

The Economist

Will Iran's women win?

Pondering a Putinless future

Rishi Sunak's very low bar

Welcome to Hikelandia

OCTOBER 29TH–NOVEMBER 4TH 2022

IT'S NOT JUST INFLATION



The other
risk of Bidenomics



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More than 230 people have been killed and over 12,000 have been arrested, according to tallies by human-rights groups, as protests rage on in **Iran**. The movement against the ayatollahs' regime has largely been led by women. In response to the violence, America has lengthened the list of individuals and groups subject to sanctions. The ruling clerics seem uncertain whether to give ground or crack down more fiercely.

Israeli defence forces killed five **Palestinians** in a raid into the West Bank city of Nablus, where an Israeli soldier had been killed earlier this month. A sixth Palestinian was killed in a later incident.

Opinion polls preceding the **Israeli election** scheduled for November 1st show no clear favourite. The two leading contenders are blocs led by Yair Lapid, the incumbent prime minister, and Binyamin Netanyahu, a long-serving former prime minister. Pundits reckon that Mr Netanyahu's alliance has a slight edge.

Shifting the goalposts

In the lead-up to the football World Cup, which kicks off on November 20th in **Qatar**, the country faces mounting complaints about labour abuses and the persecution of gay people. Watchdogs allege the arbitrary arrests of gay activists. Some football stars have said they will be wearing armbands to show support for victims.

Peace talks between the **Ethiopian** government and the rulers of Tigray, a rebellious northern province, have started after nearly two years

of civil war. Millions of civilians in Tigray are under blockade by the government and have not received aid since fighting resumed in August.

At least 50 people were killed and 300 injured when police in **Chad** intervened in protests demanding civilian rule. The protests erupted after the junta that seized power in April 2021 broke its promise to hand power to a civilian administration this month.

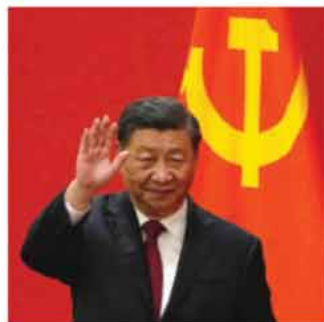
Rishi Sunak became Britain's third prime minister in two months, taking over from Liz Truss. Ms Truss, who resigned after a disastrous mini-budget spooked financial markets, was the shortest-serving prime minister in history. Mr Sunak was the only candidate for leadership of the ruling Conservative Party to garner enough nominations from Tory MPs enter the race, after efforts by Boris Johnson to mount a comeback stalled.

In an attempt to bring the Tories together, Mr Sunak appointed a cabinet from different wings of the party. Jeremy Hunt was reappointed chancellor; James Cleverly, a backer of Mr Johnson, remained foreign secretary. The reappointment of **Suella Braverman** as home secretary stoked controversy; she had been forced to resign from the same position days earlier after sending an official document from her personal email.

Giorgia Meloni, the leader of the nationalist Brothers of Italy party, was sworn in as prime minister of Italy. She has promised strong support for Ukraine. Some observers fear a more confrontational relationship with Brussels, though she will want to maintain access to Italy's €200bn (\$201bn) share of the EU's covid recovery fund, which comes with strings attached.

Without producing evidence, Russia alleged that Ukraine was preparing to set off a **nuclear dirty bomb** on its own territory.

Observers in Ukraine and elsewhere were fearful that this might mean that Russia was itself planning to set one off, hoping to blame Ukraine. Foreign ministers of America, Britain and France were sufficiently alarmed to issue a joint statement warning Russia that it would be held accountable.



China's Communist Party introduced its new leadership after the close of its five-yearly congress. **Xi Jinping** was given a third five-year term as party chief. Hu Jintao, the former president, was escorted out of the closing session of the congress. State media said he was unwell. Even if only health-related, his departure appeared symbolic, as Mr Xi swept aside politicians linked to his predecessors.

Pennsylvanian voters saw perhaps the most closely watched debate of the midterm elections. John Fetterman, the Democrat running to be senator, met Mehmet Oz, a celebrity doctor and the Republican nominee. Questions about Mr Fetterman's fitness for office have been raised after he suffered a stroke in May. His performance did not allay concerns as he struggled to rebut Mr Oz or explain his positions.

A controversial letter signed by 30 progressive **Democrats** asking Joe Biden's administration to pursue negotiations with Russia to end the war in Ukraine was published and then quickly withdrawn by the caucus's chair, Pramila Jayapal. The letter was criticised for undercutting the American position on Ukraine. Ms Jayapal claimed that the letter had been written months earlier

and was released by staff without vetting.

Jair Bolsonaro, the populist incumbent, and Luiz Inácio Lula da Silva, a leftist former president, were polling at 48% and 52%, respectively, in the lead-up to **Brazil's presidential elections**. That is a technical tie, given the margin of error. The last few weeks of the campaign have been marred by violence, polarisation and personal attack heavy political advertisements from both sides.

Pressed for freedom

Roberson Alphonse, a Haitian **investigative journalist**, survived an attempted assassination in Port-au-Prince, the country's capital. Although the situation in the country is worsening, it is unlikely that an American-backed security force will be deployed to the island soon. The European Union expressed concern at the "humanitarian catastrophe" unfolding in Haiti.

Arshad Sharif, a Pakistani journalist, was shot dead at a police checkpoint in Kenya on October 23rd. Mr Ashraf was a supporter of Imran Khan, **Pakistan's** former prime minister. At home, Mr Khan is threatening to march with his supporters on Islamabad, the capital, agitating for early elections. This may lead to clashes with the country's security forces.

Cyclone Sitrang made landfall in **Bangladesh** on October 24th. Despite 700,000 people being evacuated, at least 28 were killed. Thousands of homes were destroyed and millions were left without power. Cities, including the capital, Dhaka were flooded.

More than 80 people were killed in military airstrikes during a concert in the north of Kachin state in **Myanmar**. The army, which staged a coup in February 2021, has grown increasingly desperate and brutal in its efforts to maintain control.

Adidas's, a German sports-wear-maker, joined Balenciaga, a fashion label owned by Kering, a luxury-goods conglomerate, in cutting ties with Kanye West, a rapper and fashion designer, for his anti-semitic remarks. The decision is set to cut Adidas' annual profits in half this year.

European natural gas

Front-month futures price
2022, € per MWh



Source: Refinitiv Datastream

European natural-gas prices fell below €100 (\$100.8) per megawatt hour for the first time since Russia cut supply in June, as lower demand amid mild weather and large amounts of gas in storage helped to ease concerns about winter shortages. Demand for gas in Italy, a large consumer, sank by a tenth in August and September compared with the same months a year ago.

Chinese stocks fell sharply following the confirmation of President Xi Jinping's historic third term as the Communist Party's leader. The Nasdaq Golden Dragon index, which tracks American-listed shares of Chinese companies, has fallen by more than half in a year. The offshore yuan hit its weakest level against the dollar since 2008, as the fallout spread to currency markets.

Oasis or mirage?

Saudi Arabia hosted its Future Investment Initiative, an annual conference aimed at investors. Jamie Dimon, the chief executive of JPMorgan Chase, Stephen Schwarzman of Blackstone, a private-equity firm, and David Solomon, boss of Goldman Sachs, were among the speakers at the three-day event in Riyadh. Saudi Arabia is set to have one of the world's fastest-growing economies in 2022.

In Britain, **real wages**, which are adjusted for inflation, fell by 2.6% in the year to April, compared with the previous year, their biggest decline in a dozen years, according to the Office for National Statistics (ONS). Inflation eroded a 5% gain in nominal wages.

British government-bond yields eased back to levels they were before unfunded tax cuts, now mostly scrapped, caused panic selling and prompted an intervention from the Bank of England in September. The yield on 30-year bonds, also known as gilts, was trading at 3.7% on October 26th, a day after Rishi Sunak became prime minister.

The **tech giants**, Alphabet and Microsoft, announced slower revenue growth as customers cut spending. Meta reported falling sales and rising costs, stoking fears of an economic slump.

European banks reported bumper third-quarter profits as a result of higher interest rates, which tend to boost bank earnings. Barclays, Santander, UniCredit, Standard Chartered, HSBC and UBS all beat analysts' quarterly estimates. Deutsche Bank announced its highest annual profits in 13 years.

Canada's central bank raised its benchmark interest rate by a smaller-than-expected 0.5 percentage points to 3.75%. The European Central Bank and the Federal Reserve are expected to raise benchmark rates by 0.75 percentage points when they next meet.

Royal Philips, a Dutch health, technology company, will slash 4,000 jobs, around 5% of its workforce, as it attempts to cut costs amid high inflation. The decision follows €1.5bn in losses in the third quarter and legal action over millions of ventilators it had supplied.

Open skies

America's big three airlines reported increases in third-quarter transatlantic revenues compared with 2019, as the strong dollar encouraged Americans to book trips to Europe. Outbound passenger traffic from North America between May and August was nearly three times higher than in the previous four months.

Shell, Europe's largest energy firm, announced its second-highest quarterly profits ever on the back of higher oil and gas prices. The group reported adjusted earnings of \$9.5bn in the third quarter.

Elon Musk said he intends to close his \$44bn acquisition of Twitter, a social-media firm, in a matter of days. Twitter's share price has risen to \$53.35, its highest since Mr Musk made his offer in April.

Heineken, a Dutch brewer, reported an 8.9% rise in beer sales during the third quarter, falling short of the average analyst estimate of 11.8%, as higher food and energy prices cut into consumer spending in Europe. The firm's share price fell by 10% in intraday trading on October 26th, the most since 2003.

Consumer-goods giants raised prices to offset lower sales volumes as shoppers reined in spending. Unilever, Reckitt Benckiser, Procter & Gamble and Nestlé reported a rise in quarterly earnings.

Credit Suisse, a Swiss bank, agreed to pay France €238m to settle claims that it helped clients avoid paying tax on their wealth by encouraging them to open bank accounts in Switzerland between 2005 and 2012. On October 27th the bank announced a restructuring plan. It is looking to raise SFr4bn (\$4.1bn) of capital, including from the Saudi National Bank.



It's not just inflation

Protectionism risks hobbling America and its allies

AMERICA'S MIDTERM elections are less than a fortnight away. When voters go to the polls on November 8th, surging prices will be uppermost in their minds. Annual inflation is running at just over 8%, nearly a 40-year high and the hottest in many voters' lifetimes. For decades, inflation was quiescent enough that most Americans could ignore it. Now the cost of the weekly shop is dominating voters' daily lives—and fuelling their ire.

Joe Biden's colossal economic stimulus in early 2021 first set inflation on its feverish trajectory, before Russia's invasion of Ukraine sent prices spiralling further. Voters may soon punish him for it, among other perceived excesses (see United States section). According to the Pew Research Centre, a polling firm, four-fifths of Americans say the economy will be "very important" to their voting decisions; three-quarters are "very concerned" about the price of food and consumer goods.

Yet the consequences of nearly two years of Bidenomics go well beyond stoking inflation. Bidenomics takes on two of the biggest long-term threats facing America: the rise of an increasingly autocratic China, and the looming dangers of climate change. In the past year Mr Biden has signed three landmark bills, on infrastructure, semiconductors and the environment, which together contain plans to spend \$1.7trn. With his executive actions, these amount to full-blown industrial policy (see Briefing). The result is unlike anything seen since Congress threw its weight behind America's car- and chipmakers in the 1980s. The government will dole out \$180bn in subsidies and tax credits to local firms over the next five years. At 0.7% of GDP, that is more than supposedly *dirigiste* France.

This phase of Bidenomics is praiseworthy in its aims. But its protectionism makes America less likely to achieve them. It is as if, having correctly identified his destination, Mr Biden has tied his legs together before setting off. The costs of this hobbled approach will be borne both by America and its allies.

America rightly wants to maintain its technological lead in advanced chipmaking over China. Semiconductors are growing in military significance, and could become crucial as artificial intelligence reshapes warfare. Another sensible worry relates to America's dependence on China for crucial green-energy kit such as batteries. This could one day give Xi Jinping a hold over America's economy, rather as Europe's reliance on Russian natural gas strengthened the hand of Vladimir Putin. At home Mr Biden wants to spruce up rusting infrastructure and reduce carbon emissions. He has pursued these goals with subsidies and "Buy America" rules, and Democrats might hope that boasting of their support for domestic manufacturing and middle-class jobs will pick up votes on the campaign trail.

The trouble is that protectionism is a poison pill that weakens the whole enterprise. It hurts friend and foe alike, sapping America's alliances of good faith and encouraging others to respond in kind. The European Union and South Korea complain that buyers of their electric vehicles will not benefit from America's new subsidies, which will favour cars assembled in North

America, and which may breach the World Trade Organisation's rules. The EU is readying its own chip subsidies, which will compete wastefully with America's. America's attempts to woo Asian countries away from China's sphere of influence, for example through the Indo-Pacific Economic Framework, its latest trade initiative in the region, have been undermined by its inward turn. Western protectionism lends credibility to Mr Xi's claims that democracies argue for global economic rules only when they are not the ones breaking them.

At home, too, protectionism makes the aims of Bidenomics harder to achieve. Subsidising electric cars assembled in North America will make them more expensive and lower-quality, dulling the incentive to go green. The new laws often require projects to pay government-mandated "prevailing wages", or to use American iron and steel. The Department of Commerce's plan for doling out chip subsidies pledges to take on an array of social problems, from giving jobs to the poor to helping businesses owned by women. The red tape will raise costs to consumers and taxpayers still further.

Rather than putting up barriers, America should reap the benefits of openness. More high-skilled immigration would boost both its green-tech and chipmaking industries. Easing permitting rules might do more than subsidies to encourage the building of green infrastructure. Tax deductions can favour investment. Free trade in crucial technologies with allies would make it cheaper for the democratic world both to decarbonise and to avoid excessive dependence on autocracies. And if the intent is to hinder Chinese chipmaking, America can do so without bungs to industry, as its recent ban on selling advanced chip technology to China shows.

Mr Biden might reply that he has to work within the boundaries of the politically possible. At least his protectionist instincts are being channelled towards some productive ends: Democrats got nowhere trying to impose a federal cap and trade system to curb carbon emissions more efficiently. And both the infrastructure and semiconductor bills have attracted bipartisan support. Promising a manufacturing renaissance might help Democrats win seats that once looked hopeless.

A chip in every port

Such thinking is flawed. In the short term, gains in the Democrats' popularity are likely to be small compared with the damage from voters' fear about inflation. Rebuilding an industrial base and encouraging manufacturing jobs may be popular, but will heap costs on Americans. Bidenomics may help America deal with climate change and China, but less than it ought, because of its costly and inefficient design. Much of its appeal comes from the mistaken idea that America must concoct its own industrial policy to counter China's steroidal version. In fact, China's ailing economy and crashing stockmarket show the flaws of centralisation. The West's advantage lies in its understanding of the strategic and economic benefits of openness. If America casts that aside, it risks losing the technological race. ■



The Middle East

Will Iran's women win?

Their uprising could be the beginning of the end of Iran's theocracy

DICTATORSHIPS TEND to fall the way Ernest Hemingway said people go bankrupt: gradually, then suddenly. The omens can be obvious with hindsight. In 1978 Iran's corrupt, brutal, unpopular regime was besieged by protesters and led by a sick old shah. The next year it was swept away. Today Iranian protesters are again calling for the overthrow of a corrupt, brutal regime; this time led by a sick old ayatollah, Ali Khamenei. As Ray Takeyh, a veteran Iran-watcher, put it, "History...is surely rhyming on the streets of Tehran."

Pessimists caution that mass protests have rocked Iran's theocracy before, notably in 2009 and 2019, and the regime has always snuffed them out by shooting, torturing and censoring. Yet there are reasons to think that this time may be different; that the foundations of the Islamic Republic really are wobbling (see Middle East & Africa section).

Iranians have been raging in the streets since the death in custody of Mahsa Amini, a 22-year-old woman who was arrested by Mr Khamenei's "morality police" for the crime of failing to cover every last strand of her hair. Such protests require courage, given the regime's readiness to lock up and rape protesters. Yet they have lasted for weeks. And whereas the fury of 2009 was largely urban and middle-class, after an election was stolen from a somewhat reformist candidate, and that of 2019 was more working-class, sparked by a sudden leap in petrol prices, today's protests have erupted all across the country, involving every ethnic group and people from all walks of life.

The protesters' demands are not for more welfare or a loosening of this or that oppressive regulation; they want an end to the regime. "Death to the dictator!" is an unambiguous slogan. And they are led by women, which lends them an unusual strength. The regime enforces hijab-wearing with whippings. This rule, part of a broader apparatus to subordinate women, is passionately resented. Thus, simply by doffing or burning their headscarves in public, women send a message of defiance that spreads rapidly on social media, inspiring all who chafe at clerical rule. Some also cut off their hair or walk into the men's sections of segregated student canteens, and are welcomed by their modern-minded male peers.

That the regime feels threatened by such open displays of 21st-century morality is evident from alleged plots to kidnap or murder Masih Alinejad, a New Yorker who urges Iranian women to share hijabless photos of themselves. Yet however much the mullahs may want to crush these unruly women, they cannot be sure that the security forces would obey an order to shoot them in the street, or that the fury that would follow mass femicide could be contained.

Previously, when faced with protests, the regime has called on its supporters to stage counter-demonstrations. This time, hardly any have shown up. And several grandees who might in the past have condemned the protests or voiced support for the regime have conspicuously failed to do so. For now, Iran's generals say they back Mr Khamenei. But it is unclear how far they will go to support an out-of-touch 83-year-old who wants to install

his second-rate son as his successor. When protests in Egypt got out of hand in 2011, the top brass elbowed aside the unpopular president (who was also grooming his son as his heir) and allowed a brief flowering of democracy before eventually seizing power. In Iran, as in Egypt, the top brass have vast, grubby business interests to protect. If they sense the supreme leader is sinking, they have no incentive to go down with him.

