amis, a novelist, “often indulge in subjunctive forms”.

What a strange fate. The subjunctive was common in the classic writings of the early-modern English period, particularly

in the King James Bible—as in “hallowed be thy name” or “before the cock crow, thou shalt deny me thrice”. By the 1990s it was being treated by Amis and others as a vice a writer or speaker might “indulge” in. But such warnings were issued precisely because British scribblers were, in fact, indulging: use of the subjunctive increased markedly in the 20th century in Britain.

The case of an august part of old English grammar being regarded as a vulgar American import is an odd one. Writers of usage guides have tended to be a conservative lot. Typically, they look back to earlier stages of the language as a model, before recent corruptions.

Apparently nationalism is an even stronger force than conservatism. Americans in the early republic tried to distance their English from Britain's. And for its part, Britain has more recently pushed away from American English, first as an empire that could afford to condescend to its former colonies, later as a medium-sized power that both admired and fretted about American might. Those worrying about the Americanisation of British English have a point. The British English alternative to the subjunctive—using “should”, as in *It is essential that every parent should remain supportive*—has declined on the islands as the subjunctive has returned.

But this “Americanism” was born in England, and was used by many of its greatest authors for centuries. If it had survived in Britain, while Americans had invented the “should” replacement, it is easy to imagine how the American innovation would be judged. That it went the other way, scrambling stereotypes, should make those who decry language change take a closer look at what they are really talking about.





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THE INFRASTRUCTURE CONCESSION REGULATORY
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The Federal Government of Nigeria (FGN), through the Federal Ministry of Aviation (the "Ministry") is desirous of developing an Aerotropolis as a priority project, through Public Private Partnership (PPP).

Consequently, the Ministry, is inviting interested firms and/or consortium of firms to participate in the qualification process for the selection of a Private Partner through a Competitive Bidding (CB) process for the development of the Aerotropolis, on a 3,500-hectare land in Abuja, Nigeria.

The selected Private Partners shall undertake the Design, Build, Finance, Operate, Maintain and Transfer (DBFOMT) based on terms and conditions to be set out in the Concession Agreement. The overall objective of the selection process will be successful procurement of a concessionaire with technical and financial capability to implement the Project.

This RFQ is the qualification stage of the procurement process for the Project, and only qualified firms/consortia that meet the qualification requirements specified in the RFQ package, shall be invited to the Request for Proposal (RFP) stage.

The RFQ Package is available for download from the website:
www.nigerianaviationpppprojects.com

Responses must be submitted not later than 15:00 hrs. (3:00PM local time), on the 1st August 2022, at the address below:

The Permanent Secretary
Federal Ministry of Aviation
Federal Secretariat Complex, Phase 1
Shehu Shagari way, Abuja FCT, Nigeria
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Economic data

	Gross domestic product			Consumer prices		Unemployment rate		Current-account balance		Budget balance		Interest rates		Currency units		
	% change on year ago latest	quarter*	2022†	% change on year ago latest	2022†	%		% of GDP, 2022†		% of GDP, 2022†		10-yr gov't bonds latest,%	change on year ago, bp	per \$ Jun 15th	% change on year ago	
United States	3.5	Q1	-1.5	2.3	8.6	May	7.7	3.6	May	-4.2	-5.8	3.5	198	-	-	
China	4.8	Q1	5.3	5.0	2.1	May	2.2	5.9	May‡§	2.3	-6.2	2.6	§§	-41.0	6.72	-4.7
Japan	0.4	Q1	-0.5	2.1	2.4	Apr	2.2	2.5	Apr	1.4	-6.1	0.3	22	135	-18.2	
Britain	8.7	Q1	3.0	3.6	9.0	Apr	7.2	3.8	Mar††	-2.7	-5.5	2.5	172	0.83	-14.3	
Canada	2.9	Q1	3.1	3.8	6.8	Apr	5.7	5.1	May	1.2	-3.6	3.5	208	1.29	-5.9	
Euro area	5.4	Q1	2.5	3.2	8.1	May	6.8	6.8	Apr	2.3	-4.3	1.6	187	0.96	-14.2	
Austria	9.5	Q1	10.0	2.6	8.0	May	6.5	4.4	Apr	-1.3	-4.4	2.2	223	0.96	-14.2	
Belgium	4.9	Q1	2.2	2.0	9.0	May	9.2	5.7	Apr	-1.3	-3.8	2.5	242	0.96	-14.2	
France	4.5	Q1	-0.8	2.7	5.2	May	5.4	7.2	Apr	-1.2	-5.7	2.2	206	0.96	-14.2	
Germany	3.8	Q1	0.9	1.6	7.9	May	6.8	3.0	Apr	5.9	-2.9	1.6	187	0.96	-14.2	
Greece	7.9	Q1	9.7	3.0	11.3	May	6.6	12.7	Apr	-5.1	-4.9	4.3	352	0.96	-14.2	
Italy	6.2	Q1	0.5	2.0	6.9	May	6.3	8.4	Apr	1.5	-5.9	3.9	312	0.96	-14.2	
Netherlands	7.0	Q1	0.1	2.4	8.8	May	10.4	3.2	Apr	8.5	-3.0	2.0	207	0.96	-14.2	
Spain	5.5	Q4	1.3	4.0	8.7	May	7.2	13.3	Apr	0.8	-5.7	2.9	245	0.96	-14.2	
Czech Republic	5.1	Q1	3.7	2.2	16.0	May	11.9	2.4	Apr‡	-2.5	-4.8	5.8	403	23.8	-11.5	
Denmark	6.6	Q1	-0.4	2.1	7.4	May	6.9	2.4	Apr	8.2	1.0	2.0	192	7.15	-14.2	
Norway	4.8	Q1	-3.8	3.2	5.7	May	4.8	2.9	Mar‡‡	16.4	8.7	3.1	157	10.0	-16.8	
Poland	9.4	Q1	10.4	4.5	13.9	May	10.1	5.1	May§	-2.2	-3.7	7.9	614	4.49	-16.8	
Russia	3.5	Q1	na	-10.0	17.1	May	18.0	4.0	Apr§	5.6	-4.5	9.0	175	58.5	23.6	
Sweden	3.1	Q1	-3.2	2.4	6.4	Apr	5.1	8.2	Apr§	4.1	0.4	2.0	164	10.2	-18.6	
Switzerland	4.4	Q1	1.9	2.4	2.9	May	2.5	2.2	May	6.3	nil	1.4	156	1.00	-10.2	
Turkey	7.3	Q1	4.9	3.0	73.5	May	62.2	10.6	Apr§	-4.2	-3.6	18.6	113	17.3	-50.6	
Australia	3.3	Q1	3.1	3.0	5.1	Q1	5.0	3.9	Apr	3.1	-3.2	4.2	275	1.43	-8.9	
Hong Kong	-4.0	Q1	-11.4	0.8	1.3	Apr	4.1	5.4	Apr‡‡	0.3	-6.7	3.4	222	7.85	-1.1	
India	4.1	Q1	1.9	6.9	7.0	May	7.3	7.1	May	-1.5	-6.6	7.6	155	78.1	-6.1	
Indonesia	5.0	Q1	na	5.1	3.6	May	5.3	5.8	Q1§	0.2	-4.8	7.4	102	14,743	-3.5	
Malaysia	5.0	Q1	na	5.0	2.3	Apr	3.0	3.9	Apr§	2.8	-6.2	4.3	106	4.42	-6.8	
Pakistan	6.2	2022**	na	2.7	13.8	May	13.0	6.3	2021	-5.3	-7.0	12.9	†††	319	206	-24.0
Philippines	8.3	Q1	7.8	7.1	5.4	May	4.7	5.7	Q2§	-3.0	-7.7	6.7	279	53.4	-10.1	
Singapore	3.7	Q1	2.8	3.6	5.4	Apr	6.0	2.2	Q1	18.3	-0.9	3.2	182	1.39	-4.6	
South Korea	3.0	Q1	2.6	2.7	5.4	May	4.4	3.0	May§	3.4	-2.3	3.8	173	1,290	-13.4	
Taiwan	3.1	Q1	4.3	4.5	3.4	May	3.8	3.7	Apr	13.9	-1.2	1.4	96	29.7	-7.1	
Thailand	2.2	Q1	4.7	2.9	7.1	May	5.0	1.5	Dec§	0.1	-4.8	3.1	138	35.0	-11.0	
Argentina	8.6	Q4	6.3	4.2	60.7	May	60.1	7.0	Q4§	0.8	-4.3	na	na	123	-22.3	
Brazil	1.7	Q1	4.0	1.3	11.7	May	10.4	10.5	Apr§‡‡	nil	-6.7	12.6	367	5.12	-0.8	
Chile	7.2	Q1	-3.0	2.1	11.5	May	10.2	7.7	Apr§‡‡	-4.5	-3.4	6.7	229	866	-16.3	
Colombia	8.2	Q1	4.0	4.2	9.1	May	9.8	11.2	Apr§	-3.7	-4.8	11.4	438	3,926	-5.8	
Mexico	1.8	Q1	4.1	1.9	7.7	May	7.5	3.1	Apr	-0.9	-3.5	9.2	253	20.7	-2.7	
Peru	3.8	Q1	8.1	2.5	8.1	May	7.1	7.4	Apr§	-3.3	-2.5	8.1	281	3.76	4.5	
Egypt	8.3	Q4	na	5.2	13.5	May	12.7	7.2	Q1§	-5.8	-6.0	na	na	18.8	-16.5	
Israel	9.6	Q1	-1.6	4.3	4.0	Apr	4.2	3.5	Apr	3.1	-2.1	3.2	201	3.45	-6.0	
Saudi Arabia	3.2	2021	na	7.5	2.2	May	2.5	6.9	Q4	14.9	10.1	na	na	3.75	nil	
South Africa	3.0	Q1	8.0	1.9	6.0	Apr	5.8	34.5	Q1§	-1.6	-6.1	10.3	147	16.0	-14.0	