Were Mr Khamenei's regime to fall, few would mourn it. It is an unholy alliance of the pious and the pickpockets. At home, it frowns on fun and on fair elections, while the Iranian economy stagnates and the supposedly righteous ruling class rolls in rials. Abroad, its proxy militias dominate Lebanon, destabilise Iraq, fuel a war in Yemen and prop up a murderous despot in Syria. It is also supplying kamikaze drones to help Russia knock out Ukraine's power grid.

If the next Iranian regime were more responsive to the wishes of its people, it would bully less at home and meddle less abroad. Both changes would be popular; with the price of bread soaring, Iranians resent the vast sums their rulers spend on terrorising the neighbours. An Iran that no longer exported revolution would make the Middle East less tense, and allow Gulf states to spend less on weapons. The threat of a nuclear arms race might recede. Trade might flourish, as it has between Israel and the Arab states that recently recognised it.

Far worse outcomes are possible, however. A nationalist military regime might ease up on compulsory piety but keep robbing Iranians and arming foreign militias, and dash for a bomb. Or Iran could end up like Syria, where a dictator burned the country to cinders rather than surrender power.

The world should want what the protesters want: an Iranian government that reflects the will of Iranians. Yet there is only so much outsiders can do to help. It is hard to tighten sanctions, for they are already tight. (America recently and rightly added penalties for Iranian firms that sell battle-drones to Russia.) Foreigners can help the protesters communicate with each other, by setting up proxy servers or letting them download VPN software to evade internet controls. The more Iranians see videos of schoolgirls mocking furious mullahs, the less inevitable clerical rule will seem.

For women, life, freedom

The protesters say they want "a normal life". To win that, they will need not merely to shrug off the regime but also to avoid a civil war. So the counter-revolution, which is currently decentralised and leaderless, must be inclusive. Many pious Iranians fear revenge killings, as have happened after regime change in neighbouring countries. They need reassurance that today's movement is for all Iranians, not just those who hate clerics.

The world should prepare for the possibility that Iran's four-decade-long experiment with murderous, liberty-loathing, bedroom-snooping theocracy may not last much longer. And if, against the odds, Iran becomes the normal country its citizens crave, the rest of the world should embrace it. ■



China

Team of loyalists

Xi Jinping's new Politburo seems unlikely to contradict the boss

THE DAY after President Xi Jinping was granted a precedent-trampling third term as chief of the Communist Party on October 23rd, state media had nothing but praise for him. China was embarking on a “new journey”, said the papers, one “full of glory and dreams”. Alas, the journey has got off to a rough start. On October 24th global financial markets were full of worry and disappointment. Foreign investors dumped China's shares and its currency (see Finance section).

Mr Xi's re-coronation at the end of the party's five-yearly congress came as no surprise. What shocked investors were the men surrounding him in the new leadership team (there were no women). He has packed the Politburo and its powerful seven-member Standing Committee with apparatchiks whose primary qualification is not their expertise, but their loyalty (see China section). Before the congress there had been few checks on Mr Xi's *dirigiste* economic instincts or his authoritarian urges. Now there are almost none. Investors are right to be worried.

Gone from the Standing Committee are officials who were not close to the president, such as Li Keqiang, the prime minister. Market-friendly reformers had once invested their hopes in Mr Li, but he was never much of a counterweight to Mr Xi. Nor was Wang Yang, once seen as a possible successor to Mr Li. He was removed, too. Then there is Hu Chunhua, a deputy prime minister and ally of Mr Li, who some thought might ascend to the committee and even be made prime minister if Mr Xi felt the need to foster unity. Apparently, Mr Xi did not. Mr Hu was not only left off the Standing Committee, he was booted from the Politburo.

Of the men moving up to the Standing Committee, Li Qiang stands out. He had been the party's leading man in Shanghai, China's commercial hub. Earlier this year he oversaw a months-

long lockdown in the city to stem an outbreak of covid-19. It did not go well. There were shortages of food and medicine. Parents were separated from their covid-positive children. Residents were outraged. International firms, angry at their operations being disrupted, reconsidered their investments in China. Mr Xi rewarded Mr Li, a close ally, by promoting him to the number-two spot on the Standing Committee; he is poised to become prime minister.

China's defenders like to claim that it is a model of good governance, more responsive to the people's wishes and more meritocratic than Western democracies. The elevation of Li Qiang suggests otherwise. The most important quality that leads to advancement seems to be obedience to Mr Xi—call it “meritocracy with Chinese characteristics”. In the face of criticism, Mr Li faithfully and ruthlessly implemented the president's “zero-covid” policy. This impressed Mr Xi, who says “perseverance is victory” when it comes to the virus. What Shanghai residents thought of it counts for little.

Surrounded by yes-men, Mr Xi will encounter little resistance to his agenda. This includes a larger role for the state in the economy, more “party-building” in private businesses and stronger links between China's tech firms and its armed forces and security agencies. Fearing such links, America has tried to hobble Chinese giants such as Huawei (see Business section) and launched a broader campaign to cripple China's technology sector. Mr Xi has signalled that he will respond by giving the state an even greater say in directing innovation.

That is a risky bet for China. Mr Xi's policies in his first two terms have dampened private-sector dynamism, cut China off from the world and locked it in a dangerous struggle with America (see Chaguan). But no one will tell Mr Xi that he is wrong. ■



Italy

An untried skipper

Giorgia Meloni has had a reassuring launch. But storm clouds loom

BRITAIN WAS not the only G7 country to gain a new prime minister in the past week. On October 22nd Giorgia Meloni was sworn in as the head of Italy's most right-wing government since the second world war. She has moved fast. Less than a month after her Brothers of Italy won more seats than any other party in a general election, Ms Meloni strode into the Quirinal Palace, an opulent former residence of popes, for her swearing-in ceremony. She has deftly put together a coalition government that looks as though it may last longer than Italians, and these days Britons, are used to. Liberals will not cheer. Many recoil at her party's opposition to abortion and gay unions (though she has promised not to change the status quo on either) and her unwelcoming attitude to irregular immigration. However, she offers

three main consolations (see Europe section).

She seems to be solid on Ukraine. She sees Vladimir Putin as the predator he is, not the defender of traditional values that some on the hard right imagine him to be. She went out of her way, in her first speech as prime minister to parliament, to stress Italy's support for Ukraine “not only because we cannot accept...the violation of the territorial integrity of a sovereign nation, but because it is the best way to defend our national interests as well”. Granted, her coalition partners, Matteo Salvini of the Northern League and Silvio Berlusconi of Forza Italia, have a history of sucking up to Mr Putin. But so dominant is her party within the coalition that they will find it hard to shift her on this essential question. Also, thanks to her predecessor, Mario ▶▶

▶ Draghi, Italy has done a good job of diversifying its energy supply. If a cold winter comes, this year or next, and Mr Putin tries to freeze Europe into giving up its support for Ukraine, Italy looks unlikely to prove a weak link.

Many have seen in Ms Meloni a female version of Viktor Orbán, Hungary's prime minister, who is constantly at loggerheads with the European Union over his regime's corruption and autocratic tendencies. But she does not seem to be spoiling for a fight with Brussels. As foreign minister she has chosen Antonio Tajani, a former president of the European Parliament. She looks likely to stick (with perhaps a little tweaking) to the economic reform plans agreed on between Mr Draghi and the EU—which come with a handy €200bn of EU cash, to be disbursed in tranches as the reforms progress. The markets seem to buy it. The spread between Italian and German government bonds is almost exactly where it was just before Mr Draghi resigned in July.

Ms Meloni's choice of finance minister has been closely scrutinised. She had wanted a respected central-banker type; and she failed to get one, which is discouraging. But the outcome has still been reasonable; the new minister is Giancarlo Giorgetti,

the deputy head of Mr Salvini's League. Although the League is still viewed as a Eurosceptic party, Mr Giorgetti comes from its pro-business wing. Indeed, the installation of Mr Giorgetti might even turn out to be a way of limiting the influence of the more fiscally reckless Mr Salvini.

So far, so relatively reassuring. But as the euro zone heads into probable recession, Italy offers more cause for alarm than any other EU member. It stubbornly refuses to grow, and Ms Meloni has yet to present any interesting ideas for changing that. Many observers fret that the reform process, which Mr Draghi did so much to propel, will now slow or reverse into statism and protectionism. Italy's huge debt burden (€2.7trn, around 150% of GDP) could grow unbearable if interest rates rise further. Just 45 years old, and with government experience limited to three years as youth minister over a decade ago, Ms Meloni has since then run what was until recently a fringe party that took only 4% in the election of 2018. She owes her current success to the fact that the other parties have had their turn and have disappointed voters. How she will weather the coming storm is unclear; and that should worry Italians and other Europeans alike. ■

Green manufacturing

The circular economy

Battery-makers are learning that recycling should not be an afterthought

MANUFACTURING IS A one-way business. Raw materials go into a factory and finished products come out. Once those goods are sold, producers (initial guarantees apart) usually wash their hands of them. Certainly they do not worry, unless compelled to by law, about how the products are disposed of. Most are burnt or rot in landfill, which pollutes the planet. In only 50 years the world's consumption of raw materials has nearly quadrupled, to more than 100bn tonnes, according to the latest Circularity Gap Report from the World Economic Forum. Less than 9% of this is reused, resulting in a big waste of materials.

Industry does talk about sustainability and recycling, but much of that is greenwashing intended to improve brand images. Yet in the circular economy the bottom line, too, can benefit from greenery. This is especially so in the case of "gigafactories", so called because their output of batteries for electric vehicles (EVs) is measured in gigawatt hours (GWh).

Every carmaking country wants gigafactories. Batteries are the costliest part of an EV, so making them is lucrative. But they contain materials such as lithium, cobalt, manganese and nickel that are pricey and can be hard to obtain. Supply chains are long and complicated. Buyers risk being tarnished by their suppliers' (or suppliers' suppliers') poor environmental and labour standards. Reusing materials makes sense.

Being new, most gigafactories are designed with recycling in mind from the start. The result is a circular production process, not a linear one. The idea is that once batteries reach the ends of their lives, they should go back to a factory, where their ingredients can be recovered and put into new batteries.

Gigafactories are not yet exemplars of the circular economy, but they are laying the foundations. Northvolt, a Swedish battery-maker, aims by 2030 to produce 150GWh of batteries—

enough to power some 2m EVs—from the three gigafactories it is completing. By then, around half its raw materials should come from recycling old batteries (see Science & technology section). Northvolt is not alone. Using recycling, renewable power and other measures, CATL—a Chinese firm and the world's biggest producer of EV batteries—thinks it should eventually be possible to shrink the carbon footprint of a battery towards zero.

Carmakers such as the Renault Group and Stellantis, owner of brands that include Fiat, Chrysler and Peugeot (and whose big shareholder, Exor, also owns a stake in *The Economist's* parent company), are both setting up circular-economy businesses. This is not just for batteries, but also for repairing and reconditioning parts and vehicles. Each of these operations will, bosses hope, have annual revenues of more than €2bn (\$2bn) by the end of the decade, and be profitable. Renault reckons around 85% of a car is recyclable, but only 20-30% of the materials in new vehicles are recycled, often from other goods. Circular manufacturing would greatly increase that share.

Could other industries do something similar? Fast fashion is a notoriously wasteful business in which little-worn clothes are burnt or dumped. America's Environmental Protection Agency estimates that the recycling rate for clothing and footwear is just 13%. A big part of the reason is the use of mixed textiles, which are hard to recycle. Clothing companies could, like gigafactories, re-engineer their processes to employ fibres that are easier to handle. Consumer electronics is another business that creates heaps of waste, despite electronic circuits containing precious materials such as gold and silver, and electric motors being made from rare-earth metals like neodymium and dysprosium. Fortunes could yet be made in the urban mining of last year's gadgets and yesterday's togs. ■



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Britain

Reasons to be cheerful, Pt. 3

Rishi Sunak's promise of stability is a low bar for British politics

THE CORONATION of Rishi Sunak as Britain's latest prime minister is at least a source of relief. In contrast to Boris Johnson, whose serial dishonesty led to him being turfed out of office in the summer, Mr Sunak can offer personal decency and a grasp of detail. After the fiscal recklessness of Liz Truss, whose disastrous tenure ended on October 25th, the country is now led by a former chancellor with a liking for sound money, who warned that her plans for unfunded tax cuts would lead to disaster. After three years of dishevelled bombast and a six-week spasm of revolutionary fervour, a period of wonkish orthodoxy beckons.

The markets like what they see: gilt yields fell when Mr Johnson decided he could not pull off a remarkable comeback and withdrew from contention. Mr Sunak has retained the reassuringly level-headed figure of Jeremy Hunt as chancellor. It is good that Tory MPs managed to make their own choice rather than again handing the decision to the party membership (see Britain section). As well as relief, there is justified pride at the country's first British-Asian leader.

But the sense of respite is overdone. Mr Sunak has good qualities but many flaws. The Conservatives know they need to unite but remain fractious. The relief is also damning. Competence ought to be a given, not an ambition. Even if his government provides stability, that is nowhere near enough. Productivity growth has disappointed for years; Britain is the only G7 economy still below pre-pandemic levels of output. Impoverished expectations lead to a more impoverished country.

Mr Sunak is regarded by those who have worked with him as a good administrator. His prescriptions for growth are broadly sensible: investment incentives, higher public spending on R&D and a proper skills agenda. But he is still inexperienced. He would not have become prime minister within seven years of becoming an MP if tests of ideological purity had not cleared much of the field for Brexiteers like him. The taboo that stops the Tories from thinking rationally about how to take advantage of Brexit is unlikely to end under him; it is ominous that a deeply thoughtless bill to get rid of all EU legislation by the end of 2023 continued to make its way through Parliament this week.

During the summer leadership campaign against Ms Truss he conspicuously dodged the hard choices around planning and housebuilding that are required to unlock growth. He was quickly bounced into making promises of his own to cut taxes. He has a tin ear: a row over the tax status of his wife, an heiress who saved herself millions while Mr Sunak was running the country's accounts, seemed to take him by surprise. He also has a penchant for bad policies (see Bagehot).

As for the party he leads, talk of Tory unity is wildly premature. MPs did coalesce around Mr Sunak, but picking him over Mr Johnson and Penny Mordaunt is hardly the stuff of Solomon. The fissures in the party run deep and in many directions. The new prime minister is still regarded with suspicion by some for his role in bringing down Mr Johnson. Members of the Eurosceptic right are drawing lines in the sand over Northern Ire-

land's trading arrangements with the European Union. The reappointment of Suella Braverman, a hardline Brexiteer, as home secretary, less than a week after she was forced to resign for breaching the ministerial code, is a clear victory for expediency over ability. Big tents are also for circuses.

And this is before the real pain bites. On November 17th Mr Hunt is due to lay out a medium-term plan that will combine tax rises and spending cuts. Although Ms Truss's tax cuts have been systematically undone and the fall in gilt yields has helped bring down the government's debt-interest costs, a fiscal hole of £30bn-40bn (\$34bn-46bn, or 1.4-1.8% of GDP) remains to be filled. Whatever Mr Sunak does, the coming months will be a grim saga of high inflation and rising interest rates, falling living standards and uncertainty over energy bills, widespread industrial action and creaking public services. His personal wealth, his Davos-man aura and the manner of his arrival in office are obvious lightning-rods for voter discontent. If Tory MPs become convinced that they are doomed to heavy defeat in the next election, the incentives to toe the party line will weaken again.

Another bout of Tory infighting would make the case for an early general election unarguable. If the malcontents stay quiet, the Sunak government may usher in a period of calm. A credible fiscal plan would mean lower interest rates than would other-

wise have been the case. Thoughtful policies on skills and investment, two of the big platforms for economic growth, could make a real difference. In the mid-1990s John Major and Ken Clarke acted as responsible stewards of the economy after a disastrous brush with the financial markets, and even though heavy defeat beckoned for the Conservatives at the next election. If it is Mr Sunak's fate to emulate them,

that would now be counted by many as a job well done.

This is a tragedy in itself. Expectations have been so reduced that not imploding is seen as the mark of a grown-up. Ms Truss is a contender for the title of Britain's worst prime minister. On a damage-done-per-day basis, she has no peers. Incredibly, she still seems unaware of how badly things went. She wanted to arrest declinist talk; under her, Britain became an object of ridicule. Yet she is not responsible for all that ails the country. The dysfunction in government, the years of slow growth, the inability to talk honestly about the costs of Brexit and the failings of the National Health Service—these problems all have deep roots.

Heaven can wait

Mr Sunak inherits an economy whose indicators are all flashing red. Instead of a jolt to growth from lower taxes, the tax burden is rising and the public services are set to deteriorate further. With memories of cartoon radicalism still fresh (cut taxes, stand back, self-immolate), all forms of unorthodoxy have become less palatable. But Britain needs more than stability. To break out of its low-growth rut, it also needs change: a bolder approach to building, a reimagined relationship with the EU and meaningful devolution of power to local authorities. Mr Sunak may be able to restore calm. Further sclerosis is likely to be the price. ■





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Eliminating world hunger

Despite the ambitious global goal to end hunger by 2030, including malnutrition, estimates in 2021 showed that 23% of children under five have had their growth stunted by a lack of food. Recent projections suggest this number will be reduced by only another 2% by 2030. The world must, and can, do better, so I was pleased to see you focused on the potential for rebalancing microbiomes as a strategy for accelerating progress toward this goal (“Gut reactions”, October 1st).

Increasing investments in the research and development of new approaches are vital to unlocking solutions that address the root causes of entrenched issues, such as malnutrition or low agricultural productivity for small-holder farmers. The Gates Foundation has seen the role of innovation and ingenuity accelerate, such as in drastically reducing child deaths and HIV infections. It’s why we’re encouraged by, and funding the work that icddr, b, a research institute in Dhaka, is leading and the WHO is testing.