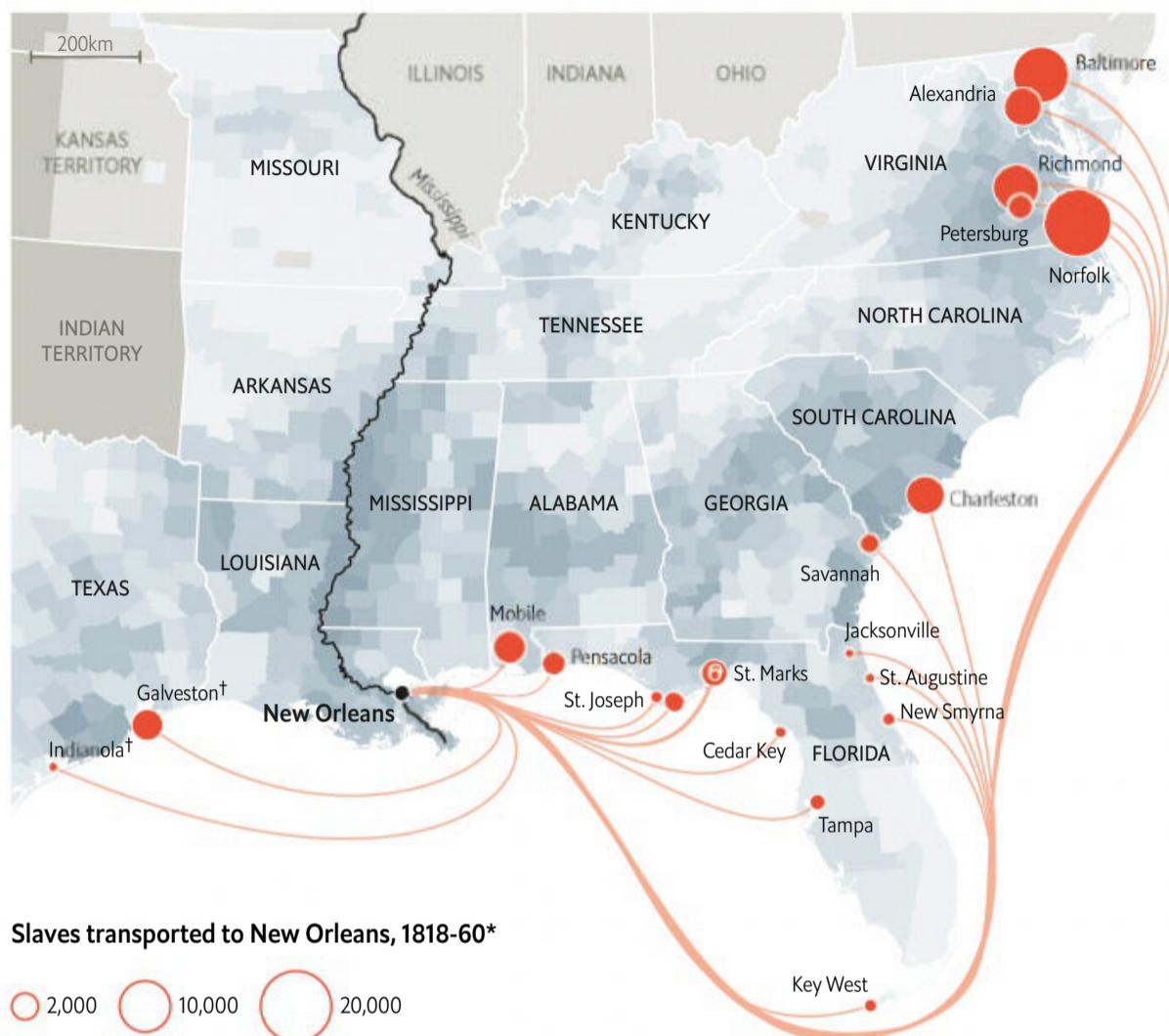
Source: Haver Analytics. *% change on previous quarter, annual rate. †The Economist Intelligence Unit estimate/forecast. §Not seasonally adjusted. ‡New series. **Year ending June. ††Latest 3 months. #3-month moving average. §§5-year yield. †††Dollar-denominated bonds.

Markets

In local currency	Index	% change on:			index	% change on:			Basis points	latest	Dec 31st 2021
		Jun 15th	one week	Dec 31st 2021		Jun 15th	one week	Dec 31st 2021			
United States S&P 500	3,790.0	-7.9	-20.5		Pakistan KSE	41,438.8	-0.3	-7.1			
United States NAScomp	11,099.2	-8.2	-29.1		Singapore STI	3,105.9	-3.7	-0.6			
China Shanghai Comp	3,305.4	1.3	-9.2		South Korea KOSPI	2,447.4	-6.8	-17.8			
China Shenzhen Comp	2,099.0	0.7	-17.0		Taiwan TWI	15,999.3	-4.0	-12.2			
Japan Nikkei 225	26,326.2	-6.8	-8.6		Thailand SET	1,593.5	-2.6	-3.9			
Japan Topix	1,855.9	-5.8	-6.8		Argentina MERV	88,465.6	-1.6	5.9			
Britain FTSE 100	7,273.4	-4.2	-1.5		Brazil BVSP	102,806.8	-5.1	-1.9			
Canada S&P TSX	19,611.6	-5.7	-7.6		Mexico IPC	48,345.0	-3.0	-9.2			
Euro area EURO STOXX 50	3,532.3	-6.8	-17.8		Egypt EGX 30	9,970.0	-2.6	-16.3			
France CAC 40	6,030.1	-6.5	-15.7		Israel TA-125	1,869.6	-4.8				

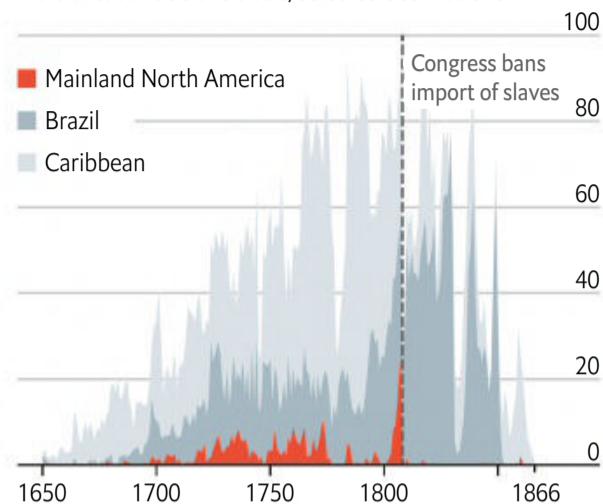
→ New Orleans was the hub of America's domestic coastal slave trade

Share of population enslaved in 1860, %

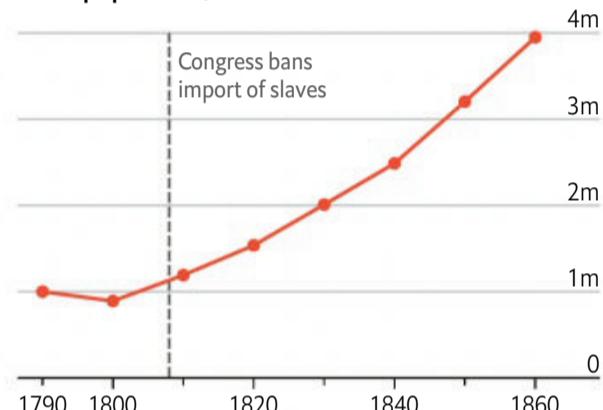


Slaves imported, '000

Via transatlantic slave trade, selected destinations



Slave population, United States



*Named in voyage manifests. Trade routes are illustrative

[†]Texas joined the US in 1845 Sources: "Oceans of Kinfolk", by Jennie K. Williams, 2021; IPUMS; slavevoyages.org

The harshest affliction

Family separation among slaves in America was shockingly prevalent

SLAVERY DEVASTATED not just individual victims but entire families. "Grandmother drowned herself in the river when she heard that grand-pap was going away," recalled Mary James, a former slave, in 1937 about the sudden sale of her grandfather.

Separation of slave families was routine in the antebellum American South. "Don't buy families," Theophilus Freeman, a slave trader in New Orleans, once wrote to a colleague, "as there is not a single [customer] here to buy" intact families. Good data on the frequency of this practice are hard to find. In a sample of nearly 1,500 interviews with freed slaves in the 1930s, 40% of those born as slaves in two-parent households said they had lost a parent (via separation or death) by the age of 20. But a new dataset suggests that this estimate may be too low.

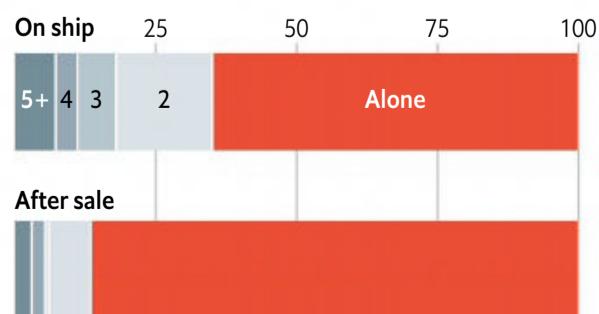
The numbers come from the domestic maritime slave trade. In 1808 America prohibited the import of slaves, after a constitutional clause precluding such a ban ex-

pired. Elsewhere in the Americas, working conditions and diseases led to high death rates for slaves. In contrast, the slave population in the United States was self-sustaining. Between 1820 and 1860 around 1m slaves were shipped across state lines. Most went from the Upper South, where crop output was shifting from tobacco to wheat, to the Deep South, where labour-intensive cotton predominated.

Most of these transfers were probably on foot, and were not systematically recorded. But the captains of ships carrying slaves along the coast were required to file manifests listing their captives by name. Of an estimated 100,000 slaves sent to Louisiana on such ships in 1818-60, Jennie K. Williams of the University of Virginia has identified 63,500 using these manifests.

Family group size, % of total

New Orleans, 334 slaves sold 1825-48



The documents list slaves' age, sex, height and skin colour (which was usually just "black", but sometimes more detailed, as in "two shades lighter than black" or "rather darker than James"). They contain both first names, which were often biblical—Moses, who led his people out of bondage, appears 420 times—and, crucially, surnames. Using these, Ms Williams reconstructed probable family groups.

In a representative sample of the data, she found that around 65% of slaves boarded the ships without any relatives. She also calculated that of those who did travel as families, 65% again were split up once they reached New Orleans. All told, 88% suffered separation from immediate family.

Estimating how many families reunited after emancipation—celebrated on June 19th, "Juneteenth", which is now a federal holiday—is even harder. After the civil war, black newspapers filled up with advertisements seeking lost relatives. In 1880 Celia Rhodes placed one stating a "wish to inquire about my people...I left them in a trader's yard in Alexandria, with a Mr Franklin. They were to be sent to New Orleans. Their names were Jarvis, Moses, George and Maria Gains." According to the dataset, Moses was 5'8" tall and 24 years old when he boarded the *Uncas* in 1836. No one knows if they ever found each other. ■



Paint power

Paula Rego, a Portuguese-British artist, died on June 8th, aged 87

ALWAYS OBEY your man, Paula Rego's grandmother told her. Never say anything against him. Never cross him. Whatever he wants, you do. When, at a party, the 17-year-old art-school student, then still a virgin, met Victor Willing, a rising (and married) star at the Slade School of Fine Art in London, he pushed her into a little side room and instructed her to pull down her knickers. She did as she was told. An only child born into upper-middle-class privilege in a Portugal that was authoritarian, repressive and deeply conservative, she was an obedient girl, or so it seemed.

Her mother, stern and unyielding, certainly cleaved to those mores; Paula once painted her as a cabbage and decades later as a spider. But her father was a subversive influence. Liberal and anglophile, he thought Portuguese society was no place for women. He read her Dante's "Inferno" from the edition scarily illustrated by Gustave Doré, and encouraged her to pick up a pencil and draw. For her 14th birthday he gave her a copy of Alfred Barr's "Fantastic Art: Dada and Surrealism", which turned out to be an inspired choice. Soon afterwards he supported her application to the Slade.

In the course of her relationship with Willing she endured several abortions. When she found herself yet again pregnant by him in 1955, it was her father who defied convention and brought her back to Portugal to have the baby she now wanted. Willing in time divorced his wife, and in 1959 she married him. In the turmoil of the Portuguese revolution in 1974, when the family business collapsed, they moved back to Britain.

Theirs was a stormy union, but Willing, like her father, sparked her creativity, encouraging her to dig deep to shape and sharpen her artistic ideas. When he strayed, which he often did, she said nothing, but used her art to exact her revenge. Working on "Stray Dogs", a picture inspired by a newspaper report about how the bur-

ghers of Barcelona put down poisoned meat in the streets to deal with the animals, she painted her nemesis as a fat reclining brown blob with a pinky-yellowish tongue, long and lascivious.

Painting became her way of making sense of the world, and revenge was not all she used it for. Inspired by the dark, cruel Portuguese fairy tales she had heard from her grandmother's maids—as well as by "Snow White", and a childhood sighting of the devil in the fire—she created stories of her own, using a brush instead of a pen. When she had the tale she wanted to tell, she would withdraw in her mind to a place she knew. She would remember the room, draw in the furniture, and then set the story there.

She refused to conform to the ideal female form; from the beginning her women were fat, sexual, creepy, with splayed hairy legs and skirts lifted. Her first major work at the Slade, a reworking of Dylan Thomas's "Under Milk Wood", was set in a Portuguese kitchen, with squawking chickens and muscled women in aprons. "Gutsy", she liked to call them.

The brush was her obvious instrument, or weapon, but her favourite was the pastel stick; it was fiercer, harder and more aggressive, though she delicately rubbed on softer pastels afterwards. Like her Surrealist hero, Max Ernst, she honed in on the strange and the dark and liked to draw the viewer into her delight at the anti-social side of humanity: because she did delight and laugh at it, with a child's ardour, even as she drew horrors. Not surprisingly, the painting she liked best was Ernst's depiction of the Virgin Mary spanking the infant Jesus.

On and off she turned to political subjects, especially anything to do with Portugal. But decades of Jungian therapy, begun after a bout of deep depression in the late 1960s, made her political grievances take on a personal cast. That change was summed up in "The Dance", a vast painting of three couples dancing in a mountain landscape by moonlight. Two women danced with a small child, one man with a woman who was pregnant. All represented domesticity. In the centre a handsome man with slanting eyes, Willing, danced with a blonde. On the left she herself was dancing, tall (taller than that blonde) strong, resolute and self-reliant. Her message was that women did not have to be domestic prisoners. They could work, like her, and artists were strongest when they worked and lived—and danced—alone.

A decade later, after a referendum in Portugal had failed to legalise abortion, she started work on a series of large pastels depicting women curled up like a fetus or sitting open-legged on pails, pots or basins, usually alone. One was a schoolgirl in uniform. Both lovers and abortionists had exploited these women; they were coerced as well as defiant. But despite her own history they were not, she said, about her. The Portuguese press used the series to support a second, successful, referendum in 2007. A decade later she still thought they were the best work she had ever done.

In her mind's eye

Like Goya, she was late in discovering graphic arts: prints, etching, aquatints, lithographs. But she tackled those slow, layered, nerve-racking processes as boldly as usual, pressing on, fearing nothing except that she might not reach what she saw in her mind's eye. The prints and etchings she made of English nursery rhymes, such as "Hey Diddle Diddle", "Humpty Dumpty" and "Three Blind Mice", were among the most popular images she created. Not that she set out to please anyone.

Asked once why she painted, she said it was to give fear a face. Obedience, or at least a longing to oblige her father, had led her to draw as a child; disobedience turned her into a great artist. Her husband understood that about her, as he did so much else. At 53, and with more than three decades still ahead of her, she was widowed. Afterwards, in a secret file called "Adieu", she found a note he had written to her. Enjoy life, he said. It's all there is. Trust yourself and you will be your own best friend. I know you will paint even better. And she did. ■

SPECIAL
REPORT:

Latin America

→ June 18th 2022

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Between stagnation and angry streets



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A grim period

Latin America is stuck between stagnation and street protest, argues Michael Reid

THEY STARE out in black and white, a double row of portraits winding the full length of the curving wall of the clifftop mansion overlooking the Pacific that is the headquarters of Peru's medical association, and then even continue into the garden. They are "the heroes of medicine", records a plaque: the 551 doctors who died of covid-19 in Peru from the start of the pandemic in 2019 to the end of September 2021. Even as Latin America begins to leave covid behind, this poignant memorial is a reminder of what a savage toll it has wreaked. With just 8% of the world's population, the region has suffered 28% of the officially recorded deaths from the disease. In *The Economist*'s reckoning of "excess deaths" per 100,000 people (the total number above the normal mortality rate), it trails only Europe.

Covid has starkly exposed the fragilities of government in Latin America. "The health system reflects all the disparities, inequalities and inefficiencies of the country," says one health official in Peru. "It arrived when we had no plan and no leadership." Officials had drawn up a strategy that required an extra \$465m of spending on equipment and intensive-care beds. Although Peru's public debt was relatively small (at 35% of GDP), they were given less than \$1m. Health care is fragmented into five different systems. Francisco Sagasti, the country's caretaker president from November 2020 to July 2021, says he found that there was not even a single database of doctors.

Peru, which heads the World Health Organisation's rankings of excess deaths from covid for 2020-21, may just have been an ex-

treme case. Yet in much of Latin America, what are in effect developing-world health systems have to serve a population that is older than, for instance, Africa's but also suffers rich-world disorders of poor diet, obesity and diabetes. Some countries have coped better than others. But in Brazil and Ecuador as well as in Peru, patients were left in the street for lack of beds and oxygen supplies.

The region is now bouncing back quickly from the pandemic. After a slow start, most governments did quite well on vaccines: three-quarters of South Americans are fully jabbed, a higher share than in Britain or the United States. A recent survey in São Paulo by Todos pela Saude, a non-governmental organisation, found that 85% of those sampled had antibodies for covid-19, either from infection or from vaccination. Latin America's GDP contracted by 7% in 2020. Only the euro zone, with a fall of 6.1%, came close to doing as badly. But thanks partly to emergency public spending, Latin America rebounded by 6.8% in 2021, compared with the euro zone's growth of 5.3%.

A bigger worry is that, when covid-19 arrived, the region was already suffering from stubborn and deep-rooted problems that the pandemic merely made worse. Economically, the 2010s were a "lost decade" (echoing that of the 1980s), during which growth averaged just 2.2% a year. That is barely above the rate of population increase, so average living standards stagnated. It was below the world average of 3.1%, meaning that far from converging with richer countries, Latin America was falling further back. The slowdown coincided with the end of the commodity boom of the ►

► 2000s, which had helped South American producers of oil, minerals and foodstuffs. Now only a fresh commodity boom, intensified by Russia's war on Ukraine, stands between the region and a return to growth rates of 2% or less.