MARK SUZMAN
Chief executive officer
Bill & Melinda Gates
Foundation
Seattle

Dead souls

Your article on rereading Russian literature in wartime quoted Oksana Zabuzhko, a Ukrainian writer, as saying that literature “is of one flesh with the society for which and about which it writes” (“The useful idiot”, October 8th). And Volodymyr Yermolenko, a Ukrainian philosopher, is quoted as saying that Russian literature is full of “imperialist discourse”. It is not clear what is meant by literature being “of one flesh” with a society. It suggests some kind of historical determinism that all authors contribute to. It ignores the fact that Leo Tolstoy was excommunicated by the Russian Orthodox church and that Fyodor Dostoyevsky gave

prescient warnings of the evils of Soviet repression. And the question arises whether this is also true of Boris Pasternak, Mikhail Bulgakov and Aleksandr Solzhenitsyn. “The Gulag Archipelago” is more a thorn in the flesh of Soviet society than as one with it.

The book challenged the reality and the society it was written in and showed a way to a different possible future rather than predetermining it to be imperialist and repressive. I was glad that *The Economist* did not fall into that trap and instead pointed to Mikhail Bakhtin’s idea of polyphony.

ERIK CLEVEN
Professor of politics
Saint Anselm College
Manchester, New Hampshire

I agree that abjuring Dostoyevsky’s novels may be counterproductive. For example, when Dmitri Karamazov (hours after bashing in his childhood caregiver’s head) tries to goad his paramour’s suitor into toasting Russia, the Polish officer offers a defiant “To Russia within her borders before 1772.” Reading that riposte today feels far more poignant than, say, ten years ago.

ALEX DEW
Salt Lake City

Exploring the brain

Your Technology Quarterly highlighted the research potential in neurosciences (September 24th). But it overlooked the yawning gap between treatments that already exist and what is actually available for those who need them.

Epilepsy affects more than 50m people worldwide. The least expensive anti-seizure medications cost less than \$6 a year, for treatment that can enable 70% of people with epilepsy to live seizure free. But that figure drops to about 50% in middle-income countries and 20% in low-resource countries. Harmful myths about epilepsy, widespread discrimination that is often enshrined in law, and a lack of global attention have turned a highly treatable brain disorder

into a condition that deprives sufferers of their human rights and kills at a rate three times higher than the general population.

In May 2022 at the World Health Assembly, a ten-year global action plan on epilepsy and other neurological disorders was unanimously approved by member states. The high health, economic and psychosocial burden of epilepsy was recognised and targets to increase awareness, replace discriminatory laws and expand epilepsy services were set. Research and technology can deepen our understanding and increase future options for people with epilepsy. But now is the time to act and at least make available what has already proved to be effective and already exists.

J. HELEN CROSS
President
International League
Against Epilepsy
Flower Mound, Texas
FRANCESCA SOFIA
President
International Bureau
for Epilepsy
Washington, DC

China’s educational edge

The briefing analysing the competition in innovation between America and China went into considerable detail (“Mothering invention”, October 15th) but never mentioned the fact that PISA testing of 15-year-old high-school students around the world in 2018 found that American students were about four years behind their Chinese peers in maths, three years behind in science, and almost two years behind in language skills. That’s a very important factor.

You also pointed out that although 60% of the best researchers in artificial intelligence are in America, a quarter of them are Chinese. These levels will probably decrease because fewer Chinese are now studying in America and the proportion of China’s “sea turtles” returning home after studying in America has been rising. Not to mention China phobia in

America. Meanwhile, China’s universities are improving. Tsinghua University is now reportedly a match for MIT.

LOYD ESKILDSON
Former chief deputy
superintendent
Maricopa County School
Superintendent Office
Phoenix

Italy responds

Reading *The Economist* is a pleasure for every diplomat. And, as the Italian ambassador to Britain, even more so since you dedicate constant attention to Italy, so much loved by the British people. Such is the case with your latest cover on “Britaly” (October 22nd), unfortunately inspired by the oldest of stereotypes. Although spaghetti and pizza are the most sought after foods in the world, for your next cover we suggest you pick from our aerospace, biotech, automotive or pharmaceutical industries to depict my country. Whatever the choice, it would cast a more accurate spotlight on Italy, and take into account your not-so-secret admiration for our economic model.

INIGO LAMBERTINI
Ambassador for Italy
London

In your leader, “Welcome to Britaly”, you compare Liz Truss to Larry the cat: “living in Downing Street but wielding no power”. This is an unfair and insulting comparison. Larry the cat has gone above and beyond his duties as chief mouser. He has full control over who comes and goes into 10 Downing Street, be it cats, urban foxes, pigeons, or Donald Trump. He has generated more positive PR for the office than any of his four former housemates. He deserves your apology (and a can of tuna).

DARA NIKOLOVA
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Adieu, laissez-faire

WASHINGTON, DC

Joe Biden is attempting the biggest overhaul of the American economy in a generation

ON A SNOWY day in January Joe Biden was due to visit Pittsburgh to talk about his plans for upgrading America's infrastructure. Just hours before he arrived, a bridge in the city collapsed. Five cars and a bus fell into the ravine below it. Mercifully no one died.

On October 20th Mr Biden returned to the site of the accident. Reconstruction would normally take at least two years. But thanks in part to a \$1.2trn investment in infrastructure that he signed into law, Mr Biden could boast that this time the bridge would be back up by Christmas. "For too long, we talked about building the best economy in the world," he said. "We didn't do it, but we're finally getting to it. We're getting it done."

That is most assuredly not the public's view. As the midterm elections draw near, negative perceptions about the economy may be the decisive factor in shifting control of Congress from Democratic to Republican hands. Poll after poll shows that the state of the economy is voters' number-

one concern. The recent surge in inflation, or "Bidenflation", as some attack ads have dubbed it, shows no sign of dissipating (see chart 1 on next page). Meanwhile, much of Mr Biden's agenda has fallen by the wayside: promises of universal pre-kindergarten, fatter family subsidies and an overhaul of health insurance have been undone by congressional gridlock.

It is easy therefore to conclude that, on the economic front, Mr Biden's first 20 months in the White House have been, at best, a missed opportunity or, at worst, a failure. That, however, is to overlook the changes that he has ushered in with three big pieces of legislation: the \$1.2trn infrastructure law, a \$280bn semiconductor-and-science act and a \$390bn climate-spending package. The three are framed as spending bills in part because bitter partisanship makes it almost impossible to get any other measures through Congress. But their intention is sweeping: to foster American manufacturing, succour the middle class and make the economy

greener, among other things. To achieve those ends, the laws seek to re-engineer America's growth model by according the state a crucial role in guiding investment at home and managing commerce abroad.

Inevitably, it has been dubbed Bidenomics. For decades American politicians and executives were highly sceptical about state intervention in the economy. They believed that industrial policy was inefficient and self-defeating, even if they resorted to it on occasion. America was instead the leading apostle of globalisation, seeking to cut tariffs and win its businesses unfettered access around the world. Donald Trump repudiated this view, scorning free trade and vowing to revive American manufacturing. But his policies were often half-baked and his administration chaotic.

It is under Mr Biden, therefore, that the shift has taken full effect (see chart 2 on next page). The debate within government circles is no longer about whether to pursue industrial policy at all, but about how to make it most effective. By the same token, the administration is not seeking to revive untrammelled globalisation; instead, it wants to isolate rivals and recraft commercial ties with allies.

It is an ambitious agenda, rivalling that of any president in recent decades. If it succeeds, it will change America dramatically, although there are many potential pitfalls. Even so, it is unlikely to help the Democrats in the midterms; inflation is too big a

▶ millstone around their necks.

The White House tries to deflect complaints about galloping inflation by pointing out that it is a global phenomenon and that, anyway, it is the job of the central bank to wrangle it. That is true, but ignores the part Mr Biden has played in spurring it. In July economists with the Federal Reserve estimated that fiscal policy had added about 2.5 percentage points to America's annual inflation rate. In other words, nearly half of America's "extra" inflation, relative to its pre-pandemic norm, is attributable to the government's profligacy.

Mr Biden is not the only spendthrift. Donald Trump signed into law more than \$3trn in stimulus in 2020, to counteract the pandemic. Mr Biden's contribution was the \$1.9trn American Rescue Plan (ARP), passed in March 2021, which included cheques for households, more generous unemployment benefits and funding for state governments.

But whereas Mr Trump's stimulus arrived when America was suffering the economic equivalent of cardiac arrest, Mr Biden's came as it was staging a healthy recovery. He injected so much money into the economy (a deficit of more than 10% of GDP for a second straight year) that demand for goods swelled massively—and with it, inflation.

Mr Biden's advisers counter that the great inflation is better viewed as a great job recovery. The numbers are indeed impressive: America has swung from an unemployment rate of 15% in mid-2020 to just 3.5% now, matching its lowest in 50 years. Yet it is wrong to think that Mr Biden's stimulus was needed in order to achieve this. The recovery in the job market was well under way before he took office, mirroring the economic improvements in other countries as they put covid-19 behind them. The more salient fact about the American labour market is how extraordinarily tight it is: there are roughly two job openings for every unemployed person. This imbalance, the worst in decades, is yet more evidence that Mr Biden's

stimulus helped overheat the economy.

The passage of the ARP also proved to be a pyrrhic victory. As inflation picked up, enthusiasm for big new spending commitments waned. Joe Manchin, a Democratic senator from West Virginia who in effect wielded the deciding vote in the evenly divided Senate, objected to most of Mr Biden's social policies, from government-funded day care to heftier tax credits for families with children. Mr Biden's "Build Back Better" bill, which once carried a price tag of \$3.5trn, was shorn of its social content, whittled down to less than \$1trn and renamed the Inflation Reduction Act (IRA), although over half the money was for climate-related investments.

In total, the three Bidenomics bills (infrastructure; semiconductors and science; and climate) mandate about \$1.7trn in investments over the next decade. Relative to America's giant economy, that is unspectacular: on an annual basis, they represent less than 1% of GDP.

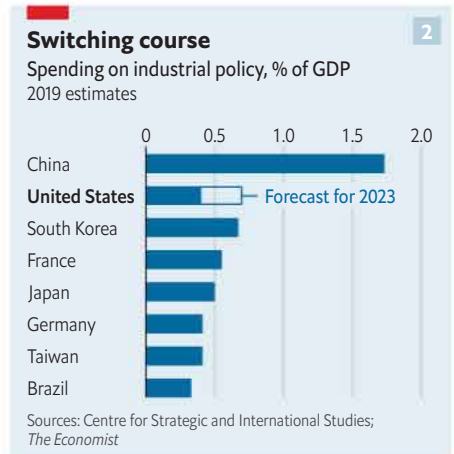
Multiplying multipliers

But the public purse is a powerful thing. It has a unique capacity to catalyse private investment. Take the spending devoted to semiconductors. Some \$39bn will go towards incentives such as tax credits for new manufacturing facilities. The ink on the subsidies is barely dry, but they have already prompted an investment boom. Intel talks of spending \$100bn in Ohio and Micron \$100bn in New York, while other firms such as Qualcomm and Wolfspeed are also opening their wallets.

The coming splurge on clean energy is likely to be even bigger. In total, encompassing the three big bills, America now has a climate budget of roughly \$500bn. "Together, these bills give the federal government an unprecedented set of tools," John Podesta, the Democratic operator managing the climate funds, said in a speech this month.

Some of the pot will provide incentives for the manufacture of lithium batteries, offshore-wind installation vessels, carbon-capture facilities and more. Most tantalising, though, is the portion that will go into research and development. Even those sceptical about America's capacity to implement a successful industrial policy are more optimistic about the government's role in supporting innovation. After all, the Defence Advanced Research Projects Agency (DARPA), an arm of the Pentagon, has a spectacularly good record of doing just that, having helped develop such ubiquitous technologies as GPS and the internet.

Bidenomics can be seen as an attempt to mimic DARPA's approach in fields other than defence, especially clean energy. The Biden administration has doubled funding for research, created institutions to dem-



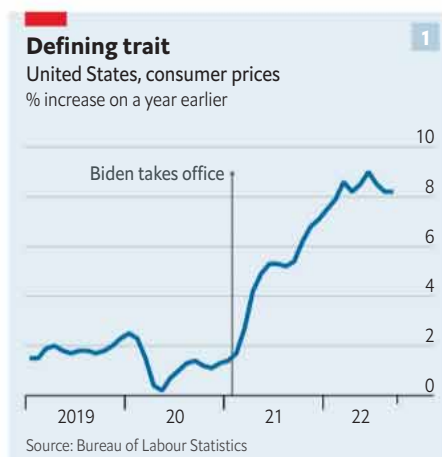
onstrate how novel technologies work and started to exploit its procurement power in order to gin up demand for them. In short, it is working to foster a chain from innovation to adoption for cutting-edge products.

The various subsidies and incentives will be integral to getting American businesses and consumers to opt for cleaner sources of power. Before the IRA and the infrastructure law were enacted, America's emissions of greenhouse gases were on course to fall by 30% from the level of 2005 by 2030. Now, the Department of Energy estimates and independent researchers concur, they will drop by about 40%. The increment is equivalent to about two years' worth of emissions from Britain.

If the Democrats (and economists) had their way, America would have imposed a price of some sort on carbon—a much more efficient way to achieve the same goal. But they failed repeatedly to get such a measure through Congress and paid an electoral price for trying, as Republicans painted them as anti-growth. The lavish spending on clean energy is a more politically palatable alternative. It so happens that the two states adding the most new-energy jobs carry political weight. One is Michigan, a perennial battleground; the other is Texas, a Republican bastion that Democrats dream of flipping.

By the same token, Bidenomics's industrial policy can be seen as a way of counteracting the decades-long erosion of well-paid, blue-collar jobs that has been a source of dismay for Democrats, in particular. For manufacturers to obtain tax credits in full, they will have both to pay workers well and to provide apprenticeship programmes. The IRA, for instance, requires apprentices to do at least 15% of the work on construction sites it funds by 2024.

Democrats believe that these requirements will help generate both a bigger pool of skilled workers and a bigger supply of well-paid jobs. Even if the change is only marginal, a few high-profile investments in the rustbelt offer voters a glimmer of hope. Ohio is getting electric-vehicle bat- ▶▶



▶ tery factories; West Virginia wind farms and Pennsylvania robotics manufacturers.

Bidenomics does not stop at America's borders. The White House has also been working to recraft the terms of America's commerce with the world. There is a tricky balance to strike. On the one hand, the president has tried to repair relationships with allies that were neglected or damaged by Mr Trump. On the other hand, a slightly more sanitised version of Mr Trump's America-first worldview animates many of Mr Biden's policies. He has all but shut the door to conventional trade talks. He has strengthened "buy American" commitments in federal procurement rules. And some of the tax credits offered under the new industrial policy will only be available to firms that meet thresholds for domestic content and production, much to the ire of America's trading partners.

But the Biden administration is establishing ways to co-operate with allies short of trade agreements. With Europe it launched a Trade and Technology Council (TTC), a forum to ensure that the West follows a consistent approach in its technological rivalry with China. In Asia it created the Indo-Pacific Economic Framework, a forum to promote co-operation on everything from border checks to decarbonisation, although most notable for its exclusion of China. To their detractors these all look rather underwhelming. Katherine Tai, the United States Trade Representative, insists that they will yield concrete benefits. "We're designing them to be platforms that can evolve as the global economic situation evolves," she says.

The Biden administration talks of "friend-shoring", a desire to strengthen trade with allies and steer it away from adversaries. America's trading partners, however, complain that the emphasis has been more on shoring than friendship. Their companies have little choice but to invest in production facilities in America if they want a slice of its subsidies. This may wind up as the first real test of the TTC: European diplomats have indicated that they intend to raise their grievances at their next ministerial meeting in December. If that fails, they may make a formal complaint to the World Trade Organisation.

For friend-shoring to work, the White House will have to make its buy-American rules more flexible. Promisingly, it has adjusted domestic-content requirements for electric vehicles to include parts made in Canada and Mexico, although not other countries with which America has free-trade deals. One way to dispel objections elsewhere would be for America to resume and expand free-trade talks with the European Union and Asian allies, although the Biden administration has so far shown little interest in that. Ms Tai is unapologetic about Mr Biden's focus on investment at

home. But she is also optimistic that America and its allies can work together to strengthen (meaning China-proof) their supply-chains.

Mr Biden does seem to be having some success in fusing security and economic objectives, especially regarding China. China has made this easier for America in two ways: its support for Russia's war on Ukraine has deepened distrust in Europe and its zero-covid policy has shaken the faith of business globally. This has allowed the Biden administration to tighten its rules on technology transfers. Its latest export controls, announced on October 7th, bar anyone with American citizenship or residency from supporting the development of advanced chips in China—an expansive measure that could hobble China's leading semiconductor firms. The impact on the Chinese economy is likely to be bigger and more lasting than that from Mr Trump's helter-skelter trade war.

So far, at least, America appears to have the acquiescence of allies, including the Netherlands and Japan, the two countries that produce the most sophisticated chip-making equipment. In part that it is because they are simply unwilling to end up on the wrong side of American laws. But an absence of carping also points to another conclusion: that the Biden administration is working well with its friends where it matters most.

The thread running through Bidenomics is a belief that a more interventionist state can shape economic outcomes, both at home and abroad. This was evident in the giant stimulus package at the outset of Mr Biden's presidency, and has underpinned the administration's fondness for industrial policy and its attempts to redraw the lines of international trade. Although politics stripped Bidenomics of much of its social policies, it has still gone further than many thought possible even a

few months ago in reshaping both domestic industry and global commerce.

Yet there are plenty of reasons to think Bidenomics may go wrong. Despite all the successes of DARPA, recent American history is littered with examples of state-backed industrial initiatives that have sputtered, from Solyndra, a government-supported solar company that went bust, to lavish tax subsidies that failed to secure a big investment in Wisconsin from Foxconn, an electronics manufacturer. Electronics firms are spending record sums on lobbying, a bad sign. And convincing allies that America can both subsidise domestic industries and remain an open and fair trading power will not be easy.