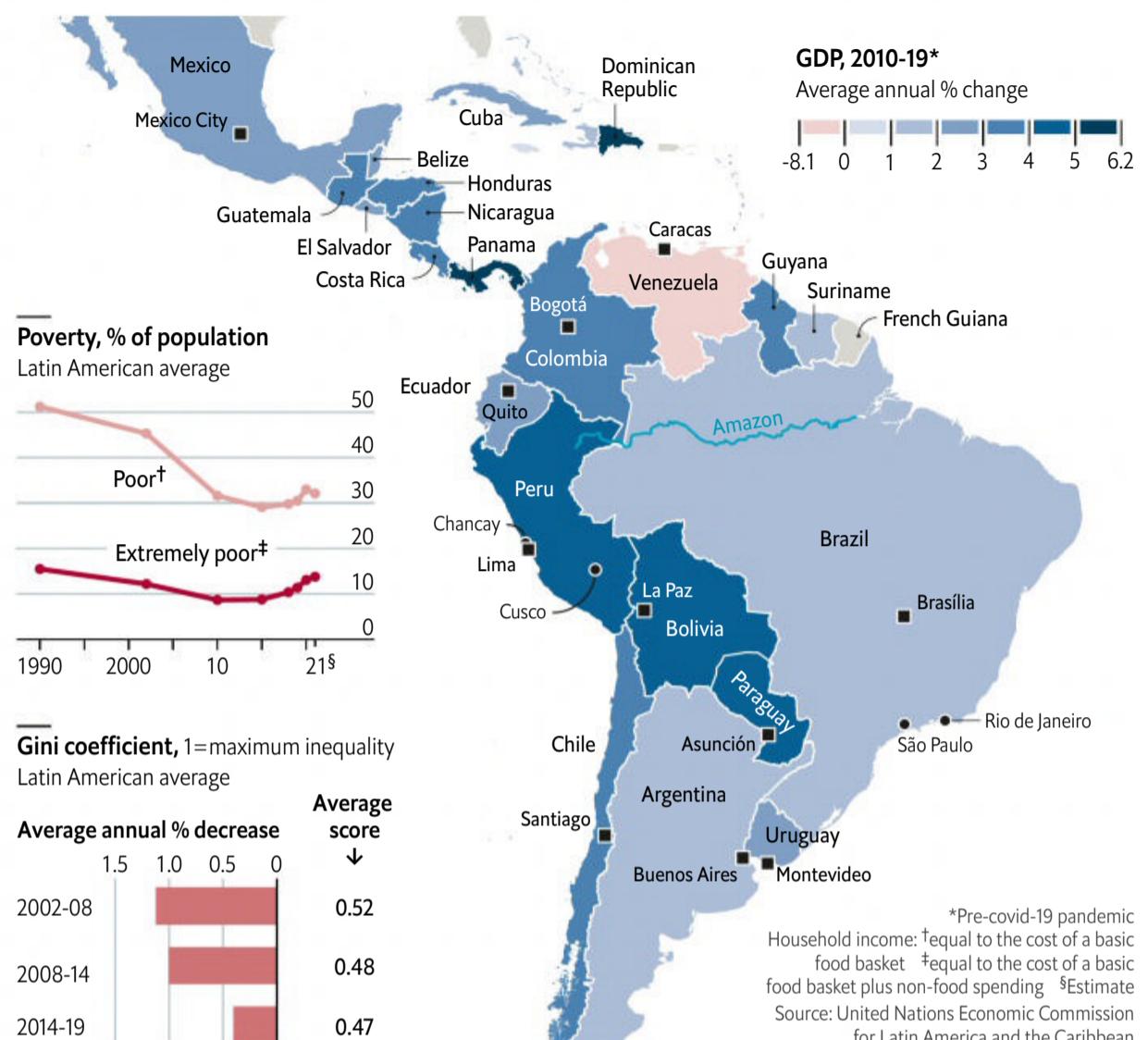
This long period of relative economic stagnation has brought frustration over lack of opportunities, especially for younger Latin Americans, who have more education than their parents but whose expectations of good jobs have all too often been dashed. And this new social frustration has coincided with a marked political deterioration. Not only is democratic politics across the region discredited by the perception (sometimes exaggerated) of corruption, and by the corrosive cacophony of social media. But also politics is increasingly dysfunctional and unstable, suffering from fragmentation, the weakening of political parties and polarisation to the extremes. These are ills of the democratic world in general, but they are peculiarly acute in Latin America.

It all adds up to a vicious circle and a development trap. Politicians across Latin America have proved unable to agree upon and implement the reforms that the region needs if it is to grow faster, which foments more social discontent, which in turn makes both politics and government harder. In a report last year, the UN Development Programme highlighted Latin America's toxic combination of high inequality and low growth, which it says are caused in part by a concentration of economic and political power; in part by widespread "political, criminal and social" violence; and in part by systems of social protection and labour-market regulation whose very design introduces economic distortions. "It's very hard to have sustained growth when you have this much political volatility and so little willingness to do anything that improves productivity," says Andrés Velasco, a former finance minister of Chile now at the London School of Economics.

Democracy at bay

Despite everything, democracy has survived in the region. But it is under greater strain than at any time since the military dictatorships of the 1960s to 1980s departed as part of what Samuel Huntington, a political scientist, labelled the "third wave" of global democratisation, in which Latin America played a prominent part. In Venezuela and Nicaragua presidents who were originally freely elected went on to erect dictatorships. In Venezuela in April the tame national assembly hand-picked a new Supreme Court stuffed with supporters of Nicolás Maduro's civilian-military dictatorship. Ahead of a farcical election in Nicaragua in November 2021, the sinister regime of Daniel Ortega and his wife, Rosario Murillo, imprisoned seven electoral rivals and shut down the remaining independent media. In El Salvador Nayib Bukele, a millennial conservative, is following a similarly autocratic path. His draconian policies towards criminal gangs and against covid-19 have made him the most popular president in the Americas and brought him a landslide victory in a legislative election, which he then used to take control of the courts.

Regionwide polls suggest that between 50% and 60% of respondents still support democracy. And in general, Latin Amer-



*Pre-covid-19 pandemic
Household income: †equal to the cost of a basic food basket ‡equal to the cost of a basic food basket plus non-food spending §Estimate
Source: United Nations Economic Commission for Latin America and the Caribbean

ican elections continue to be free and fair—"the single most important achievement of the process of democracy-building of the past 40 years", according to Kevin Casas-Zamora of International IDEA, a Stockholm-based inter-governmental body that promotes democracy. "The problem is all the rest." Never strong, the rule of law is weakening further. Latin American governments may sometimes be heavy-handed but they are also often both weak and inefficient. Elections provide an important safety valve. But the legitimacy they bestow and the hopes they arouse can be quickly corroded by governments' poor performance in office. That has given rise to a growing belief in an efficient autocrat, a strongman who gets things done in the style of Mr Bukele—even though history suggests that he is likely to leave his country even worse than he found it.

Elsewhere discontent has taken various other forms. In 2018 Brazil and Mexico, which between them account for more than half of Latin America's population and a roughly similar proportion of its total economic output, both elected populist presidents. Jair Bolsonaro, a hardline conservative, and Andrés Manuel López Obrador, who claims to be of the left, disagree about much but they share a contempt for independent institutions, including electoral authorities, independent media and civil society. Mr Bolsonaro, who wants to win a second term in the election in October, has sought, in the mould of Donald Trump, to cast doubt on the integrity of the voting system. Mr López Obrador wants an electoral reform that would put the electoral authority under closer government control.

A second manifestation of discontent is a pervasive anti-incumbent mood. This has seen the opposition of whatever colour win almost every election since the end of the commodity boom. Nowadays political cycles and government honeymoons are notably short. And a third and perhaps most dramatic sign of griev- ►

ances is massive, and sometimes violent, street protests, widely dubbed “social explosions”. These occurred in Brazil in 2013 and 2015 and spread to Venezuela in 2017, to Nicaragua in 2018, to Ecuador and Chile in 2019 and to Colombia in 2021, as well as to communist Cuba in the same year, and to Peru in 2020 and 2022.

What is striking about this is that Chile, Colombia and Peru had until recently been three of Latin America’s more successful countries. Poverty had fallen. So in most Latin American countries did income inequality in the 2000s, although it remains higher than anywhere else bar Africa. The fall came because the expansion of education reduced the salary premium attached to it and the commodity boom created more demand for unskilled labour in services. But that progress has now stalled. And the protests were about multi-dimensional forms of inequality—a sense of unequal and unfair opportunities and access to public services, from parks to justice. They expressed, too, a deep-rooted popular mistrust of institutions, political parties and leaders.

The anti-incumbent mood has brought a crop of left-wing leaders to power, prompting excited talk of a new “pink tide”—a term that harks back to the election of Hugo Chávez in Venezuela in 1998, followed among others by those of Luiz Inácio Lula da Silva in Brazil and Evo Morales in Bolivia. The trend may be reinforced: Lula is the narrow front-runner ahead of Brazil’s election. But Colombia’s run-off on June 19th looks a tight race between two populists: Gustavo Petro on the left and Rodolfo Hernández, a millionaire businessman, on the right. Most of the new presidents lack legislative majorities, and so may struggle to get much done.

Take Peru, which suffers to the point of caricature many of the current ills of Latin American politics. Its party system has disintegrated. Ten parties share the 130 seats in the Congress. Most are mere electoral platforms run as businesses for hire, without ideology, programme or activists. A presidential election last year pitted Pedro Castillo, a rural schoolteacher with no previous political experience running for a Marxist party, against Keiko Fujimori, the daughter of a former autocrat who was discredited by undeclared party financing. Neither took more than 15% of the vote in the election’s first round. Mr Castillo won a run-off by just 45,000 votes out of 17.6m. In his first ten months in office he got through more than 50 ministers and three cabinets while surviving corruption allegations and two attempts at impeachment. His approval rating sank to 19% in April.

In Chile Gabriel Boric, a “libertarian socialist” and former student leader who is still only 36, is a more accomplished figure. But his inexperienced team is struggling to make progress with his promise to create a universal welfare state. His approval rating in one poll fell from 51% to 36% in his first three months in government. Mr López Obrador is an exception: in his fourth year in office he has an approval rating of around 60%, despite an unremarkable record on the economy and crime. That is partly because of his image as a saintly man of the people, but partly also because he has redistributed public money towards cash-transfer programmes and real wages have been rising. Yet he may find the rest of his term more difficult.

In Brazil a deep recession in 2015–16 together with anger over corruption paved the way for Mr Bolsonaro, a political outsider, to reach power. He is a demolition merchant, rather than a consensus builder. His pro-market economy minister, Paulo Guedes, has failed to deliver many of the proposed economic reforms that might have raised Brazil’s anaemic growth rate.

The pandemic has brought Latin America additional burdens. One is a further loss of social cohesion, as the better-off were protected by private health care. In its aftermath governments face demands for additional spending, on health care, education and the social safety-net even as rising interest rates push up the cost of debt servicing. Take public spending on health care: before the

pandemic in Latin America it was worth just 3.8% of GDP, compared with an average of 6.6% in the OECD group of mostly rich countries. All this points to the need for more taxes (revenues average just 19.8% of GDP in Latin America, compared with 33.5% in the OECD)—and greater efficiencies in spending. Neither of these will be easy, but they are essential for the new social contract that the UNDP and others advocate.

And now, inflation again

Second, inflation has returned to a region with a long history of it, but one that had been largely overcome. Argentina and Venezuela excepted, one achievement of the past two decades was that most Latin American governments pursued broadly responsible monetary and fiscal policies. That enabled them to provide aid during the pandemic: emergency spending totalled 4.6% of GDP in 2020 alone, not as much as in Europe or the United States but more than in past slumps. In some countries, such as Brazil and Chile, stimulus continued into 2021 and produced a sharp rise in inflation even before the impact of the Ukraine war on energy and food prices. Now inflation is heading into double digits. “Before the war I would have said it would take two years for inflation to return to target”, says Ilan Goldfajn of the IMF. “Now it looks more persistent”. Several governments, including Mexico’s and Peru’s, have resorted to indiscriminate subsidy to stop fuel prices rising.

Higher prices come even as wages have fallen. GDP has recovered faster than employment, especially of women. Many of the new jobs are informal. Although aid cushioned the blow, poverty has risen. The UN Economic Commission for Latin America and the Caribbean (ECLAC) reckons that poverty affected 32% of the region’s population in 2021, up from a low of 29% in 2015. The middle class, defined by the World Bank as those on an income of \$13 to \$70 a day, made up 37% of the population before the pandemic. The bank reckons that food-price inflation may shave more than two percentage points from that number in several countries. For some, hunger is a real risk.

Latin America is a large and heterogeneous region, of 20 countries and more than 600m people (excluding the Guyanas

and the English-speaking Caribbean). Some parts of it continue to do well. One is Uruguay, long an egalitarian country which enjoys strong parties, political stability and steady economic growth. Sadly it has only 3.5m people. The Dominican Republic, Panama and Paraguay enjoy growth and stability, too, albeit with more corruption, crime and inequality. Costa Rica, another small and long-established democracy, is suffering political decay with a proliferation of parties and the election in April as president of Rodrigo Chaves, who campaigned as a populist. Across the River Plate from Uruguay, Argentina is a sad story of chronic decline that has continued under the squabbling Peronist government of Alberto Fernández and his vice-president and internal opponent, Cristina Fernández de Kirchner (no relation).

This special report will focus mainly on the larger and more representative countries in a region that ought to matter more to the rest of the world. It was long part of the West—“the Far West” in the term of Alain Rouquié, a French writer. Now it is the subject of geopolitical competition between the United States and China. What follows will argue that continued muddling through will place democracy at increasing risk in Latin America. Reforms are long overdue. The problem is that they have become much harder to do. And that is partly because Latin American societies have become both more diverse and more demanding—and are enamoured of some distinctly divisive ideas. ■

The anti-incumbent mood has brought a crop of left-wing leaders to power

Social trends

Changing identities

Universal policies are more important than group rights

IT WAS A timeless scene. On Easter Thursday several hundred people were gathered in the cavernous Basilica of Guadalupe, built at the spot in the northern suburbs of Mexico City where a 16th century Amerindian shepherd reportedly had a vision of the Virgin Mary. Some sat on wooden benches, others knelt on the marble floor. They were mainly middle-class or poorer, and copper-skinned. Some came to fulfil vows to give thanks for the overcoming of illness or other troubles.

Standing outside the basilica, Marcela, a young architect from Cusco in Peru, waited for her grandparents and father, who wanted to visit on the first day of their holiday. She would prefer looking at Mexican urban architecture. "Things are changing now, each generation thinks differently," she said. Her grandparents' generation grew up in a hierarchical and more deferential society, where public policies about family, gender and sex were ruled by a monolithic Roman Catholic morality.

Marcela's generation of Latin Americans are not only more diverse religiously, with the rise of evangelical Protestantism and secularism. They also have a greater sense of rights and freedoms, the result of urbanisation, more disposable income, the expansion of higher education and, more recently, exposure to the digital world. In 2000 only 21% of 18- to 24-year-olds in the region were enrolled in higher education. By 2013 that figure had leapt to 43%, according to the World Bank. Poverty fell from 45.3% in 2002 to 29.81% in 2018 and the lower-middle class grew.

Yet this generation has grown up in a badly fractured society.

Latin America has failed to redistribute enough or offer anything resembling equal opportunities. "The poor and lower-middle classes live in different neighbourhoods, attend different schools, visit different health clinics and make do with...pensions and health schemes that are less generous," concluded researchers at the Inter-American Development Bank in 2020. Much of the expansion of higher education took place in poor-quality private institutions whose graduates may never recoup their investment through higher salaries.

The sense of unfairness lies at the root of many social explosions. "If young people don't take the reins of this country, nobody will save us," Álvaro Herrera, a music student from Colombia told *El País*, a Spanish newspaper, after he was beaten by police for taking part in a peaceful demonstration. "This isn't about parties or ideologies, it's about dignity." The impact of the pandemic on school closures has made matters worse (see box on next page).

Rights for all

The cause of human rights was central to the establishment of democracy. It has since expanded to include socio-economic rights and a social safety-net. But there is growing demand for other rights, ranging from the environment to the situation of women and people of indigenous or African descent.

Environmental consciousness is growing. Polls have long shown greater awareness of climate change in Latin America than elsewhere, perhaps because of the region's vulnerability. Chile, which is highly dependent on natural resources, is suffering worsening droughts. The Pinochet dictatorship of 1973-90 made water rights into private property and allowed uncontrolled pollution in "sacrifice areas". A convention set up after the social explosion of 2019 to write a new constitution has declared water a public good and given more clout to environmental regulators. Seven Latin American countries have now ratified the Escazu Agreement, a treaty requiring more openness and consultation on green issues.

Changes in environmental policies are forcing new attitudes on businesses, especially in extractive industries. The risk is that

regulation becomes a cover for the anti-capitalism that infects some environmental NGOs, which continue to target big mining. In the recent past, some mining companies were indeed cavalier about environmental damage. But now most environmental harm is committed by informal or illegal miners who dredge rivers and dump untreated toxic waste.

Several governments now take climate change more seriously. Fully 40% of the World Bank's lending to the region is climate-related, much of it aimed at reducing emissions in agriculture and forestry, more efficient use of water and electric-bus fleets. Brazil was a leader in curbing deforestation a decade ago. Under Mr Bolsonaro, who has dismantled much environmental enforcement, it has become a global environmental pariah.

Feminism is now a significant political force. Women's right to abortion has made progress. In February Colombia's Constitutional Court decided by five votes to four to decriminalise abortion on any grounds in the first 24 weeks of pregnancy. In 2020 Argentina's Congress voted to do likewise in the first 14 weeks. Abortion is legal in Mexico and partly so in Chile. Although Mr Ló-



Flagging the anger

A loss of learning

Making up for Latin America's lengthy school closures

DOM AGNELO CARDEAL ROSSI school is on the south-western edge of São Paulo, more than an hour's taxi ride from the city centre. It is in Vila do Sol, a community that was once one of the most violent in Brazil. Today it is poor but hard-working, a place of car-repair workshops, dingy lunch counters and small stores. In late March the school was humming with controlled ebullience, its 1,540 pupils aged six to 14 enjoying being back in the classroom for the first time in almost two years.

Getting there was a struggle, as successive waves of covid-19 saw partial re-openings and their reversal. The school tried distance teaching, with printed material and a free chip with internet time. But "many homes don't have a good signal," says Fátima de Almeida, the headmistress. The long break has been punishing. "Fifth-year pupils are mentally reaching second- or third-year level, because of the lack of socialisation and the loss of links with teachers," she says. "We've seen more aggression, anxiety and panic."

The school is trying to make up for lost time. The state government doubled resources for remedial teaching and provided a psychologist. Several classes of Portuguese and maths now often have two teachers. Ms de Almeida is seeking parental consent for a longer school

day. São Paulo state is relatively well-off and well-governed. Elsewhere the picture is bleaker. Latin America vies with South Asia for having seen the longest school closures during the pandemic. Pupils have lost between one and two years of learning, reckons Emanuela di Gropello of the World Bank. Educationalists fear that many, especially girls, may drop out of school early.