Venture bureaucrats

Doing so much at once will also be a huge practical challenge for the government. It will need to hire lots of experienced managers to oversee its sprawling industrial plans, on public-sector wages. They in turn will have to choose worthy recipients for subsidies, monitor their progress and cut them off if necessary. The ever-growing web of domestic incentives, meanwhile, might spark a wasteful and inefficient global subsidy war.

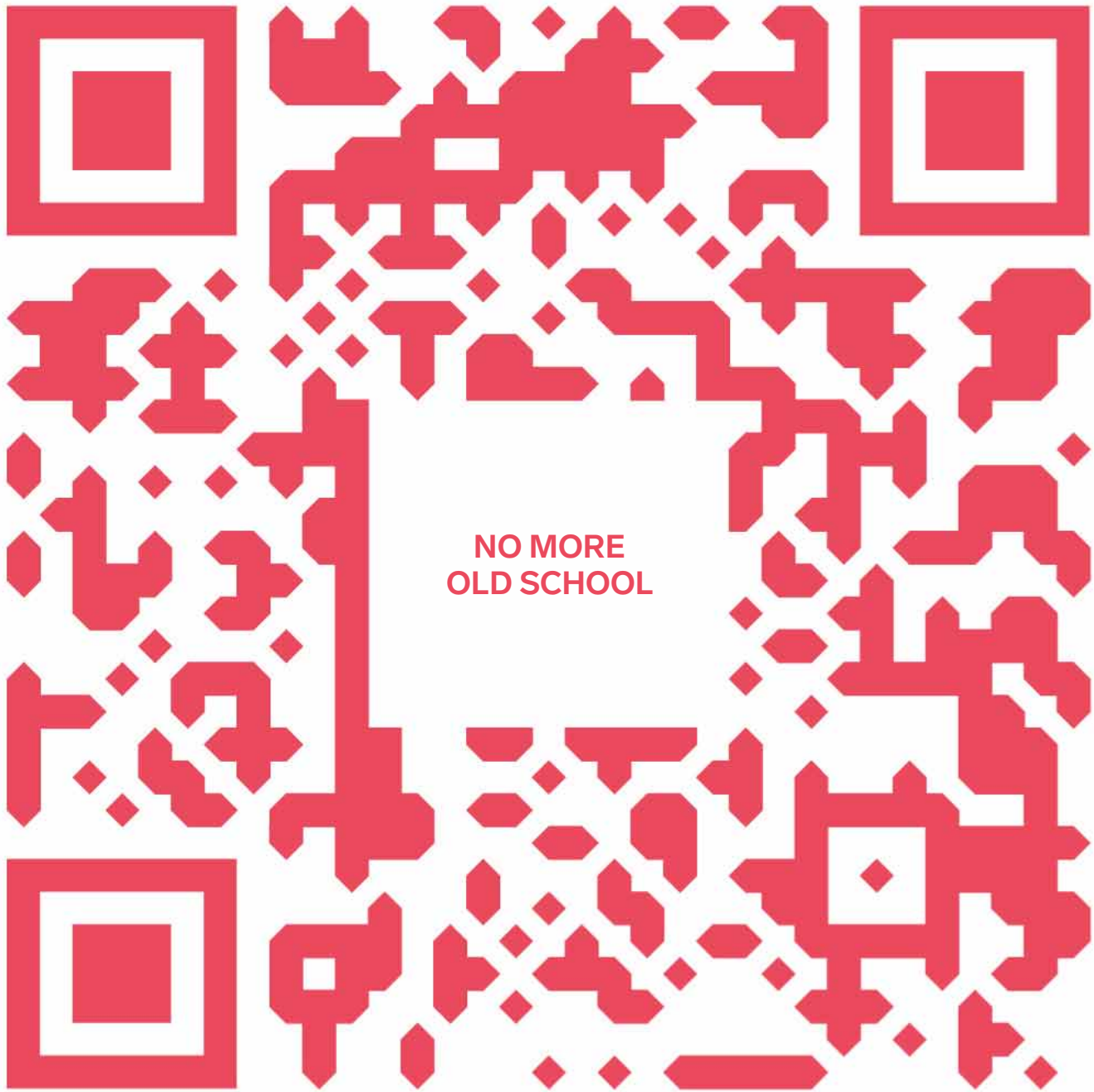
Politics will add to the complexities. Should either chamber of Congress come under Republican control in the midterms, progress on Bidenomics may slow to a crawl. About \$200bn of its funding for R&D will need to be approved as part of the annual budget process. And Republican-led committees will gleefully start investigating any money that has been poorly spent under Mr Biden's three acts.

But Bidenomics may also exceed expectations. Its industrial policy is not as heavy-handed as some: it aims to create incentives for firms to enter certain industries rather than to pick corporate winners. As an administration official says, the White House is full of "reluctant generals", wary of the pitfalls of government intervention but persuaded that it is the best way forward. The fact that they approach industrial policy with healthy scepticism rather than unbridled enthusiasm may help ensure that programmes are better designed.

There is a degree of bipartisan support for the infrastructure and semiconductor laws, as well as for a tough stance against China, which should give those policies more heft and durability. And crucially for the rest of the world, all the new spending on renewable energy and electric vehicles is likely to make America's growth greener.

In the final days before the midterms most talk about the Democrats' performance in power will focus, understandably, on inflation. But the effects of Bidenomics are likely to be more lasting. At stake is nothing less than the nature of America's economic model. ■





#ModernMBA



The midterms

The anti-democracy front

PHILADELPHIA

The radicalisation of the Republican Party has already become normalised

IF YOU LEAVE the press area, you will be physically removed,” your correspondent is admonished by a campaign worker as he enters an American Legion hall in the town of Easton, Pennsylvania. Trips to the toilet and to get water are permissible with an escort. Some 200 people are assembled—many sporting red “Make America Great Again” caps, one proudly wearing a shirt saying “ULTRA MAGA”. They are all here for Doug Mastriano, the Republican nominee for governor in the state, and perhaps the most extreme candidate for governor running in this election cycle.

Mr Mastriano, a former army colonel and current state senator, did not just believe that the presidential election of 2020 was stolen from Donald Trump because of voter fraud. He bused dozens of stop-the-steal enthusiasts to the president’s rally in Washington, DC, on January 6th 2021. He was photographed at the Capitol before it was overrun by Trump supporters (though he maintains that he did not enter). And he

has appeared at conferences affiliated with QAnon, a far-right conspiracy mythos.

“We are the seed of the nation, we are the holy experiment,” Mr Mastriano says at his rally, where he pledges that, on day one, he will ban critical race theory in schools, mandatory covid jabs and any form of “gender transition for minors”. The lost status of Christianity is a recurring theme. “We’ve seen now it’s open season, you can mock Christians for their faith and it’s not a problem. What other faiths are doing you

can’t touch,” he says. Campaign posters at the event include a quotation from John 8:36: “If the Son therefore shall make you free, ye shall be free indeed.”

To Josh Shapiro, his Democratic opponent and the state attorney-general, a victory for Mr Mastriano would constitute an existential threat to the republic. “I have run against I think seven Republicans in my lifetime,” says Mr Shapiro after a campaign event outside a grocery store in South Philadelphia. “I never worried in any of those races that their victory would mean the end of the institution that I was hoping to serve. Doug Mastriano has shown that he doesn’t value democracy. He doesn’t value personal freedom. And he’s made clear that unless you think like him, unless you look like him, unless you pray like him, unless you vote like him, you don’t count in Pennsylvania.”

Mr Shapiro’s conviction that Mr Mastriano was so cataclysmically unfit for office also led him to conclude that he would be the easiest opponent. He spent an estimated \$855,000 on advertisements to boost Mr Mastriano’s chances during the Republican primary—more than double what Mr Mastriano spent on his own ads. Even though Democrats claim that the risks are existential, they were willing to make rather risky bets.

If Mr Mastriano were to win, he would be in place to certify the result of the 2024 ▶▶

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presidential election, in which Mr Trump is widely expected to run again. Mr Mastriano could well refuse to do so in the case of a narrow Republican loss. That would risk a political crisis even larger than the one experienced in 2020. And the trend is not limited to Pennsylvania.

In Arizona Republicans have nominated Kari Lake for governor, a pugnacious former television anchorwoman whose campaign's *raison d'être* has been rejecting the "shoddy, shady, corrupt election". (Governor Ron DeSantis of Florida, often described as a more moderate successor to Mr Trump, has happily campaigned for both Ms Lake and Mr Mastriano.) In Michigan Tudor Dixon, a conservative commentator, endorsed the myth of the stolen election before her primary—and has now moderated in the general election to a position of ignoring the question when it is posed to her. In Wisconsin Tim Michels refuses to say whether he would certify the result of the 2024 election.

These are four of the most hotly contested states in the country, where the slim margins of victory for Mr Biden ranged from 0.3 percentage points to 2.8. In 2020 Mr Trump and his allies waged a pressure campaign on the Republican governors of Arizona and Georgia to overturn the results in their states (both men resisted). Should even one member of this anti-democratic front be in charge of state elections, the chances of such a scenario would suddenly become much higher.

Look farther down the ballot, too, and concerning signs emerge about the new Republican Party. Some of the candidates running to be secretaries of state, who oversee elections in many states, are among the most ardent believers in Mr Trump's lies. They include Mark Finchem in Arizona, a past member of the Oath Keepers militia and another attendee at the January 6th rally at the Capitol, and Kristina Karamo in Michigan, who rose to fame after claiming she witnessed election fraud in Detroit.

Republicans in the House of Representatives, a majority of whom voted to overturn some of the 2020 election results, are likely to become even more extreme. Marjorie Taylor Greene, a far-right congresswoman who was stripped of her committee assignments because of her conspiratorial statements about Jews and school shootings, is openly taunting Kevin McCarthy, the presumptive speaker of the House if Republicans win the chamber, about the need to delegate significant power to her and her ilk. In the modern Republican Party, it seems, election denial comes with a political premium, not a penalty.

Despite the best efforts of Democrats, these midterms do not look like being a referendum on the increasingly institutionalised anti-democratic tendencies of

the right. With a few exceptions, after winning their primary contests most Republicans have de-emphasised the relitigation of the last election, as they seek to widen their appeal beyond the party base. They have more or less successfully defined the race as a referendum on Mr Biden's leadership, crime, culture-war excess, education, inflation and immigration.

After a hopeful summer for Democrats in the wake of the Supreme Court's unpopular ruling on abortion, the national environment has recently soured for the party in power, which now fears it may lose even the governorships of Oregon and New York (see next story). It is normal to see a backlash in midterm years. This time, though, it would come with an unfortunate side-effect: the continuing moral rotting of a previously grand old party. ■

Hochul v Zeldin

Down to the wire

NEW YORK

New York's Democratic governor faces a stronger challenge than expected

THE FOOTAGE is chilling. Without provocation, a man charges at another man walking along a subway platform, pushing him onto the tracks. Luckily, the victim was not hit by a train, though he was injured by his fall. By October 24th crime in New York City's mass-transport system was up by 42% this year, with 1,865 incidents, over the same period in 2021. Since January nine people have been murdered in the subway. Lee Zeldin, who is running for governor of New York state, blames the incumbent, his Democratic opponent.



Not so easy for Hochul

"This is the dangerous reality of life in Kathy Hochul's New York," he tweeted.

For months Mr Zeldin, a congressman representing eastern Long Island, has been saying that Ms Hochul is not doing enough about crime. He promises to declare a crime emergency. He wants to remove Manhattan's progressive district attorney and to suspend cashless bail. Although murders are down by 14% in New York City since last year and crime is more than 70% lower than it was at its peak in the early 1990s, many New Yorkers feel unsafe.

His message is resonating. Polls show the race is narrowing to single digits. Just a month ago Ms Hochul, who became governor after Andrew Cuomo resigned in disgrace in 2021, was nearly 20 points ahead.

Mr Zeldin's momentum has rattled her. Until now, "she has run this rose-garden campaign", says a senior Democratic strategist, sticking to big, official events. Her television ads emphasised Mr Zeldin's opposition to abortion, his ties to Donald Trump and his vote to overturn the results of the 2020 election. After the Supreme Court's decision removing the right to abortion, Democrats were "on a sugar high", says Jessica Taylor of the *Cook Political Report*, a non-partisan newsletter. But people eventually became more concerned about the economy and crime. Democrats, including Ms Hochul, could point to promising statistics and actions, but those do not match what people are feeling.

The tougher-than-expected challenge has forced Ms Hochul to pivot. A recent ad says she is working for "a safe walk home at night. A subway ride free of fear." On October 22nd she and Eric Adams, who won the New York City mayoral election by promising to keep the city safe, unveiled a plan to flood the trains and platforms with police and provide more beds for the mentally ill. Nicole Gelinas of the Manhattan Institute, a New York think-tank, is sceptical. "It's not a well-thought-out plan. You can't put 1,200 people on overtime around the clock indefinitely." Polls, not crime statistics, she says, are driving this new push.

To win, Mr Zeldin needs some Democrats to cross party lines. Although Republicans, such as George Pataki, who won three terms as governor, have been elected in the state, they were usually more moderate than Mr Zeldin. The Pataki model suggests about 30% of New York City's vote is required. Jessica Proud, a state Republican Party spokesperson, says Mr Zeldin could get 36-37% thanks to his efforts with "non-traditional Republican voters". The party has made inroads among Asian-Americans, who have been victims of hate crimes over the past two years. Mr Zeldin is also hoping to appeal to Jewish voters. Ms Gelinas points out that Democrats used to be paranoid about the left. "It's time to be paranoid about the right." ■

Polling misses

A signal of noise

WASHINGTON, DC

Democrats are polling best in states where surveys tend to misfire

MIDTERM MATHS



WHETHER DEMOCRATS are favoured to win a majority of seats in the Senate depends on whether you trust the polls. *The Economist's* aggregate of publicly available pre-election surveys puts the party ahead in 14 of the 35 Senate seats up for re-election this year. That would give the Democrats 50 senators, including the 36 seats that are not being contested this time. Among the ten most-competitive states, our poll-of-polls suggests Republicans are favoured to gain a Senate seat in Nevada, but lose one in Pennsylvania.

But recent history suggests Democrats will underperform those numbers. In 2016-20 our aggregate of polls overestimated the share of the vote that Democratic candidates for senator and president ultimately won by an average of 2.2 percentage points across every state polled (see chart). Although pollsters updated their methods to try to iron out such errors, in 2020 the bias grew to 2.5 points. Even in 2018, when the pollsters did well on the whole, they undercounted Republican support in key states such as Ohio and Michigan.

The numbers now look rosier for Democrats in the states where polls have recently been least reliable. Take Ohio. Our poll-of-polls, which adjusts for a variety of factors, including whether a firm has been biased towards one party historically or if the survey was conducted for a partisan client, currently pegs support for Tim Ryan, a

Democratic congressman, at just over 49%. That is three percentage points higher than the average vote share for Democratic candidates in the state's Senate or presidential elections since 2016.

A similar pattern is repeated across the country. Democrats are beating expectations by more than two points in Iowa, where polls have overstated Democratic vote shares in recent elections by nearly four points. In Kentucky, where polls tend to overshoot for Democrats by four points, the party is up by two points over past benchmarks. This does not guarantee that polls are artificially good for the Democrats. But the fact that the party appears to be doing best in places where polls routinely overestimate their support is cause for scepticism.

Another indicator comes from *The Economist's* weekly polling with YouGov. On September 26th YouGov adjusted its methodology to balance its sample by party affiliation, in addition to its previous adjustments for demography and the results of the 2020 election. The change ensures that the share of self-proclaimed Republicans and Democrats in the poll does not drift too far from the long-run average. The adjustment has helped Republicans. Before the modification, 44% of registered voters YouGov interviewed said they were going to vote for Democrats in the midterms in their congressional district, and 39% for Republicans. That five-point margin has slipped to an average of just one point after the change in methods: 45% of voters say they will vote for Democrats and 44% for Republicans.

If polls are indeed overestimating the Democrats' chances of winning, what can be done? Election-forecasting models, such as our own, usually assume that polls will be unbiased across the country, but explore thousands of scenarios for what would happen if they were biased, and by how much. If Democrats beat their polls by three points, how many seats would they win? If they lag by five, how many do Republicans get? But another technique is to assume that the polls will be biased by the magnitude of their recent errors.

Adjusting the polls in this way shows the Democrats are severe underdogs in North Carolina, Ohio and Wisconsin, and in very close races in Pennsylvania, Georgia, New Hampshire and Arizona. There is no way to know if adjusting the polls is the right thing to do. In the past, a polling average which adjusted its vote share for Democrats based on previous misses would not have outperformed a neutral poll-of-polls. Still, the fact that polls overestimated Democrats almost everywhere in 2016 and 2020, and in more-Republican states in 2018, suggests that future errors may be more predictable. If that is the case, Democrats should be worried. ■



Worries about Ukraine

Dirty secrets

WASHINGTON, DC

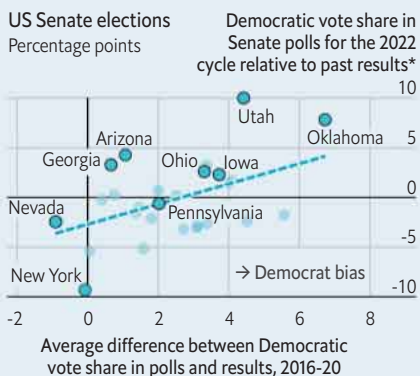
The claim of a Ukrainian "dirty bomb" has got America's attention

WHEN JOE BIDEN evoked "Armageddon" earlier this month, many thought the president overstated the danger of nuclear war with Russia. Yet nervousness about escalation is now more palpable in Washington. The latest cause is Russia's charge that Ukraine is planning to set off a "dirty bomb"—a conventional device that spreads radioactive dust—and blame Russia. America, Britain and France dismiss the claim as "transparently false". The matter is murky; and when it comes to nukes, the fog of war is troubling.