How much of the lost learning can be recovered? The answer starts with assessing pupils' level of learning, hiring more teachers and scheduling extra classes in holidays or after school. There is an opportunity to improve teaching methods and simplify curricula, focusing on maths, reading and social and emotional skills, says Ms di Gropello. Even so, there will be lasting harm. The bank thinks the future earnings of affected pupils might be 10% lower than they otherwise might have been.

Inequalities will widen. Poor children, with weak or non-existent internet connections, suffered disproportionately. Before the pandemic, 15-year-olds in Latin America were on average three years behind their peers in the OECD in reading, maths and science, according to PISA international tests. They will now lag further behind. They may ask why politicians, teachers and parents did not push for schools to reopen sooner.

► **P**ez Obrador has clashed with feminists—as he so often does with civil society in general—he has appointed many women to his cabinet. By law, parties in Mexico must present an equal number of women and men as candidates for Congress. Women's participation in the region's labour market (44% in 2021) has grown in this century, though it still lags behind that of men (67%), according to the International Labour Organisation. Gay rights, too, have made big strides, with half a dozen countries legalising gay marriage and a number banning discrimination.

"Yes, the feminist movement is changing attitudes," says Ana Pecova, an activist in Mexico City. "Perhaps there are changes we haven't been able to measure because we've focused on symbolic things." These include violence against women, part of general violence in Latin American societies but with an element of femicide, or the killing of women because they are women. The pandemic brought an increase in gender violence in the home, a global trend. And feminist advances are contested ground. In May Peru's Congress took steps to weaken sex education and the teaching of gender equality.

Black and indigenous Latin Americans, who make up around 25% and 8% of the population respectively, suffer from discrimination and lower incomes. But they gain more recognition than

they did. In Brazil the approval in 2012 of quotas for university entrance based partly on race and partly on social class increased the numbers of low-income and black students, mainly in the humanities. These graduates are starting to take up professional jobs, according to Michael França, an economist at Insper, a university in São Paulo, who is black. More broadly, Brazilian society has started to face up to past and present racial issues, he thinks.

Recognition of inequality is important in overcoming it. But considering people in terms of their group identity rather than as individuals can create problems of its own. Chile's constitutional convention has defined the country as not just "intercultural" but "plurinational" and said that indigenous people should have their own legal system, following the line of constitutions in Ecuador and Bolivia. In Ecuador Leonidas Iza, president of the Confederation of Indigenous Nationalities, says that plurinationalism is essentially a demand for respect, for the recognition of indigenous cultures and languages. "We are Ecuadorean. We've never proposed a [separate] state within the state," he asserts.

The plurinational effect

In Chile, too, plurinationality may be mainly symbolic, but some worry that it may not be. It could mean that the same crime receives a different punishment depending on the ethnic identity of the offender, or that basic laws and rules vary around the country. Adolfo Millabur, an indigenous representative in the constitutional convention, argues that Mapuche territory was invaded by Chile in 1860, and that "Western ways were imposed by violence." He says that plurinationality would change "the distribution of power" and

pave the way for the restitution of land that was previously occupied by non-Mapuche farmers and forestry companies.

As Francis Fukuyama, a political scientist, has pointed out, left-wing identity politics tends to stimulate its equivalent on the right. Between them, he argues, they undermine the pursuit of common goals by collaboration and consensus that lies at the heart of a successful democracy. This has happened in Brazil. Mr Bolsonaro tapped the resentment of social conservatives at "gender ideology" (the teaching of sex education and tolerance in schools), of lower middle-class whites over university quotas and of farmers against environmental controls. Something similar risks happening in Chile, where José Antonio Kast, of the hard right, won 45% in the presidential election in a backlash against the political correctness of the convention.

The demand for plurinationalism is an indictment of the neglect and discrimination suffered by indigenous peoples and should be a call to remedy that. But it also questions the central narrative of Latin American identity over the past century or more: that the region is a melting pot of Europeans, Amerindians, the descendants of African slaves and in some countries Asian immigrants, too, and the racial mixing of all these.

Latin America's history is being re-evaluated in the light of ►

such political concerns. Claudia Sheinbaum, the mayor of Mexico City, removed a statue of Christopher Columbus even though she is herself a Mexican of European Jewish descent. She argues that Latin America still suffers from residues of colonialism and its caste society. But she concedes that after the European conquest "a very rich *mestizo* culture was born" that it is important to recognise. Amid all its other pressing tasks, the region needs to reconcile itself to its history and refine a fresh narrative capable of emphasising the many things that Latin Americans have in common. But that also means making equality of opportunity more than a mere slogan. In this sense it does not help that the very idea of meritocracy is under attack. ■

The economy

Stalled

How can Latin America become more productive?

THE HEADQUARTERS of Creditas is a sleek glass tower near São Paulo's ring road, furnished with rows of computer terminals, modish sculptures and swing-seats for relaxation. The offices have space for 2,700 workers. The firm designed them before the pandemic, when it had 1,200 staff. Now it has 4,000, almost a fifth of them digital developers and some based in Mexico and Spain. Creditas offers loans secured against homes, cars and pay cheques at much lower interest rates than banks. It raises the money in the markets and uses venture capital to finance technology and customer acquisition. It is one of a clutch of startups that are shaking up Brazil's financial system. The banks had inefficient branch networks and charged high margins on a low volume of business. "We have forced the banking industry to change," says Sergio Furio, Creditas's founder, who is Spanish. "They now speak a different language, cutting costs and automating."

Long a digital laggard, Latin America is catching up as consumers turn to their computers to buy goods and services. The number of fintechs in the region more than doubled between 2018 and 2021, to 2,482 (a quarter of the global total), according to the Inter-American Development Bank (IDB). Venture-capital funds poured \$15.7bn into the region last year, more than the combined total for South-East Asia, Africa and the Middle East.

Profitable but unproductive



Sources: UNDP; "Global market power", by J. De Loecker and J. Eeckhout, CEPR, June 2018; The Conference Board



*Based on data from 40 countries
†Members in 1990

Fast-growing, innovative firms like Creditas are an exception in Latin America's business landscape, which is dominated by a small number of old-established large companies, many of them family-run conglomerates, and a mass of unproductive small firms. Half the region's workforce labours in the informal economy, a number that hasn't varied much for decades. This is both a cause and a consequence of low growth and low productivity.

Latin American workers are only about a quarter as productive as those in the United States. To make matters worse, this figure has been falling for most of the past four decades. Total factor productivity has been stagnant over that period. Capital investment in the region, which reached 21% of GDP during the commodity boom, was only 17% in 2020, according to ECLAC. Such growth as there has been has come mainly from the expansion of the labour force. But this is set to tail off as the region experiences a demographic transition (though there is still much scope for more women to work outside the home).

Several things lie behind this dispiriting performance. Start with a lack of competition and the prevalence of oligopolies. These arise partly because most Latin American economies are relatively small and are geographically distant from the main centres of the world economy. But firms are also quite protected. Governments slashed tariffs in the 1990s as Latin America seemed to open up to the world. But plenty of non-tariff and regulatory barriers remain. According to the UNDP, Latin America's formal firms have long enjoyed bigger mark-ups than those in most OECD countries. As monopoly power has also grown in rich economies over the past decade, the rates of return have converged. But that is a case of the world becoming more like Latin America, not the other way round.

Expensive and unequal

Such monopoly rents are key to Latin America's extreme inequality of income and wealth. They also reflect lobbying power. "Each market distortion has an owner," notes Zeina Latif, a consultant in São Paulo. Some of those are labour unions, which block changes to labour laws that make hiring prohibitively expensive. The protection of incumbent firms means they get away with poor management, a lack of innovation and a lack of investment, points out William Maloney of the World Bank. With the partial exception of Brazil, Latin American countries invest less in research and development than their income level should suggest. And because they do not invest enough in technology, when they have faced competition in the form of Chinese rivals some have simply packed up rather than trying to compete. This happened to car-parts firms in Colombia that were studied by Mr Maloney. The labour force lacks skills and training. The region has a chronic shortage of engineers and scientists (and produces too many lawyers). Less than 30% of pupils aged 12 met minimum standards in science in 2019, according to UNESCO.

Another consequence of protectionism is that Latin America does not export as much as it should, given its many free-trade agreements. It also helps explain why commodities, which enjoy a comparative advantage, have such weight in the region's exports. Colombia has not exploited its export-manufacturing potential because the incentive to do so has been scarce, owing to protection against imports, deficient transport infrastructure and expensive logistics, says a study by economists at the central bank. The result is that Colombia has a persistent current-account deficit, and is uncomfortably dependent on exports of oil and coal, fuels that face an uncertain future.

Argentina is the pathological case of all such ills. Because of protectionism it suffers from a chronic shortage of foreign exchange, even as distortions and subsidies conspire against investment and innovation. All this undermines confidence in the peso, ►



Freedom yes, but prosperity?

► the prime symptom of the country's decline. Some Brazilians now worry that their country is going the same way.

Not all is gloom, especially in countries that have tried to integrate more into the world economy. Since the North American Free Trade Agreement (NAFTA) came into force in 1994, northern Mexico has seen steady economic growth. It is benefiting from "near-shoring", or the shortening of supply chains by American firms because of the pandemic and rising tensions with China. This is happening in industries from building materials to textiles and toys. Mexico has been taking business from China, claims Luis de la Calle, an economist. But he adds that "Mexico is many different countries in one." The south and centre of the country resemble Central America, held back by poor transport links and education and anti-enterprise politics. Northern Mexico would be doing even better if Mr López Obrador had not frightened private investors with his energy nationalism and what an American official calls "arbitrary treatment" of her country's investors.