Adding to the concern, both Russia and NATO are in the midst of nuclear exercises. On October 26th Vladimir Putin, Russia's president, monitored the start of the Grom, or "Thunder", exercise (pictured), which simulated "a massive nuclear strike in response to an enemy nuclear strike" with all three legs of the triad: land, sea and air. Russia gave notice of the drills under New START, an arms-control treaty. America says it has seen no sign of Russia preparing to use tactical nuclear weapons soon. But officials' public statements hint at reasons to worry, not least because Russian forces are on the back foot in Ukraine.

In recent days Mr Biden, as well as his senior security and military officials, have spent hours discussing the dirty-bomb claims. Russia's defence minister, Sergei Shoigu, called his American, British, French and Turkish counterparts on October 23rd. The Russian chief of military staff, Valery Gerasimov, has similarly been

Far out



*Average vote share in Senate and presidential elections, 2016-20
Source: *The Economist*

▶ in contact with senior Western brass, who in turn have spoken to Ukrainian commanders and each other. The intensity of Russia's effort is unusual, and may be more than propaganda.

Western officials offer several hypotheses. One is that Russia itself is planning to detonate a dirty bomb as a "false-flag" incident to justify the use of nuclear weapons, now or in the future. (Mr Biden warns that such a move would be an "incredibly serious mistake"). Other possibilities are that Russia is "playing mind games", is trying to get the West's attention for diplomacy, or is just paranoid about Ukraine's intentions.

Strikingly, some in Washington even speculate Russia may have picked up genuine intelligence that someone in Ukraine is planning a dirty bomb. That the thesis is entertained at all suggests a certain distrust of Ukraine's actions. A car-bomb in Moscow in August that killed Daria Dugina, a nationalist pundit, has stirred American suspicions that Ukraine does not tell the West everything it is doing. At the least, America thinks keeping open channels of communication to the Kremlin is important in managing nuclear dangers, and Ukraine has none to speak of.

In helping Ukraine's war effort, the West has sought to avert both a Russian victory and nuclear escalation. For instance, it has not sent ATACMS missiles with a range of 190 miles (300km), which would more than triple the reach of the GMLRS guided munitions currently used with the cherished HIMARS launchers.

Rather than seek a quick victory, the Biden administration is thus committed to backing a long war. This raises the risk that support for Ukraine will weaken—not just among European allies, who face an energy crunch with the approach of winter, but also in America.

Republicans may win control of one or both chambers of Congress in midterm elections next month. Kevin McCarthy, the Republican leader in the House of Representatives, declared that Congress would not give a "blank cheque" to Ukraine. On the left, meanwhile, a group of 30 representatives signed a letter urging Mr Biden to pursue more intense diplomacy to achieve a ceasefire. These signs of growing disquiet about the cost and risks of the war have brought a backlash against those who would abandon Ukraine. Mitch McConnell, the Republican leader in the Senate, called for more arms to be sent to Ukraine, and faster. The progressives promptly retracted their letter for fear of being lumped in with America-first Republicans.

The likelihood is that Mr Biden will be able to keep arming and financing Ukraine well into next year, especially if it keeps making progress on the battlefield. But nuclear jitters will persist for as long as the fighting grinds on, and may yet worsen. ■

Trick or treat

Skeletons out of the closet

PALO ALTO

The wonders of Halloween competition in Silicon Valley

RIVALRY BETWEEN Apple and Google has often been fierce. Sometimes it has played out in the courts. But once a year their competition has also been visible on the streets—in the form of Halloween decorations.

Steve Jobs started it. In the 1990s, when Apple's co-founder had young children, come October the front garden of his rambling English cottage in a leafy Palo Alto neighbourhood sprouted gruesome decor—not just skeletons and pumpkins but sound effects and special lighting—leading to a cauldron overflowing with dry ice at the front door. Jobs himself could be spotted handing out (now defunct) Odwalla health bars, an annual disappointment for trick-or-treaters who heard rumours of free iPods. The family later upgraded to goody-bags that included Toblerone.

When Larry Page, co-founder of Google (now Alphabet), moved into a home on a cul-de-sac round the corner some years later, he was not to be outspooked. His displays had themes: a carnival one year, a Little Red Riding Hood forest the next. Jobs died in 2011, but his widow continued to match Mr Page's shows. Neighbours recall hundreds of carved jack-o-lanterns illuminating the apple orchard outside the Jobs home, and actors dressed as monsters playing hockey in the driveway.

Others joined in. Not far away Yahoo's former boss, Marissa Mayer, took to handing out king-size candy bars and

stuffed animals.

The tech titans' glitz and goodies drew growing crowds and hour-long queues. Locals have mixed feelings that a hometown tradition has become a regional attraction. "People here love community events so much that they risk suffocating them to death," says Pat Burt, Palo Alto's mayor, while cycling through the neighbourhood.

Some neighbours in the vicinity of the Jobs and Page homes lock their doors during the holiday, tired of bulk-buying candy for what they reckon can be thousands of roaming trick-or-treaters. Others a few blocks away have enhanced their own decor, in an effort to lure in those who park in front of their driveways but head straight to the Jobs house. "I tell the kids they can take two candies!" says one resident.

Neither the Page nor the Jobs house was yet decorated when your correspondent visited the neighbourhood this week. But Ms Mayer's home—with pumpkins forming an archway over her front door, witches' hats hanging from the trees, and twinkly lights—hinted at what was to come. As usual, the city has issued permits allowing Halloween activities to spill into the streets. The pandemic prompted some trick-or-treaters to stay at home last year and tech moguls to scale down their displays. It seems unlikely, however, that their Halloween excess will remain merely a haunting memory.



A little competition goes a long way

School catch-up after covid-19

Mountains to climb

America risks fumbling its chance to help schoolchildren catch up

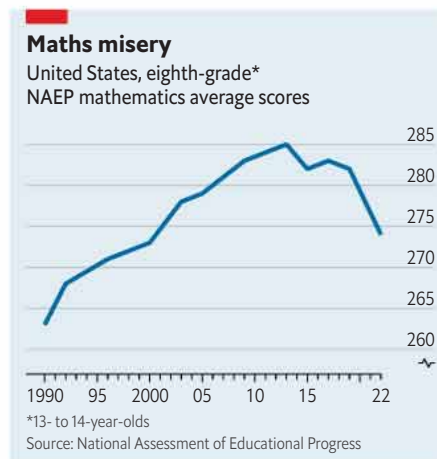
HAVING STRUGGLED through some of the rich-world's longest school closures, America's pupils have fallen far behind. Nationally representative data released by the government on October 24th show that, since the start of the pandemic, scores in reading and maths have dropped back to levels of 20 years ago (see chart). Numeracy has suffered its biggest decline since comparable testing began in the early 1990s. Miguel Cardona, President Joe Biden's education secretary, told journalists the numbers were "appalling and unacceptable". How America responds, he said, will affect its "standing in the world".

The depressing findings of this year's National Assessment of Educational Progress, tests that are sometimes called "the nation's report card", outline the grim task facing America's schools. Although lawmakers have sent them historic amounts of money, not all of it is being well spent. Over the summer analysts at NWEA, a test provider, reported that learning is starting to recover. But they guess it could take three to five years for grades in elementary schools across the country to return to pre-pandemic levels, and longer for older kids. Millions of youngsters will have aged out of school—or dropped out—before then.

Financially, at least, America's schools have been fairly well supported. Some \$190bn of federal relief money has flowed to schools since the start of the pandemic, equal to about one-quarter of what America spends on public schooling in a normal year. More than one-third of this was used setting up remote learning, and on safety measures (such as masks and screens) that teachers and many parents deemed essential for classrooms to reopen.

The pressing question is how school districts should invest a \$122bn windfall which Mr Biden signed off in March 2021. It is meant to be spent by the end of 2024. But there are few rules about what it may be used for, notes Vladimir Kogan at Ohio State University. Only 20% of it has to go on schemes that aim to get children's learning back on track.

School districts that are taking catch-up seriously have converged on similar strategies. Some 70% of districts have created or expanded summer-school programmes at some point during the past two years, says Heather Schwartz of RAND, a think-tank that has been polling school leaders. They are hiring more counsellors and so-



cial workers to help children who have lost interest in their studies. They are often investing in tutoring, by far the surest way of accelerating learning.

Yet some good ideas are going begging. Not many districts have chosen to add hours to the school day or weeks to the school calendar, according to RAND's study. That is a missed opportunity: in many bits of America the school year is short by international standards. Schools are also swiftly discovering that there are not nearly enough temporary tutors and substitute teachers available for clever catch-up schemes to work on the scale that is required. In that context, paying existing staff for more work seems smart.



The future at stake

Some districts have used relief money to put off unpopular decisions, says Marguerite Roza, who studies education finance at Georgetown University. Even before the pandemic many were seeing enrolment decline. Some are now using federal funds to delay inevitable downsizing. At least some schools have created extra staff-training days without lengthening the school calendar. Their pupils are getting even less class time than usual.

Many districts are spending big dollops of their relief money on infrastructure, with the government's blessing. That includes new and improved air conditioning; sprightlier classrooms and more computers. These kinds of projects have long been demanded by unions and in most cases will benefit children. But they hardly seem good ways of tackling the emergency at hand. They also risk diverting the energy and attention of school administrators who are supposed to be making sure that catch-up schemes pay off.

Educators in some circles still shy away from talk of "learning loss". They prefer to say that children are suffering "unfinished instruction" or "interrupted learning"; they insist that children learned other types of lessons during the pandemic. Parents are not always pushing them. Only 9% think their child's learning will not be back on track within a year or two, according to a survey for *Education Next*, a journal. Two-fifths think they never fell behind. Lenient grading during remote learning may have given them false reassurance. Dan Goldhaber at the University of Washington worries that schools have not always been straight with parents about the scale of losses, in part for fear of being blamed.

Politics is making everything more difficult. Disruptions to schooling generally lasted longer in blue (Democratic) areas than in red ones. That has given Democratic supporters an incentive to play down the damage. Republicans, meanwhile, see education as an issue that could win votes at the midterms next month. But instead of focusing on catch-up, firebrands on the right have helped heat up noisy and mostly fruitless debates about how history, sex and race are taught. That has made teaching more complex, just when educators most need support.

Complacency about catch-up will be costly. Even before the pandemic almost one in three American adults lacked basic numeracy (the average across rich countries is one in five). During covid learning in America appears to have slowed more than it did in places such as England and Spain. Young pupils in Sweden made good progress throughout the tumult; in parts of Japan pupils have already made up losses. Culture wars are raging around America's classrooms. But the real crisis in schools is getting short shrift. ■

Lexington | History's present

In North Carolina, racial politics remain inescapable



TO UNDERSTAND HOW power works in North Carolina and, indeed, America—how the interlocking gears of the legal and political systems move society forward or back—consider the career of Toby Fitch, who is campaigning for re-election in November as a state senator from Wilson, North Carolina.

A child of the Jim Crow south, Mr Fitch, a Democrat, first won election to the state's House of Representatives in 1984, after years of litigation over the Voting Rights Act of 1965 resulted in a landmark case mandating legislative districts in which black candidates could command majorities. He went on to become the first black majority leader, a step below speaker, earning a reputation, says Mac McCorkle of Duke University, as "a legislative titan". He then served for 16 years as a judge before taking a seat in 2018 in the Senate, the other chamber of the state's General Assembly.

Now, after another important voting-rights case reshaped the redistricting process yet again, and after Republicans, thanks to their majorities in the General Assembly, created the maps, Mr Fitch is running in a new district that probably leans Republican. With his long service, storytelling skill and prodigious memory for face and fact, he has a reservoir of goodwill to draw upon. As he drove round the district recently in his old Dodge Ram pickup, supporters called to him at traffic lights, asking how they could help. "Just be my brother!" he replied to one.

Mr Fitch, who at 76 walks with two canes, feels he is in the same struggle he has waged since he was a teenager in Wilson in the 1960s, when he raced past an attendant into a whites-only public pool to force its integration, only to be ejected and watch the pool get pumped out and refilled. "We're fighting for our freedom even now," he says in his low, insistent voice, "when you talk about the right to participate, and to be intricately involved in the things that make a more perfect union."

North Carolina is split between the parties, but Democrats, regardless of redistricting, face the same challenge there as nationally: they cluster in the cities and university towns. Republicans, overwhelmingly white and more dispersed, dominate the General Assembly. That is why, to Mr Fitch's exasperation, North Carolina is one of only 12 states to refuse to expand Medicaid under Obamacare, despite efforts by Governor Roy Cooper, a Democrat.

If Republicans win a handful more seats in November, they could gain a "supermajority" that would enable them not just to thwart Mr Cooper but to override his veto and make policy. At a time when the United States Supreme Court is returning power to the states on matters from abortion to regulation of industry, long-term efforts to gain control of governments in states such as North Carolina are providing Republicans with new authority, even without majorities in Congress.

Mr Fitch's opponent is Buck Newton, a thoughtful white conservative who served in the state Senate before making a bid for state attorney-general. Mr Newton senses a Republican wave building over concerns about inflation, crime and addiction to opioids. "They see no answers from the Democrats," he says, "and I think they see that the Republican Party candidates are trying to focus on the issues that matter." For his part, Mr Fitch scoffs at the idea that Republicans are committed to helping poor and working-class people. He argues that Republicans are widening racial division. "Anybody who preaches somebody is taking what they have—it causes a revolution," he says. That, he says, has been the message of Donald Trump, the former president.

Mr Newton was born in 1968 and grew up with integration as a reality and the civil-rights era in the rear-view mirror. Like many of his generation and younger, he is confident of North Carolina's progress in race relations. A black Republican, Ken Fontenot, is running to represent Wilson in the state House of Representatives. But Mr Fitch knows that the past is not even past. As he drives the streets of Wilson he remembers where children burned to death because a racist fire chief would not respond to a fire in their home. When he paused by what was, in his childhood, the blacks-only pool, he said, almost to himself, "I'm amazed, very much amazed, at how white folks kept us slaves, for so long."

That banner still waves

America's history, Mr Fitch knows, is the fuel that helps to turn its political and legal machine. He has no patience for claims that the redistricting process is race-neutral. The court decision that led to his new district constrained mapmakers by insisting they hewed when possible to county lines, rather than carving up counties to partisan advantage. That decision relied upon an amendment to the state constitution emphasising the importance of county lines. To abide by the ruling, the General Assembly had to draw Mr Fitch's district as it did. But Mr Fitch remembers that the General Assembly that proposed that amendment, ratified in 1968, was all-white; a bias towards county lines hobbled black candidates. "To say it's race-neutral, when you're reaching back to the Jim Crow era—it's absurd," he says.

From Reconstruction through to 1900, North Carolina elected 11 black legislators. For the next 68 years, it elected none. As chairman of redistricting during the 1980s, Mr Fitch helped draw the district that elected the state's first black member of Congress since 1901, Eva Clayton. It was only in 1992 that she won. Cherie Beasley, who is running for Senate, would be the state's first black senator. In the polls, she trails Ted Budd, a white congressman who refused to certify Mr Trump's loss.

Outside the county courthouse, where Mr Fitch weighed so many cases, stands a monument dedicated "to the valour of Wilson County soldiers". Engraved in the marble are two crossed flags—the American flag and the Confederate battle flag. Mr Fitch would like to add an explanatory plaque, but he does not want the monument removed. He wants people to know the truth. ■



Brazil's election

A tense final week

FRANCISCO SÁ, MINAS GERAIS

The presidential race is particularly tight in Brazil's bellwether state

AFTER THE first round of Brazil's presidential election on October 2nd an audio message circulated on WhatsApp in Francisco Sá, a town of 25,000 in the poor, arid backcountry of Minas Gerais state. In it Mário Osvaldo Casasanta, the town's mayor, attributes the improving fortunes of the town to Jair Bolsonaro, Brazil's right-wing populist president. Because of federal money, he says, "we have new sidewalks." Because of monthly payments to poor families, "our shops are packed." But the town's future hinges on the result of a run-off on October 30th between Mr Bolsonaro and Luiz Inácio Lula da Silva, a leftist former president. A victory by Lula, as he is known, would bring economic ruin, the mayor claims. "Schools will close. Hospitals will close...I'll close city hall." That could put 1,323 people out of a job.

In the first round of voting, Lula got 48.4% to Mr Bolsonaro's 43.2%, a difference of around 6m votes. That gives Lula the edge, but polls are tightening now that the nine other candidates are out of the race. *The Economist's* poll tracker shows Lula and Mr Bolsonaro with 52% and 48%, re-

spectively, a technical tie given the margin of error. To close the gap, Mr Bolsonaro will try to get the votes of the 10m Brazilians who picked other candidates in the first round, along with some of the 5m people who voted blank or annulled their ballots and 33m who did not vote. He is also trying to win over some of the 57m who voted for Lula. A recent poll suggested that 5% are considering switching their votes.

The campaign is centred in Minas. Since Brazil became a republic in 1889 the candidate who has won that state has, with one exception, won the presidency. Home to 10% of the population, it is Brazil's second-biggest "electoral corral", explains Marcelo Freitas, a *bolsonarista* police officer-turned-congressman, using an antiquated term that likens voters to cows. Roughly the size of France, Minas has regions that represent the country as a whole: a coffee-growing south that borders

the rich state of São Paulo; a north that is poor and underdeveloped like Brazil's north-east; a "triangle" of farming towns in the west near Brazil's agricultural heartland. Like elsewhere in Brazil, mining is important to the state's economy (its name means "general mines"). All this means that Minas is a microcosm. Indeed, the state's first-round result mirrored the national one: 48.3% to 43.6%.

In northern Minas, poor voters have fond memories of social programmes launched by Lula while in office between 2003 and 2011. *Bolsa Família* provided a basic income to poor mothers while *Luz para Todos* brought electricity to rural areas. The former president won all but two municipalities in the region; in Francisco Sá he beat Mr Bolsonaro 72% to 24%. According to Reuters, Mr Bolsonaro's government has promised some 273bn reais (\$51bn) this year to poach poor voters. It has expanded *Auxílio Brasil*, the successor to *Bolsa Família*, which gives 21m families 600 reais a month. Since the first round it has introduced new debt-forgiveness programmes and credit lines for recipients of *Auxílio Brasil*, drawing criticism from economists.

On top of this is a heavy-handed campaign by Romeu Zema, the right-wing governor of Minas Gerais, and scores of mayors to convince constituents that only Mr Bolsonaro can guarantee such largesse. At a rally on October 18th in Montes Claros, the biggest city in northern Minas, huge television screens flashed images of food baskets and phrases such as "600 REAIS" ▶▶

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▶ and “BOLSONARO PAYS MORE”. The president was flanked by Mr Zema, who was re-elected on October 2nd with 56% of the vote, and Humberto Souto, the mayor of Montes Claros, who won in 2020 with 85%. Mr Zema proclaimed that only Mr Bolsonaro could guarantee “employment and a future”. Mr Souto urged residents to vote for Mr Bolsonaro so that Brazil “doesn’t fall into the same disaster as Venezuela”.

Montes Claros is one of 357 cities that have historically voted for Lula’s Workers’ Party (PT), but voted for Mr Bolsonaro or another candidate in 2018. It was won back by the PT on October 2nd. So were 225 other cities, nearly half of them in Minas. Mr Bolsonaro’s campaign has made flipping them again a priority. In his headquarters Mr Freitas, the congressman, points at a map of the region in which each municipality is marked with a coloured pin. The red ones represent mayors allied with Lula. The green ones “are my mayors”. His access to federal funds for hospitals and roads helped them win races in 2020. In exchange, he says, they will convince constituents to vote for Mr Bolsonaro.

Such pressure may work with some. Minas was once a gold-mining hub in which slaves and poor workers laboured under the Portuguese. In the 20th century, *coronelismo*, or “rule of the colonels”, gave way to clientelism. Laurindo Mekie, a historian at the State University of Montes Claros, dubbed the municipality “the city of favours” because of the way politicians in the mid-20th century traded personal favours for poor people’s votes. Dependency on government benefits today often translates into votes for the mayor’s allies running for state and federal Congress.

But according to Mr Mekie there exists an “unspoken rule” that, when it comes to the president, voters are free to choose. Most mayors in Minas did not put Mr Bolsonaro’s number, 22, on flyers known as “little saints,” which voters carry on election day to remember their choices for each federal and state office. To do so could be political suicide in Lula-leaning regions. Mr Zema did not declare support for Mr Bolsonaro until after the first round. As a result, millions of *mineiros* “voted Luze-ma”, casting ballots for both Lula and Mr Zema despite their ideological differences.

This split-ticket phenomenon had also marked previous elections. Both Lula and Dilma Rousseff, his successor from the PT, won at the same time as governors from the centre-right Brazilian Party of Social Democracy (PSDB). Before the run-off in 2014, which was decided by 3.5m votes, the PT governor-elect of Minas called each of the state’s 850 mayors to say that his “work would be much easier” if Ms Rousseff won, according to Thomas Traumann, a former adviser to her. Many of those mayors now support Mr Bolsonaro, as fiscal misman-

agement at state and federal levels during Ms Rousseff’s government caused dire wage delays for public servants.

Mr Zema, who took office in 2019, benefited from an improving economy and a 38bn-real settlement with Brazil’s biggest mining company after one of its dams burst, killing 270 people. The windfall was channelled to municipalities, endearing Mr Zema to mayors. Meanwhile, *bolsonarista* lawmakers such as Mr Freitas sent millions of reais of infrastructure spending from an opaque slice of the federal budget that Mr Bolsonaro had allowed them to control in exchange for shielding him from impeachment. Montes Claros received the fourth-highest amount of such funding of all municipalities in Minas.

But in a big city clientelism may not be an effective form of pressure. Jeane Cruz Silva, a 49-year-old resident of Vila São Francisco de Assis, a *favela* in Montes Claros, says that nearly everyone she knows plans to vote for Lula. Before his government, “we didn’t have houses, now we do,” she says. “We didn’t have cars, now we do.” She rolls her eyes, in trendy red spectacles, when asked about Mr Souto’s support for Mr Bolsonaro. “I’d give the mayor a score of 100% and I will vote for him again,” she says, but his endorsement is “shameless”.

Voters in Francisco Sá may be more impressionable. Only 10% of working-age residents have formal jobs, half are poor, and the biggest employer is the city hall, which also oversees lists of the 5,000 families who receive *Auxílio Brasil*. In public Mr Casasanta, the mayor, praises Mr Bolsonaro for increasing such benefits. But in an interview with *The Economist* he also blames Lula for introducing them. “The money made the population lazy,” he says, adding that he struggles to find cheap labour for his cattle ranch. But he admits that four years ago a local child died of hunger.

Ana Maria Jesus, who works at the

benefits office, voted for Lula in the first round but decided to switch her vote after Mr Casasanta’s appeal. She doesn’t like Mr Bolsonaro, “but the mayor is our friend and we have to stay on his side for the well-being of our city.” Alécia da Silva, another public servant, said she plans to change her vote from Lula to Mr Bolsonaro because her father, a lorry driver, begged her, and she wants to avoid family division.

Will flipping flop?

But in Canabrava, a hamlet in the arid scrubland 20km (12 miles) from the town centre, a group of unemployed farmworkers are infuriated by Mr Bolsonaro’s claim that *Auxílio Brasil* helps poor people more than *Bolsa Família* did. “What good is more money if a sack of rice costs 70 reais?” says Lourival dos Santos, 64, adding that the mayor, like the president, “only starts caring about poor people whenever there’s an election.” He’s voting for Lula.

Carlos Ranulfo, a political scientist at the Federal University of Minas Gerais, reckons that the efforts of mayors will not be enough to swing the state in Mr Bolsonaro’s favour. But in places such as northern Minas the president’s goal is not to win but to reduce Lula’s lead, points out Bruno Carazza, a *mineiro* and author of “Dinheiro, Eleições e Poder” (“Money, Elections and Power”), a book on Brazilian politics. Even limited success in flipping votes in Lula-leaning towns would suggest that poor voters could be swayed elsewhere; polls show that Mr Bolsonaro’s approval has risen among recipients of *Auxílio Brasil*.

Voting went smoothly in the first round of the election, despite Mr Bolsonaro’s insinuations that there could be fraud. But labour prosecutors are investigating more than 900 claims of companies illegally putting pressure on their employees, more than four times as many as during the previous presidential campaign in 2018. In the state of Bahia, a farm boss was recorded telling other businessmen to follow his example of ordering female workers to hide mobile phones in their bras to illegally photograph their vote for Mr Bolsonaro. He said he had fired workers who said they planned to vote for Lula.

Similarly, reports across Brazil tell of transport companies that plan to give drivers the election weekend off, but only if they plan to vote for Mr Bolsonaro. Minas has received more complaints of “electoral harassment” than any other state, according to public prosecutors. The problem is so bad that the Senate is in the process of installing a commission of inquiry to investigate it after the election.

Mr Bolsonaro’s campaign has received more than 86m reais in private donations, compared with 1.7m for Lula (who has got more public money because his party is bigger). Much of this has gone towards a ▶▶





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► fierce online campaign casting Lula as a corrupt, godless communist. After months on the defensive, Lula's campaign revamped its online propaganda machine. Leading the operation is a federal deputy from Minas Gerais, André Janones, who capitalised on clips of Mr Bolsonaro saying "I'd eat an Indian" and "there was a spark" between him and 14- and 15-year-old Venezuelan girls. In October a Supreme Court judge banned PT television adverts that associated the president with paedophilia and cannibalism.

On the streets, the *bolsonaristas*' aggres-

sive tactics have forced the PT to run a more "silent" campaign, says Leninha Alves, a state deputy from Montes Claros. The day of Mr Bolsonaro's rally, while PT staff handed out flyers, several motorists shouted insults at them. While the PT's reticence may hurt Lula, "playing dirty" may hurt the president, reckons Paulo Guedes, a federal deputy (not the economy minister of the same name) whose bus was shot at by a *bolsonarista* during a caravan in September. Even Mr Bolsonaro's fans were appalled on October 23rd when an ally of the president, a former congressman, threw grenades at

police officers seeking to arrest him after he harangued Supreme Court judges, and compared one to a prostitute.

Polls underestimated support for Mr Bolsonaro in the first round. All now suggest that the result will be close. On October 30th Minas may once again mirror the national result. However, one of two maxims about Brazilian elections is bound to be upturned. Since the country's return to democracy in 1985, the candidate who was ahead in the first round of the election has always gone on to win the run-off. But a sitting president has never lost. ■

Bello A hero of the rule of law



Raúl Alfonsín held Argentina's dictators to account. Why has that been forgotten?

IN THE THREE weeks after it was released in cinemas last month, and before it started streaming on Amazon, almost 1m Argentines went to see "Argentina, 1985", a film about the prosecutions of the generals and admirals who ran what was Latin America's vilest dictatorship. It harks back to the events of that year in an Argentina of music cassettes, manual typewriters and many, many cigarettes. For much of the audience, it refers to unknown, or half-forgotten, history. In an unstrident way the film is a critique of the version of "historical memory" espoused by Néstor and Cristina Kirchner, the Peronist couple who between them have run Argentina for all but four of the past 20 years.

When the armed forces took power in 1976 Argentina was suffering from galloping inflation, a political killing every five hours and a bomb explosion every three, as the Montoneros, a guerrilla army, and other armed leftists battled right-wing death squads in what was partly a civil war within Peronism. Many Argentines believed that the army would restore order and quickly hand back power. Instead it presided over systematic state terror involving clandestine prisons, kidnapping and torture. It was only economic failure and the fiasco of the invasion of the Falkland (Malvinas) islands that caused the junta to call an election in 1983.

It was won by Raúl Alfonsín of the Radical Civic Union, a liberal of the centre-left. He swiftly implemented a campaign promise to repeal the junta's self-amnesty. He set up one of the first-ever truth commissions: its report, titled *Nunca Más* ("Never Again"), found that at least 8,960 people had "disappeared" in the junta's dirty war, many of whom had no connection to the guerrillas. Alfonsín

was determined that the perpetrators of violence and illegality should stand trial. He changed the law so that if the military courts dragged their feet in judging their peers, a civilian court could judge them.

That duly happened. The film focuses on the work of Julio Strassera, the chief prosecutor in the case. He is portrayed as an ordinary man thrust into an extraordinary role, in a characteristically compelling performance from Ricardo Darín (who starred in the Oscar-winning "The Secret in their Eyes"). Strassera's young assistant, Luis Moreno Ocampo, would go on to become the first prosecutor at the International Criminal Court. They work in an atmosphere of menace and threats. "We will give the military commanders what they didn't give their victims: a fair trial," says Strassera. The prosecutors draw heavily on the work of the truth commission. Witnesses offer harrowing testimony of torture and ill-treatment.

The court sentenced two of the junta members to life imprisonment, three to prison terms and freed four. It was historic, the first occasion in Latin America

when dictators had been tried and sentenced by a civilian court. Alfonsín also decreed that the courts should investigate the commanders of the guerrillas, who were responsible for more than 1,000 deaths in the decade to 1979 and whose actions had triggered the military coup. Mario Firmenich, the leader of the Montoneros, was sentenced to life.

The trial of the junta took much courage, since the armed forces were still powerful. As prosecutions continued against other officers, and with the government unpopular because of economic problems, Alfonsín faced several military rebellions. He was obliged to halt further trials. His successor, Carlos Menem, decreed an amnesty that freed the generals and Mr Firmenich.

Trials started again under Néstor Kirchner, when the army had been neutered by the slashing of its budget under Alfonsín and Menem. In 2004 he apologised on behalf of the state "for the shame of having stayed silent about so many atrocities during 20 years of democracy". The Kirchners' version of justice is selective: while more than 1,000 elderly military officers have been sentenced, Mr Firmenich lives quietly in Spain, teaching economics. Many people with links to the Montoneros served in the Kirchners' governments. Cristina Kirchner, now the vice-president, rants against the judiciary for accusing her of corruption (which she denies).

One criticism of "Argentina, 1985" is that Alfonsín figures only briefly, urging Strassera to do his job without fear of political intervention. But the trial speaks for itself. In doing so it shows how much the Kirchners have falsified Argentina's recent history. And that Alfonsín was a hero of the rule of law in a region where it is still sorely lacking.





India's economic geography

Latitude is everything

DELHI AND MUMBAI

The southern states make more money while northern states make more babies. The political consequences could be explosive

GOA, ON INDIA'S western coast, is famed for its endless beaches, plentiful prawns and high quality of life. Bihar, along the fertile Indo-Gangetic Plain in the north, has a less savoury reputation. It is thought of by many Indians as a land of deprivation and lawlessness. Neither stereotype is entirely accurate, but they hint at a deeper truth. In terms of economic development, the difference between Goa and Bihar is like that between southern Europe and sub-Saharan Africa.

If the two states were countries, Goa's annual output per person would put it among upper-middle-income economies; Bihar, by contrast, would still be years away from leaving the low-income category. The average Goan is ten times richer than the average Bihari. That disparity is much more striking than in China, also a large emerging market, where the richest

province has annual output five times higher than the poorest. America, that famous beacon of egalitarianism, has nothing on either Asian country. New York, the wealthiest state, is just over twice as rich as Mississippi, the poorest.

India is one of the big development success stories of the past few decades. Since 1980, its GDP per person has grown at an annual average rate of nearly 7% (see chart on next page), a performance matched by only a handful of other countries. But a combination of persistent regional in-

equality (20 years ago the average Goan was only 6.5 times richer than the average Bihari), fractious state politics and stark differences in population growth threatens to reinforce, and potentially worsen, the country's political divisions. That, in turn, could hurt future economic growth and make it ever harder to bridge the divide.

Rising geographical inequality is a normal—some would say essential—part of economic development. In countries on the lowest rungs of the ladder, most people tend to eke out a living by farming or selling things, perhaps running corner shops or chai stalls. As the economy begins to develop, new jobs appear in industry or services, which lure workers away from the countryside to faster-growing urban areas. The gap in incomes and living standards between opportunity-rich cities at the frontier of development and the poorer hinterland can grow to staggering levels, until the exodus away from rural areas leaves labour scarce enough to push up wages there as well.

Most of India's economic development in the past four decades has come from the southern and western states (see map on next page), which have become hubs for manufacturing and high-tech industries. But the heartland states of the Gangetic

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Plain have shown little sign of catching up. While recent decades have seen convergence between the incomes of poorer countries and richer ones, within India “this process of convergence has failed”, note Rohit Lamba of Penn State University and Arvind Subramanian of Brown University in a recent paper.

The economic gulf is matched by political fragmentation. India is vast and divided by differences of language and culture. The regional parties that tend to dominate politics in the richer south resent the diversion of their hard-earned gains into welfare programmes for the poorer north. By contrast, much of the north is governed by the Bharatiya Janata Party (BJP), which for the past eight years has also run the central government under Narendra Modi, the prime minister (most redistributive policy is made in Delhi, the capital).

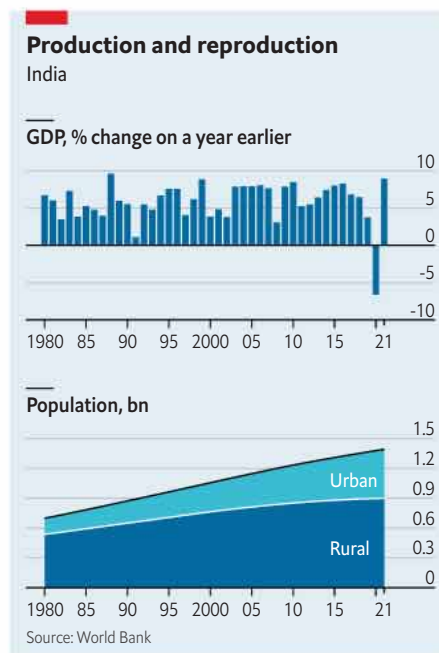
The situation is further complicated by demography. The poorer states in the north, north-west and east—Bihar, Jharkhand, Rajasthan, West Bengal and Uttar Pradesh—are collectively home to nearly 600m people, or more than 40% of Indians. Their populations are also growing much faster than those of the southern and western states. During the 2010s, the population of Bihar, the third-largest state, grew by an estimated 16.5%, while that of Uttar Pradesh, the most populous, rose by 14%. In contrast, the populations of Maharashtra (which includes Mumbai, the commercial capital), Karnataka (home to Bangalore, a tech hub), Kerala and Tamil Nadu (both at the southern tip of the country), all rose by under 10% over the same period.

It's grim up north

The huge numbers of young and poor people along the northern plain might seem attractive to manufacturers searching for cheap labour. After all, Bangladesh has had considerable success in luring low-wage factory work from China. But companies, especially in more advanced industries, tend to go to places where there are already suppliers and skilled workers.

Moreover, the Indian development story is unusual in its limited reliance on industrialisation. Manufacturing generates just 14% of Indian GDP, compared with 21% in Bangladesh and 27% in China. What industry India does have tends to cluster in the south and west. Uttar Pradesh is home to about 17% of India's population, but has only 9% of its industrial jobs. Indeed, more than half of all factory jobs in India are in just six states, five of which are on the peninsula (Gujarat, in the west, is the sixth). Of the 11 companies that make products for Apple in India only one is in the north. Six, including the manufacturer of the new iPhone 14, are in Tamil Nadu alone.

With large and growing numbers of young people in the north unable to find



good jobs, the mismatch between population growth and economic prowess across regions is politically explosive. Constitutionally, constituencies for parliamentary seats are supposed to be determined by population and adjusted every ten years. But in the 1970s the government froze the number of constituencies in each state to help encourage population control. The freeze was last extended in 2002. The matter will come up for debate in 2026, two years after the next general election.