Latin America is "unusual because it is outside all value chains", notes Mr Velasco at the LSE. Its manufacturing is too backward to export finished goods, and too far away to export components, as South-East Asia does. That makes diversification harder. Some has happened in Chile and Peru, driven mainly by agro-industry. But the pipeline of new products in Chile has dried up and in Peru new irrigation projects are stymied by interminable legal wrangles. In both countries governments have tried to facilitate new products through prompter certification and the co-ordination of private and public actors. This has been more effective than

old-fashioned industrial policy, in which Latin America has a long and expensive history of failure.

Some say the search for growth should start at the bottom. "We should forget about the idea that the modern sector will absorb surplus labour," says Piero Ghezzi, a former minister in Peru. "The only way to improve productivity is to do so in micro and small businesses. Diversification is about giving value to what you have." He now provides loans on commercial terms to 250 young coffee farmers in the Andes who got money from public sources for organic and fair-trade certification and moved from subsistence to productive enterprise. "It's not a moonshot. It's about small improvements on the ground." ■

The state

Captive states, misrule of law

Enter the political demolition squads

A S A SPECIAL prosecutor for corruption in Guatemala since 2015, Juan Francisco Sandoval worked with a UN commission to secure convictions against a president and a vice-president. In mid-2021 he was fired by Guatemala's attorney-general, Consuelo Porras. She accused him of an "ideological" approach and procedural mistakes. He thinks it was because he had uncovered enough evidence to open an investigation against Alejandro Giammattei, Guatemala's current president, over allegedly paying bribes to secure a docile legislature, having received them from a construction company and several Russian and Kazakh businessmen with mining interests. In 2020 Mr Sandoval found a pile of cash equal to \$16m in a house in Antigua Guatemala that he links to the president, who denies any wrongdoing.

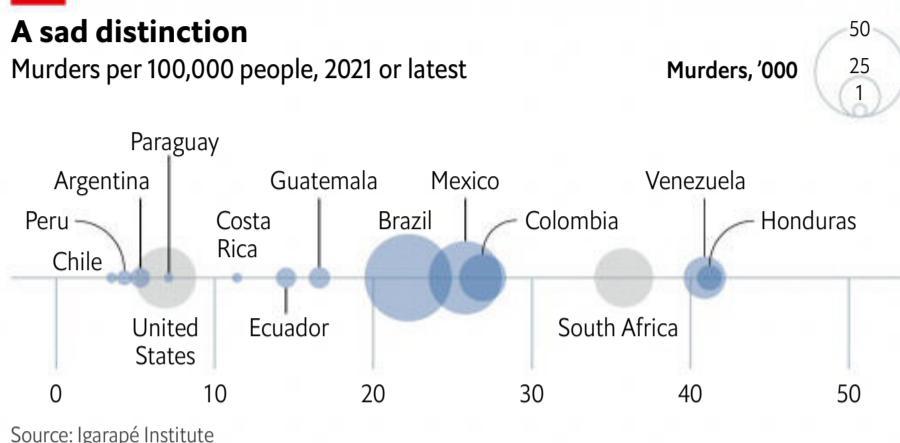
Mr Sandoval now lives in Washington, DC. He fled Guatemala "because my life was in danger", he says. "I knew they would start to persecute me...They have planted evidence. The intention is to frame me." In all, 22 former Guatemalan judges or prosecutors are in exile, ten face charges back home and one is in jail. Their plight shows how hard it is to make lasting progress in fighting corruption in Latin America. The UN commission had enjoyed wide public support, but the politicians rebelled against it and Mr Giammattei's predecessor, Jimmy Morales, expelled it in 2019. "There is a confluence of interest between corrupt politicians and the economic oligarchy," says Mr Sandoval.

The victory of these interests highlights two problems that are widespread in Latin America: the weakness or absence of the rule of law, and the capture of the state by private interests. Democratisation across the region brought welcome attempts at judicial reform. Many countries replaced fusty procedures in which judges investigated crime and trials were conducted on paper. They brought in independent prosecutors and oral trials. Unfortunately, these changes coincided with an expansion of organised crime in Latin America, for which they were wrongly blamed. The rule of law depends not just on judges but on having the right ecosystem, from police to prisons.

Its weakness in Latin America is shown not just by impunity for the corrupt but by a chilling statistic: with 8% of the world's population, the region accounts for 37% of all murders, according to the UN. Once largely confined to Colombia, Peru and Bolivia, drug mafias have spread throughout Latin America and diversified into extortion and human trafficking. After several gang-related

A sad distinction

Murders per 100,000 people, 2021 or latest



countries are loyal supporters of their presidents. In Argentina Ms Fernández de Kirchner has failed to subjugate the courts, but other branches of the state are less resistant to political takeovers.

"State weakness is the single most important source of Latin America's chronic problems, including social inequality, economic stagnation and poor governance," concludes Sebastián Mazzuca, an Argentine political scientist at Johns Hopkins University, in a recent book. Most Latin American countries had consolidated their grip over their territory by 1875. But where European states were honed by war, the imperative in Latin America was trade, and that brought deals with local potentates, Mr Mazzuca says. What emerged were "patrimonial" states, in which private and public interests were muddled, rather than having impersonal and disinterested bureaucracies.

Modern state-building did take place in the mid-20th century in Brazil, Mexico and other countries but it was then undermined by populism, a political impulse pioneered by the region. Democratisation brought more reforms. Central banks, finance ministries and electoral authorities became islands of technical excellence. This even spread to social policy through targeted and politically neutral cash transfers for the poor. But state weaknesses remain stark. In Brazil, for example, Mr Bolsonaro has stuffed the public sector with soldiers and police, dismantled environmental controls, placed ill-qualified ideologues in charge of education and slashed the budget for universities and scientific research. "There was a sense that we were building a country," says Fernando Reinach, a former science minister. "Now the feeling is that we are destroying it." In Mexico Mr López Obrador has slashed public-sector salaries. Many experienced officials have departed from ministries and regulatory agencies.

The destruction has been especially swift in Peru. To give jobs to its supporters Mr Castillo's government has lowered qualifications for posts, says Carolina Trivelli, a former minister for social development. The director of a state technological institute learned of his sacking in the official gazette; he has been replaced by a political hack. In May Peru's Congress voted to gut the powers of an independent regulatory agency that supervises standards in universities.

Latin American conservatives have never had much problem with patrimonialism. But the left is now assaulting the principle of civil-service meritocracy on the grounds that it benefits a "neoliberal" elite. "Behind the changes in the state in Mexico there's a redistribution of power, with new groups coming in," says an official in Mr López Obrador's government. They are drawn mainly from newer universities and local government. In Argentina public-sector jobs have long been rewards for those who deliver the vote for Peronists in the poorer suburbs of Buenos Aires. Yet the left ought to have an interest in high-quality public services. It is striking that left-leaning economists so often favour a big role for the state for which it is not technically equipped.

A study by CAF, a development bank, found that the quality of government in Latin America is thought to be lower than anywhere else in the world bar Africa. And on many indicators it

seems to be declining. The IDB reckons that public spending worth as much as 4.4% of GDP is wasted, often because of inefficient procurement. And the combination of relentless media scrutiny with judicial persecution in the name of anti-corruption has driven many good, honest people out of public service or led graduates to avoid it. Those who remain are scared to take decisions, especially on public contracting. It all adds up to yet another development trap. ■

► prison massacres, Ecuador last year imposed a state of emergency that was renewed in three provinces in April. In February the United States temporarily suspended the import of avocados from Mexico after one of its plant-health inspectors was threatened.

There have been some successes, but they tend to be local and hard to sustain. In Colombia the murder rate fell from 69 per 100,000 people in 2002 to 25 in 2017, thanks to a security build-up followed by a peace agreement between the government and FARC guerrillas. But the impetus has been lost and the rate has edged up, partly because of the politicisation of the security forces under Iván Duque, president since 2018. Parts of Brazil, such as São Paulo state, have seen a successful shift to more community policing. And crime has fallen in Mexico City, thanks to a tough and energetic police chief and increases in police numbers and wages.

Yet swathes of rural Mexico are under the control of criminal gangs. There are fewer murders, but that is mainly because the army has scaled back its operations against the gangs. Two of the bigger mafias have consolidated their grip and achieved criminal monopolies in areas previously bloodily contested, reckons Eduardo Guerrero, a security consultant. He adds that elections last year suggested that organised crime is penetrating local politics. Extortion is a drag on economic growth, discouraging small businesses from expanding. Venezuela's government does not control the "mining arc", a large area of the south that is dominated by paramilitary gangs and Colombian guerrillas, according to Ricardo Molina, who was Mr Maduro's environment minister.

At the car wash

Guatemala is not the only place where the fight against corruption has faltered. Operation Lava Jato (Car Wash), launched in Brazil in 2014, exposed bribes and contract padding by construction firms. Prosecutors have secured convictions against some 200 business people and politicians, including Lula. But Sérgio Moro, the judge who jailed Lula, notched up fatal own goals. Leaked messages showed he had breached judicial impartiality by coaching the chief prosecutor in the case. He undermined judicial independence by becoming justice minister in Mr Bolsonaro's government. Brazil "has lost its appetite for fighting corruption", laments Oscar Vilhena Vieira, a law professor at the Fundação Getúlio Vargas, a university. Similarly, in Peru judges placed two former presidents and Ms Fujimori in preventive detention. But after seven years of investigation prosecutors secured only a handful of convictions, mainly against minor figures.