The redrawing of boundaries is up to an independent committee. But some observers worry that if the BJP wins a third term in 2024, as is all but certain, it will use its power to undo the freeze. That would tilt the distribution of parliamentary seats so far in favour of the northern states, where the BJP is dominant, that it might in effect become impossible for any other party to gain a national electoral majority. Along with ramping up welfare spending in the northern states, as well as the BJP's at-

tempts to align the south ideologically and linguistically, this would further aggravate tensions with the southern states, which have long resented what they see as the north's imposition of an alien culture.

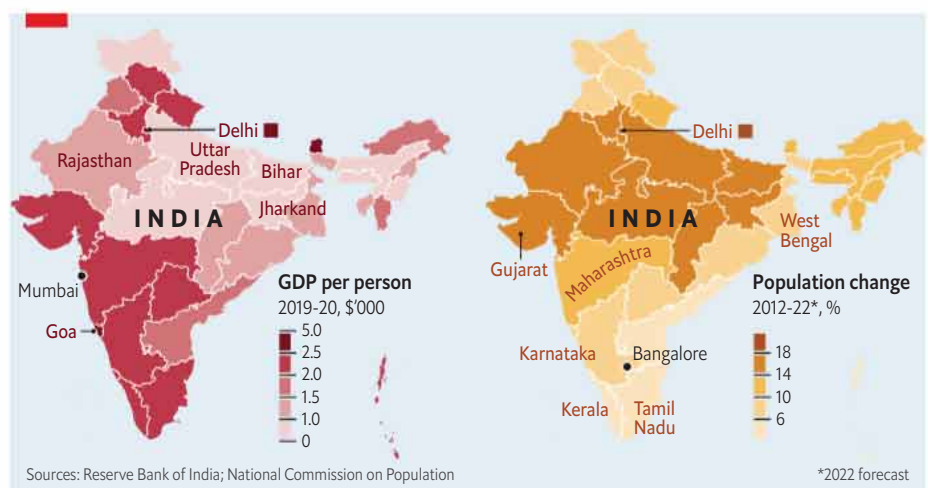
Migration would bring some balance. Recent work by Sriram Balasubramanian, Rishabh Kumar and Prakash Loungani, who are economists at the IMF, concludes that one-third of the variation in living standards across India is down to location alone. In other words, a worker with the same education, caste and ability would earn a lot more simply by moving.

Go south, young man

Yet the rate of internal migration in India is among the lowest in the world. India's large cities are much smaller than typical patterns of urbanisation suggest they should be. China, which imposes limits on where citizens can collect state benefits in order to discourage rural-to-urban migration, also suffers from very low rates of internal migration and from under-urbanisation, yet less so than India.

Investments in road, rail and air connections are improving links across the country. The adoption of a comprehensive goods and services tax in 2017, though criticised as overly convoluted, helped knit widely divergent state tax regimes into something resembling a single domestic market. Conscious of the need to provide better jobs for the country's poor masses, the government is developing an industrial strategy, which includes manufacturing subsidies for some sectors. A massive digitisation push—with a national identity system, slick mobile payments and online government services—ought to make it easier for people to move around.

Yet all these efforts will take years, maybe decades, to pay dividends. That will be much too late for underemployed young people in the north—and perhaps for the south's political left. Not just the prosperity, but the cohesion of India rest on the government's ability to fix the problem. ■



Ikigai

Circles of life

TOKYO

Many Japanese are bemused by the global resonance of an obscure concept

NORM TAM spent most of his life climbing up the corporate ladder. In his early 40s he was earning a hefty salary as an executive at a global shipping firm. But he could not help feeling a bit empty. He started Googling terms such as “meaning” and “purpose”. Eventually, he stumbled upon a Venn diagram showing four circles labelled “what you love”, “what you are good at”, “what the world needs”, and “what you can be paid for”. His eyes fixed on the peculiar foreign word at the intersection of the circles: *ikigai*.

Mr Tam, who lives in Canada, is one of many Westerners to have discovered the Japanese term, which loosely translates as “reason for being”. The diagram, created in 2014 by Marc Winn, a British entrepreneur, has gone viral online, especially on LinkedIn. A self-help book by two Spanish writers, “*Ikigai: The Japanese Secret to a Long and Happy Life*”, has been translated into 63 languages, sold more than 3m copies and helped globalise the concept. “The Eastern, Asian approach is inspirational,” says Paul Donkers, a career coach in the Netherlands. He dispatches more than 100 licensed (by himself) *ikigai* coaches worldwide “to help people find meaningful careers”. There are now *ikigai* weight-loss pills and crypto companies.

Mr Tam, too, launched a business inspired by the concept: IKIGAI Coaching. “When I first saw the diagram, I was terrified...I knew I was not living my *ikigai*,” he says. Ever since, those circles have guided him “like the lights on an airport runway”. At his workshops, he helps corporate leaders and executives fill in the diagram’s prompts. He advises meditation to help “unlock” their potential, he says.

Yet few in Japan give much thought to the idea. When TED, a conference, staged several talks on the concept, a tweet by a baffled Japanese observer went viral: “Apparently, there’s an ancient Japanese philosophy called ‘*ikigai*’...huh? What’s that?”. Native speakers seldom use the term. If they do, it is in the context of small joys, such as spending time with family or enjoying hobbies, says Kanda Nobuhiko, a psychologist at Bunkyo University near Tokyo. “If I decide to sneak out of a lecture to have a beer, that counts as my *ikigai*.”

Ikigai thus joins a long list of Japanese words that have been repurposed to lend an aura of ancient wisdom—and exotism—to banal ideas. *Keikibo* has been



peddled as the “Japanese art of saving money” (in practice, keeping a notebook to track finances). *Shinrin-yoku*, or the Japanese art of “forest bathing”, is really just going for a nice stroll in nature. *Wabi-sabi* describes an interior design trend that embraces minimalist decor and natural materials. In Japan, it refers to an aesthetic philosophy of appreciating imperfection. (*Hygge*, a Danish word meaning something like “cosiness”, has suffered a similar fate.)

Yet the difference in interpretation also owes something to the passage of time. In 1966, Kamiya Mieko, a Japanese psychiatrist, published “*Ikigai-ni-Tsuite*” (About *Ikigai*), a thoughtful memoir based on her experience of treating leprosy patients at a sanatorium on the small south-western island of Nagashima. Her message, that individuals can overcome hardships so long as they have something to look forward to, resonated during a period of soaring living standards and corporate drudgery.

Some Japanese experts have been all too happy to capitalise on *ikigai*’s global appeal. In “*Awakening Your Ikigai: How the Japanese Wake Up to Joy and Purpose Every Day*”, Mogi Kenichiro, a neuroscientist in Tokyo, claims that *ikigai* is “highly immersed in Japanese culture”. He makes his case through figures familiar to foreigners, such as Ono Jiro, a sushi chef made famous by a Netflix documentary, and Miyazaki Hayao, a much-loved *anime* filmmaker.

Others would like to see the concept make a comeback inside Japan. Despite its reputation as a land of healthy, long-lived people, Japan is hardly a utopia. It has the highest suicide rate in the G7, a club of rich countries. Its demanding corporate culture has led to cases of *karoshi*, or death from overwork. The government has tried to legislate its way to a healthier work style, with limited effect. Perhaps Japan, too, could do with a bit more *ikigai*. ■

Tainted drugs

Joining the dots

SINGAPORE

What links a tragedy in Indonesia with a similar one in the Gambia?

THE FOOD and drug agency of Indonesia, known as BPOM, had a grim mystery on its hands. Until recently, cases of small children suffering acute kidney injury (AKI) were vanishingly rare in the country of 276m people. But in August the number began to rise sharply and nobody was sure why. The health minister, Budi Gunadi Sadikin, says his team wondered at first whether a new variant of covid-19 might be to blame. But then came a clue from the other side of the world.

The World Health Organisation announced on October 5th that 66 children with AKI had died in the Gambia, in west Africa. It believed those deaths were linked to the consumption of contaminated cough syrup. BPOM officials soon realised that many Indonesian victims had taken similar drugs. The government suspended the sale of all syrup and liquid medicine, pending a review, and scrounged abroad for fomepizole, a treatment. At least 241 children, nearly all under the age of five, have been diagnosed with AKI. The death toll is shocking: 141 have died so far.

BPOM stresses that the link between the deaths and the syrupy drugs is not yet proven, and notes that AKI has other causes, too. But the signs are ominous. On October 22nd BPOM identified five syrups for fevers and coughs, from three different drugmakers, all of which contained ethylene glycol and diethylene glycol, the same chemical culprits found in syrups in the Gambia.

Those glycols are alcohols with industrial uses such as antifreeze. But they sometimes make their way into the human body in adulterated pharmaceutical products. Upon consumption, they can produce oxalic acid, which forms into crystal clumps that induce AKI. A similar tragedy occurred in Bangladesh between 1990 and 1992, when tainted cough syrup killed 236 children. Unscrupulous drugmakers looking to save money use these chemicals in place of pricier thickeners for liquid medicine, such as glycerine.

Whether the two tragedies are connected remains unknown. The four Gambian products that may be linked to children’s deaths were manufactured by an Indian firm, Maiden Pharmaceuticals. (Its products are already banned in some Indian states and in Vietnam. The firm says it is co-operating with investigators from the Indian government.) No Maiden drug has ever been registered or sold in Indonesia. ▶▶

▶ The country's tainted products were all made domestically, says Keri Lestari of the Indonesian Pharmacists Association. But its pharmaceutical industry imports most raw materials from India and China. It is conceivable that these bundles of bad drugs, 15,000km apart, shared a supplier at an earlier link in the supply chain.

If so, that might present an awkward problem for India. The country makes 20% of generic drugs globally and cherishes its reputation as the world's pharmacy. But its small-name suppliers have a growing reputation for shoddy quality control and

dodging regulations. Most often this results in drugs that are ineffective rather than fatal. Either way, the harm is real.

No matter what the origin, Indonesia is supposed to abide by international standards that keep drugs from doing damage. Even in the rich world regulators cannot test every drug before it goes on sale. Indonesia, like America, relies on random inspections. But importers and manufacturers who handle chemicals such as glycerine are obliged to check for nasty knock-offs before they start production. A probe is under way to determine whether rules

were followed and what went wrong.

The two months that BPOM took to crack the mystery exacted a cost. Hundreds of grieving parents now believe they have unwittingly fed poison to their children. Faith in the regulatory system is shaken. Even now, rumours fly. Online sceptics wonder why authorities have allowed doses of the covid-19 vaccine to contain polyethylene glycol, a similar-sounding and related but non-toxic chemical. The health minister has rushed to assure Indonesians once again that the covid-19 vaccine is completely safe. ■

Banyan Trust no one

A prominent independent news site destroys its own credibility

ONE CONSTANT throughout the original nine seasons of "The X-Files", a globally syndicated American television show about a pair of FBI special agents assigned to weird cases, is a poster in the background. Mounted on a wall in the agents' dingy basement office, it shows a grainy picture of a flying saucer and is emblazoned with a slogan in large sans-serif letters: "I WANT TO BELIEVE". This sentiment ultimately (two-decade-old spoiler alert!) helps the agents uncover a massive conspiracy involving the government and a technologically superior society capable of magical feats (in this case, space aliens).

A similar urge appears to have driven editors at the Wire, an independent Indian news website. Earlier this month, it published a story alleging a massive conspiracy involving the government and a technologically superior society capable of magical feats (in this case, Meta, the parent company of Facebook, Instagram and WhatsApp).

The short version of a very long saga goes something like this. On October 10th the Wire alleged that Meta had handed awesome powers to Amit Malviya, who oversees social media for the ruling Bharatiya Janata Party (BJP). So extensive were his privileges that his posts on Instagram were immune to review by content moderators, it said. What's more, he had the ability to flag posts from other accounts as objectionable, which would be instantly removed without question. It published what it said were internal Instagram reports to support its claims.

It was earth-shattering stuff. Meta's communications chief, Andy Stone, denied the claims on Twitter. But his employer has the rare distinction of being considered untrustworthy even when it denies something flat out, so few

observers were willing to take him at his word. The Wire certainly did not: the next day it published what it claimed was a leaked email written by Mr Stone himself, thus proving its allegations as well as providing evidence of a botched cover-up. "How the hell [this internal report] got leaked?" it read. "Who is the reporter, not on our watch list, and why didn't anyone of our bother to link me up?"

Ignore for a moment the ropey English in an email supposedly written by an American. Even with Meta's reputation, it was hard to dismiss its next move as mere obfuscation. The company published a lengthy statement refuting the claims in the strongest possible terms. "There is no such report...There are no such emails."

Still, the Wire soldiered on. On October 15th it published "proof" that the email was real, relying on cryptographic checks and verification of its methods from two independent analysts (both of whom later said they had not verified anything). After a barrage of criticism, the Wire retracted the stories on October 23rd. It also pulled an earlier investigation alleging that the



BJP had created a super-app that automated the creation and deletion of social-media accounts to spew hate at scale. On October 27th its editors at last issued an apology, admitting they rushed publication without proper technical vetting or adequate editorial checks.

Three lessons flow from this miserable affair. First is the stupidity of choosing partisanship over process. Wanting to believe is a fine quality in a pilgrim but a lousy one for holding power to account. Indeed, the result is the exact opposite of what the Wire had intended. Meta has avoided fresh scrutiny over its relationship with the BJP or the special privileges it may grant powerful figures. The BJP, for its part, has remained silent, but no doubt rejoiced as one the country's few remaining outlets for critical journalism shattered its own credibility. A willingness to listen to critics might have helped the Wire spot its mistakes earlier.

A second lesson is that technology in general and social media in particular, while powerful, are not capable of magic. This is a lesson liberals have refused to learn ever since Britain voted for Brexit and America for Donald Trump. So badly did they want to believe in the abilities of Cambridge Analytica, or of the Russian state, or of the maleficence of their political foes, or in the conspiracies that joined these elements together, that they failed to accept reality.

Above all is the lesson that misinformation is generated by all sides—and that it is often done in good faith. Journalists are told, "If your mother says she loves you, check it out." In an era when everything is political and anybody with a smartphone can broadcast news, scepticism is more important than ever. It is time to update the maxim. "If your enemy tells you he's evil, check it out."



Politics

The people's leader's people

Xi Jinping has surrounded himself with loyalists. What will he do with them?

THREE TIMES in the past decade, Xi Jinping has led the same ceremony in Beijing's Great Hall of the People. With six men in single file behind him, he has walked through golden doors into a cavernous room, waving at seated journalists. In a carefully choreographed manoeuvre, he has stopped mid-podium, letting three of his colleagues take up positions on either side of him—equidistant and equally wooden, their arms kept still by their sides except to clap. The latest such unveiling of the country's most powerful men, held on October 23rd, was no different. But it was unusually striking.

It was not surprising that Mr Xi, yet again, was at the centre of the red-carpeted stage. Since 2018 it had been clear (though never officially confirmed) that he would be given another five-year term as the Communist Party's general secretary and the armed forces' commander-in-chief in 2022, despite a convention that these posts

be held for only two terms. The biggest eye-opener was that so many of the men with him at this latest photo-op were clearly his people—their connections to Mr Xi dating back to long before he became the party's boss a decade ago (see graphic on next page). In the past there had been at least a pretence at balance, with members of the group—the Politburo Standing Committee, as it is formally known—representing a diversity of personal networks. No more.

There had been signs aplenty in the preceding week that Mr Xi's already immense power was about to get a fillip. On October 16th he had presided over the opening of the party's 20th congress, a five-yearly event attended by about 2,300 delegates

(carefully vetted for their loyalty to Mr Xi). Participants had passed resolutions laced with fawning references to him and praise for the "two establishes". The term, coined last year, refers to establishing Mr Xi as the party's "core" and his thinking as part of its guiding ideology. They had rubber-stamped a sweeping shuffle of the party's 376-member Central Committee. Gone from it were several leaders who had risen to power before Mr Xi took over, including some who had not yet reached the normal retirement age.

An unusual scene in the Great Hall had also caught many observers' attention. On October 22nd, the closing day of the congress, Hu Jintao, Mr Xi's 79-year-old predecessor, who had been sitting next to him, was escorted away by two officials. He seemed reluctant to leave, fuelling speculation that he was being deliberately humiliated: some of those dropped from the Central Committee were linked to Mr Hu. Xinhua, a state news agency, tweeted that Mr Hu was led out because he was "not feeling well". That may be closer to the mark. His behaviour looked consistent with a sudden episode of mental confusion. The expressionless gazes of people sitting near him looked like political cold-shouldering to some, but may have reflected embarrassment or a reluctance to cause disorder. There has been no attempt to ►►

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40 Chaguan: America v China

erase Mr Hu from official accounts of the congress. But regardless of its cause, Mr Hu's exit would have signalled to the audience that he was a spent political force and appeared symbolic of a clearing of threads between past leaders and Mr Xi's team.

There used to be several such threads attached to the Standing Committee. Until the recent reshuffle, its second highest-ranking member was Li Keqiang, a protégé of Mr Hu with a PhD in economics. For the past decade he has served as prime minister. As required by China's constitution, he will step down at next year's annual session of the National People's Congress (China's legislature), which will probably be held in March. Mr Li was once widely viewed as a possible candidate for the top jobs, but after the 17th party congress, in 2007, it became clear that Mr Xi was the front-runner to lead China. In his current role Mr Li has found himself sidelined, with Mr Xi taking over work, such as overseeing economic policy, that had previously been the prime minister's responsibility. At 67, Mr Li would have been just young enough by convention to remain on the Standing Committee or to take up another leadership role. But he is not a member of the new Central Committee. This means he is likely to retire from official duties.