"The single most acute barometer of the state of democracy is judicial independence," argues Mr Casas-Zamora of International IDEA. The picture is mixed. Most judges in Brazil are independent, reckons Mr Vieira. The Supreme Court has survived threats from Mr Bolsonaro. Its equivalent in Mexico has not fallen wholly under the sway of Mr López Obrador. The Constitutional Court in Colombia remains independent. But chief prosecutors in all three

State weakness is the single most important source of Latin America's chronic problems

Latin America in the world

Uncle Sam or the dragon

A region divided against itself

IN A TRENCH beside the Pan-American highway at Chancay, 65km (41 miles) north of Lima, boring machines dig a tunnel beneath a sand hill. Under its other slope, by the ocean, Chinese-made giant trucks deliver rubble to extend the land into deeper water, already partly enclosed by a breakwater. They are creating a new port able to take the world's largest container ships. The \$1.3bn first stage, due to be completed in 2024, involves four quays. The final plan calls for 15 quays and a large industrial park that would make Chancay the biggest port on the Pacific coast of South America, with the aim of becoming a trans-shipment centre for the region.

The port is being developed by Cosco, a Chinese shipping and logistics giant, with Volcan, its Peruvian partner. Gonzalo Rios, one of the managers, stresses that it is a market-driven private-sector project. Since it is close to Callao, Lima's large modern port, some are sceptical that it can attract sufficient shipping unless it becomes a strategic beachhead for Chinese firms. Either way, it is a sign of changed geopolitical times in Latin America.

China is now a bigger trading partner than the United States for all the main Latin American economies except Mexico and Colombia. It is also an important investor, initially in oil and mining and more recently in infrastructure and manufacturing. The United States still matters, especially as a private investor and because of its sway in international financial institutions. But it has lost influence, partly because of its own political gridlock. It lacks ambassadors in eleven posts in Latin America. China's diplomatic operation in the region is now more effective. Europe has also long been an important trading partner for Brazil and Argentina. In

2019 it concluded a trade and co-operation agreement with Mercosur, a block based on those two countries. But it has yet to be ratified, mainly because of European hostility to Mr Bolsonaro's environmental destruction.

Most Latin American countries do not want to have to choose between the United States and China, as Donald Trump once suggested. At Mr Trump's insistence, NAFTA was renegotiated. The United States-Mexico-Canada agreement that replaced it includes clauses aimed at blocking Chinese trade and investment. Mr Bolsonaro, a fan of Mr Trump, has been hostile to China. Brazil remained in the BRICS group that includes China, India, Russia and South Africa. But the president's family and Ernesto Araújo, his first foreign minister, made intemperate criticisms of China. In response Xi Jinping's government quietly made clear that Argentina is a rival partner in South America. Only this month did Mr Bolsonaro talk for the first time to both Joe Biden and Alberto Fernández, Argentina's president. He has "done a remarkable job of isolating Brazil from the world", says Matias Spektor of the Fundação Getulio Vargas.

Latin America's preference for a multipolar world to one of geopolitical confrontation has led some to question whether it is still part of the West. Its stance on Russia's invasion of Ukraine has been ambivalent. Most Latin American countries voted at the UN to condemn this. But some tempered their position. Mr Fernández visited Russia and China shortly before the war began. He said his country should be the "gateway" for Russia in Latin America. Venezuela and Nicaragua are close allies of Vladimir Putin. "We don't want the multilateral order to fall apart," says a Mexican official, who opposes Russia being kicked out of the G20. "But that doesn't mean we're not on the side of democratic institutions."

Internal differences

Latin America's internal political fragmentation is mirrored at regional level. Attempts at deeper integration have faltered. Mercosur, founded in 1994 as a putative customs union, was a cornerstone of Brazilian foreign policy. But it is declining into irrelevance, partly because agribusiness (whose main market is China)

has eclipsed manufacturing. The Pacific Alliance founded in 2011 and comprising Chile, Colombia, Mexico and Peru has lost momentum. "Latin America doesn't count for anything in the world," laments Enrique Iglesias, a veteran Uruguayan leader. "We are silent. If the big countries don't lead the process of integration and commit to it, efforts will be very limited." Two core institutions that link Latin America and the United States, the IDB and the Organisation of American States, are troubled, with leaders who do not command support and deep divisions over the treatment of Venezuela.

Indeed, the issue of what to do about Venezuela has split Latin America. Mr Trump's policy of seeking regime change through sanctions imposed in 2019 initially attracted support. But it failed. Today Mr Maduro is stronger than before, and the economy is reviving thanks to de facto dollarisation. The opposition is weakened. Juan Guaidó, its titular leader, was once recognised as the legitimate president by some 60 countries; today only a handful still do so. The Biden administration, and many Latin Americans, believe that negoti-



Friends, at least for now

► ation with Mr Maduro, hard though that will be, is the only option. "Otherwise, it's [like] Cuba, and we don't want to be having this conversation in 60 years' time," says an American official.

Divisions over democracy overshadowed the Summit of the Americas in Los Angeles in early June. Mr Biden did not invite Cuba, Venezuela or Nicaragua, which caused Mr López Obrador and three other leaders to stay away. To the frustration of many Latin Americans, policy in Washington appears to be driven by the imperatives of domestic policies.

Latin America cannot change this unless it makes itself a more important partner. And that requires a more pragmatic, issue-based, approach to regional integration. Latin American countries have had to absorb 6m migrants from Venezuela and many are countries of transit for other immigrants. Mr Biden is now pushing for a regional approach to the problem. With interest rates rising, Latin America should be leading discussions about international help to middle-income countries to boost economies and respond to climate change. As always, more intra-regional trade is one of the best routes to economic growth.

"We have to stop creating [regional] organisations based on the ideology of the governments of the day," Chile's Gabriel Boric argues. "It's important that Latin America once again has a voice in the world." For that, it needs to rediscover a path of progress. ■

The future

Agreement or anomie?

Politics needs to be rebuilt from the ground up

IF ANY LATIN AMERICAN country had a chance of moving to a new social contract, political renewal and a more productive economy, it was surely Chile. In November 2019, as protests raged in the streets, politicians agreed to a constitutional convention, charged with drawing up a new constitution to replace the existing one, whose origins date back to the Pinochet era (though with later amendments). But the convention tilted more to the left than did public opinion. It is torn between trying to reform Chile and trying to refound it from first principles. And it has conflated a demand for social rights with identity politics. The text will not be finalised until July 4th. A dwindling band of optimists still hopes to see a workable document. But the auguries are not good: the draft has 499 articles. "We are losing an opportunity to have a constitution for a developed country and not for a typical Latin American country," says Rodrigo Valdés, a former centre-left finance minister.

If the new constitution is rejected in a referendum in September, as seems possible, it will leave Chile in political limbo. It would also be a fatal blow to Gabriel Boric's young government, whose core programme is to increase tax revenues in order to create a universal welfare state in place of Pinochet's "subsidiary state", in which the market played a big, but for many unsatisfactory, role in providing health care, education and pensions.

Chile's travails highlight broader problems. Latin America's left tends to be too Utopian, populist and anti-capitalist. The right fiercely defends its privileges and monopoly rents in the name of freedom. And the political centre has collapsed. Its failure is linked to that of liberal technocrats, brought up in a segregated upper-middle class that has too little knowledge of everyday realities. Take Colombia, where Mr Duque's government produced a sensible tax reform in 2021 that led only to riots and protests from

Latin America's problems are partly those of success, since they reflect more educated people

which the government never recovered.

"Top-down reforms have failed," concludes Sofía Ramírez of México Cómo Vamos, a pressure group. "The road is bottom-up, the middle class to local power." Mayors tend to be closer to the people than Congresses, and local government is a solid recruiting ground for national office. But mayors can also be corrupt and incompetent. And the region's political systems are failing in their most basic function of channelling interests upwards and then arbitrating among them.

Politics suffers from design defects. Uniquely in the democratic world, Latin America combines directly elected executive presidents with legislatures chosen by proportional representation. That makes it hard for governments to command parliamentary majorities that will enact reforms. This mattered less when presidents were popular and parties were fewer and were more open to negotiation. But those days have long gone. Many Latin American academics now favour parliamentarianism. But presidentialism is an indelible part of the political culture. This issue has not been a matter of serious debate, even in Chile's convention.

Another issue is the weakness of political parties. Laura Chinchilla, a former president of Costa Rica, argues for rules to ensure that parties have a life between elections. There should be a middle ground between turning parties into protected fiefs and making it too easy to create new ones. Populist leaders have abused referendums. But politicians could seek better mechanisms for participation, such as consultative committees of citizens. "There is a demand from society to be heard," says Ms Chinchilla.

Latin America's problems are partly those of success, since they reflect the fact that it has more educated people. After more than 30 years of democracy, younger generations take freedom for granted. There is polling evidence that societies as a whole are less polarised than their political elites. And for at least 200 years Latin Americans have expressed wonder at their own potential. The region faces no serious danger of war and is far from the world's most acute conflicts. Its vast natural resources should help it benefit from the green-energy transition, since it produces much of the world's copper and lithium and has untapped potential in renewable energy and green hydrogen. Its people mainly speak just two closely related languages. Despite everything, it has retained democratic freedoms. Respondents tell pollsters they are happy, thanks to family, friends and the fiesta, the eternal pleasures of Latin American life.

Yet in the past few years Latin America has started to lose thousands, perhaps tens of thousands, of its best-educated and brightest citizens. They have found more security and opportunity in the United States or Europe. Unless it can find a way to make its political systems more effective and responsive, Latin America's relative decline will only continue. ■

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“Granular” or “detailed”: which is better?

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