Lock down, rise up

The next prime minister seems likely to be the man who walked directly behind Mr Xi: Li Qiang. The younger Mr Li (this one is 63) is of a different stripe. He has no ties with past leaders, only to Mr Xi. In the 2000s, when Mr Xi was the party boss of the coastal province of Zhejiang, Li Qiang was his chief of staff.

His elevation has raised eyebrows at home and abroad. Since 2017 Mr Li has served as the party chief in Shanghai, China's commercial hub. Some residents blame him for the chaotic and harsh management of a months-long lockdown of the city earlier this year, aimed at crushing an outbreak of covid-19. There had been speculation that this would mar his career. Few had expected that not only would he be promoted, but also lined up for the prime minister's job. The position has normally been reserved for people who have served as a deputy prime minister. Li Qiang has never held a central-government portfolio.

The three other newcomers to the Standing Committee are also clearly Mr Xi's protégés. One is Cai Qi, the party chief of Beijing, who held senior positions in Zhejiang during Mr Xi's time there, as well as earlier in Fujian province, where Mr Xi also served. Like Li Qiang, Mr Cai has a controversial record in the city he runs. He is remembered for a campaign late in 2017 to demolish ramshackle housing used by migrant workers from the countryside. Thousands were evicted with little notice. Offi-

→ The Politburo Standing Committee of the Chinese Communist Party



Xi Jinping, 69

General Secretary of the Communist Party,
Chairman of the Central Military
Commission and President



Li Qiang, 63

Likely role Prime minister

Main experience Party secretary of
Shanghai, since 2017

Relationship to Xi Was chief of staff when Mr Xi was
party secretary of Zhejiang province, 2004-07



Zhao Leji, 65

Likely role Chairman of the National People's Congress

Main experience Head of the CCDI*
(the corruption watchdog), 2017-22

Relationship to Xi Has promoted Mr Xi's allies.
Both have family roots in Shaanxi province



Wang Huning, 67

Likely role Chairman of the Chinese People's
Political Consultative Conference

Main experience Top political theorist, who has
crafted the policies of three presidents

Relationship to Xi Has helped shape Mr Xi's ideology



Cai Qi, 66

Current role First secretary of the Communist
Party's Central Secretariat

Main experience Party secretary of Beijing, since 2017

Relationship to Xi Worked with Mr Xi in
Fujian and Zhejiang provinces



Ding Xuexiang, 60

Likely role Deputy prime minister

Main experience Mr Xi's chief of staff,
since 2013

Relationship to Xi Also briefly worked for
Mr Xi in Shanghai in 2007



Li Xi, 66

Current role Head of the CCDI*

Main experience Party secretary of
Guangdong province, since 2017

Relationship to Xi Established strong links to
the Xi family in Shaanxi and Gansu provinces

Source: *The Economist*

*Central Commission for Discipline Inspection

cials called them "low-end" people who were not needed in Beijing.

The last two in the line behind Mr Xi were Ding Xuexiang and Li Xi. Mr Ding has long been close to Mr Xi—first as his chief of staff when Mr Xi served briefly as Shanghai's party boss in 2007, and in a similar role in Beijing since 2013. He is expected to be appointed next year as the most senior of four deputy prime ministers, despite never having held jobs at the national or provincial level involving management of the economy. Li Xi is the party chief of Guangdong province, which borders on Hong Kong. In the 1980s he served as a personal assistant to a protégé of Mr Xi's late father, Xi Zhongxun, one of communist China's founders. The Brookings Institu-

tion, a think-tank in Washington, says Mr Li and the younger Mr Xi "have remained friends ever since".

Apart from Mr Xi, there are two others in the new Standing Committee who are also holdovers. They are Wang Huning, his chief theoretician (author of such Xi-isms as the "Chinese dream" and, quite possibly, the two establishes), and Zhao Leji, who until this congress had been serving as his main enforcer of party discipline. That role has now passed to Li Xi. Mr Zhao is expected to become head of the legislature next year. Neither Mr Wang nor Mr Zhao had connections with Mr Xi earlier in their careers. (Mr Wang helped craft the ideologies of Mr Xi's predecessors, too.) But both are thorough Xi loyalists. ➔

In the build-up to the congress, few observers had expected to see the committee stacked with so many of Mr Xi's men (no woman has ever been a member of it; for the first time in 20 years there is no woman who is an ordinary member of the Politburo, either). Many had thought that Hu Chunhua, a 59-year-old protégé of Hu Jintao, might get in, possibly as prime-minister-in-waiting (he is now a deputy prime minister). But he failed even to keep his seat in the Politburo. Another of Hu Jintao's protégés, Wang Yang, who is 67, had been widely expected to keep his seat on the Standing Committee, but he has now lost all his party jobs. His remaining title as head of the legislature's advisory body is likely to be taken next year by the ideologue, Wang Huning.

The Xi sell-off

It is not surprising, then, that analysts were quick to see political intrigue behind Mr Hu's undignified exit from the congress, even though medical explanations are plausible. Mr Hu's protégés are often referred to as members of the *tuantai*, or "league faction", because early in their careers they held important roles in the Communist Youth League, which Mr Hu once headed. They are considered relatively pro-market. Mr Xi is much less so. Foreign investors were spooked by his new line-up. In Hong Kong and overseas markets, they rushed to dump China's shares and currency (see Finance section).

There had been little sign that the presence of Mr Hu's men in the Politburo or its Standing Committee was constraining Mr Xi's power. Having replaced them, it is far from clear that Mr Xi plans to steer China in any new direction. Few hints of any impending policy change emerged from the congress (it had long been looking grim for pro-market types). "This idea of competing factions has been severely overstated," says Joseph Torigian of American University in Washington. He believes that even Li Keqiang, the outgoing prime minister, "was already a yes-man". Mr Li's probable successor, Li Qiang, though criticised by some citizens for his handling of covid, has a "pretty darn good reputation with businesspeople", Mr Torigian says.

Since the unveiling of the new Standing Committee, it has been business as usual. State media have been pumping out adulation of Mr Xi—the "people's leader" as he is often now described. It is the "great luck of the party, great luck of the country, great luck of the army and the great luck of the people" that he remains "at the helm", crowed the party's mouthpiece, the *People's Daily*. But the risk has grown that, behind closed doors, Mr Xi will be even less likely to hear views other than the echoing of his own. That is surely something for the world to worry about. ■



Women in leadership

Too few at the top

BEIJING

China's problem with female representation is getting worse

IN THE 1980s Chen Muhua was one of China's few female leaders at the national level, holding positions such as deputy prime minister. Later, as chair of the All-China Women's Federation, a Communist Party-led body, she expressed dissatisfaction with the number of women in government—and promised that reforms would bring new opportunities. They have not. So in his report to the party congress on October 16th, President Xi Jinping echoed Chen's promises, saying he would select and cultivate female officials.

He has not. When the party's new leadership was revealed on October 22nd and 23rd, only a small number of women appeared on the lists. None had been expected to make the seven-member Standing Committee of the Politburo, which has never had a female member. But for the first time in 25 years, there is not a single woman on the Politburo

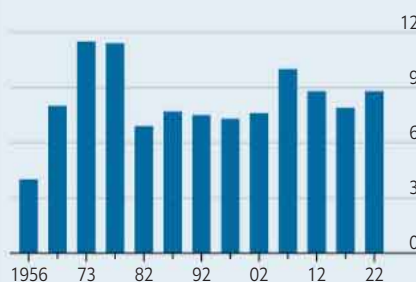
either (it has 24 members). That body has usually had one woman, a convention that reeks of tokenism. On the larger Central Committee there are 33 women (out of 376 full and alternate members). There were 30 five years ago (see chart).

Women make up nearly a third of the Communist Party's membership. But they are also poorly represented on provincial and county bodies. Relative to other countries, China is falling far behind. According to this year's "Global Gender Gap Report", published by the World Economic Forum, China ranks 80th in terms of female representation in parliament, down from 57th a decade ago. When it comes to women in ministerial positions, China fell from 86th to 139th. And on a broad measure of women's political empowerment, China slipped from 58th to 120th.

Victor Shih of the University of California, San Diego, believes the explanation is straightforward: sexism. "Gender equality is one of the lowest priorities in the Chinese government," he says. Men move up through male patronage networks—just look at Mr Xi's new team. Meanwhile, feminist activists are persecuted. China is a conservative country, where women are often expected to put their family before their careers. Even when they gain high-level jobs in government, they are often shunted into fields, such as health care or education, that don't lead to the top. So the lack of representation on the Politburo did not surprise women. Still, many were outraged. "It's so out of step with modern times," says one in Beijing. "But I don't see how it will ever change."

Little women

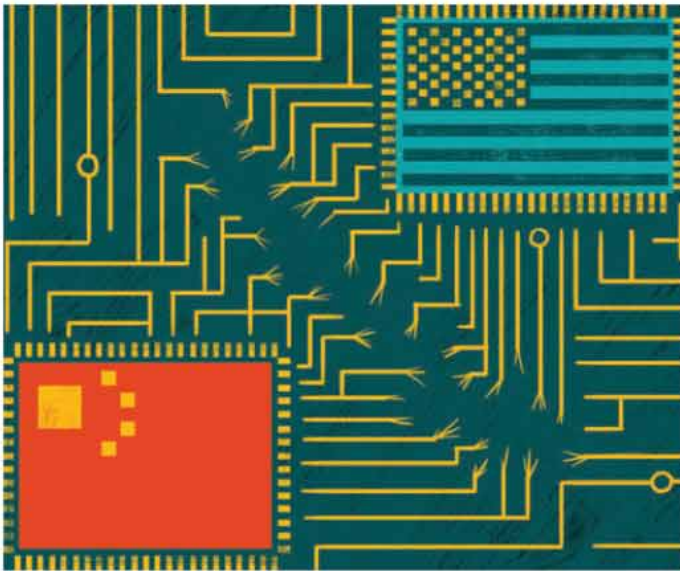
China, female representation in the Central Committee of the Communist Party % of total members



Sources: "Chinese politics in the Xi Jinping era: reassessing collective leadership", by Cheng Li, 2016; news reports

Chaguan | The coming storm

China and America are barely speaking, though crises loom



DURING DONALD TRUMP'S four years in the White House, tempests buffeted relations between America and China. There was a trade war, backed by presidential tweets "hereby" ordering American businesses to leave China. There was also mutual finger-pointing over the origins of covid-19, including conspiracy theories, promoted by Chinese diplomats, that the virus began in an American military laboratory. In 2020 Mr Trump's secretary of state, Mike Pompeo, urged his country to see clearly its differences with the "bankrupt, totalitarian" ideology of the Communist Party, and to empower the Chinese people to "induce China to change". That speech is not forgotten in Beijing, where party leaders heard a call for their overthrow.

Today, a chilly, comfortless calm reigns. The powers resemble rival battle-fleets, navigating seas filled with icebergs and other half-understood dangers. Fresh ice was sighted during the Communist Party congress which ended on October 22nd. A day later Xi Jinping was crowned as party chief for a third term, and possibly for life. Mr Xi's report to the congress catalogued threats to national security, including attempts by unnamed forces (meaning America, above all) to sabotage, subvert and contain China's rise. He stressed the need for China to show a fighting spirit and achieve greater self-reliance, especially in core technologies.

Mr Xi's bleak survey was months in the drafting. But it sounded like an echo of one delivered days earlier in Washington. President Joe Biden's administration published a National Security Strategy that accuses China of intending to reshape the international order. The strategy's unveiling was preceded by the announcement of stringent controls on exports of advanced American semiconductors and chip-making technologies. The rules aim to stop China from using American products and know-how to build supercomputers and artificial intelligence (AI) systems that could help the People's Liberation Army to create world-beating weapons, or China's police state to perfect surveillance systems. Staying ahead of strategic competitors is no longer enough, Biden administration officials explained. From now on, America must maintain as large a technological lead as possible.

To date, China has unveiled no countermeasures to these export controls, though domestic chip-making companies have

been summoned to Beijing for emergency meetings. The new controls land in a sea of bilateral troubles. Since August, when Nancy Pelosi, the speaker of the House of Representatives, angered leaders in Beijing by visiting the island of Taiwan (which China claims for its own) Chinese officials have suspended talks with America about everything from drug-smuggling to avoiding collisions involving warplanes and naval ships.

When American diplomats in China are summoned for meetings, rote talking points dominate and Chinese officials demand that America atone for its mistakes. Though COP27, a big climate-change conference, is days away, China is not letting its climate envoy, Xie Zhenhua, talk to his American counterpart, John Kerry. China has blocked UN resolutions condemning North Korean missile tests. Once Chinese envoys joined America in approving UN sanctions on North Korea. Now they blame sanctions for provoking tensions, and hint that co-operation over Korean security is conditional on better relations between China and America.

Attempts to keep relations from a free-fall can be glimpsed. Officials from both sides are working on a possible meeting between Mr Biden and Mr Xi at the G20 summit of world leaders in Bali in mid-November. In Washington, there is talk of avoiding misperceptions and ensuring that competition with China does not descend into conflict. Efforts are under way to ensure that, as Mr Xi welcomes such foreign visitors as the German chancellor, Olaf Scholz, to Beijing for a post-congress victory lap, he hears consistent messages from Western leaders, notably about Vladimir Putin's war in Ukraine, and Russian threats of escalation there.

In Beijing scholars suggest that things could be worse, noting that though the party congress heard a grim report about the international situation, there were no major changes in foreign and security policies, for instance over Taiwan. Da Wei, director of the Centre for International Security and Strategy at Tsinghua University, sees this moment as a "pause for reflection", as China absorbs a "blunt and hostile" National Security Strategy.

In Professor Da's telling, the mainstream Chinese view is that America's high-tech controls are a selfish plan to control a lucrative industry. "From China's perspective, the United States is trying to strangle China's economy, or at least some sectors," he charges. America's aim is not to defend human rights or its national security, but "to strengthen its position in the global supply chain."

Seeking a chokehold over Chinese high technology

For their part, American officials deny that export controls are a bid to contain China. Their denials refer to specific, cold-war definitions of containment, recalling George Kennan's strategy of countering all forms of Soviet influence worldwide. In reality, America has come to see domination of high-end semiconductor manufacturing as vital to national security, says Gregory Allen, a former Pentagon official specialising in AI, now at the Centre for Strategic and International Studies, a think-tank in Washington. America aims to slow China's technological progress not wreck its economy, he says. But an unspoken goal is "to preserve our ability to destroy their economy at a later time, should we need that tool."

Should China come to the same view of America's plans, the current glacial calm cannot last. Mr Biden's team is more disciplined than Mr Trump's band of hawks and ideologues, who lurched from one noisy clash with China to another. But, like an iceberg, America's ambitions are larger and more disruptive than they at first appear. Nor will American allies escape being dragged into a contest that weaponises supply chains. Ice storms loom. ■



The revolt in Iran

Will the regime fall?

As protests persist and the ayatollahs dither, regional leaders contemplate a geopolitical earthquake

SITTING ON A podium before an assembly of sportsmen on September 11th, Ayatollah Ali Khamenei, one of the world's longest-reigning leaders, sounded surprisingly perky. Defying reports of his death, the 83-year-old celebrated the pious female athletes who had been competing abroad, shrouded in veils. One, he enthused, had refused to shake the hand of "a foreign man". A victorious wrestler had prostrated himself before God, reciting the names of the imams deemed holy by Shia Muslims. The athletes, he said, had scored a "tremendous victory" (irrespective of trophies) against Western efforts to "export their culture and prevail over ours".

The supreme guide had other reasons to feel jovial. With an eye to his succession, he had purged his regime of the reformists threatening to cast doubt on the Islamic Republic. A year earlier he had replaced President Hassan Rouhani, who earned a doctorate from a Scottish university, with Ebrahim Raisi, a little-travelled, blinkered yes-man. He had fended off Western ef-

forts to curb Iran's nuclear plans. Despite Western economic sanctions, Iran's state coffers were being refilled with oil cash. And he had launched a new chastity drive bent on restoring the moral fibre of the Islamic revolution.

Two days after the sporting event, Mr Khamenei's morality police stopped Mahsa Amini, a 22-year-old Kurdish woman on a trip to Tehran, Iran's capital, for not wearing her hijab "properly". They bundled her into their van and took her away for re-education and a beating. Her death in custody unleashed a decade of pent-up frustration. At the funeral women ripped off their headscarves. Police shot back with

tear-gas, sparking protests that quickly spread. In scores of cities across an array of provinces they chanted Amini's name, crying "Death to the dictator!"—the same cry that had toppled the shah in 1979. Could it happen to the ayatollahs?

Protests against the regime have erupted before. Big ones have occurred every decade or so, but of late have come faster and more furiously. This one has been on a very different scale. The protesters no longer demand bigger handouts or political reform within the system, but the overthrow of the theocracy. The outrage has lasted longer than before and has spread beyond the middle class.

It has engulfed different religious sects and ethnicities. "From Zahedan to Kurdistan, may my life be sacrificed for Iran," runs a countrywide cry, referring to a city near the eastern border with Pakistan and an Iranian province in the west. Celebrities, sporting heroes and film stars on government payrolls have cheered on the protesters. Despite hundreds of deaths and over 12,000 arrests, Mr Khamenei's forces have failed to quell the revolt. "We're not a movement any more," says a protester at a university in Tehran. "We're a revolution that's giving birth to a nation."

For the first time in the Middle East, women have been leading the protests. They have had enough of men in turbans controlling how they must dress, travel and even work. By law, they still need male

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45 Tigray peace talks

46 Impunity and prosperity in Kenya

guardians to go between provinces or stay in hotels. If they have no male relative, a local mullah may have them married off.

But they have increasingly seen alternative ways of life on the internet and have read of the social changes sweeping across even conservative places such as Saudi Arabia. They hear their grandparents telling them of a time before the ayatollahs when women could be judges. Their mantra—*zan, zindiqi, azadi* (women, life, freedom)—encapsulates their demands.

Six weeks on, the Islamic Republic is in retreat. Women walk the streets and ride the Tehran underground without headscarves. Some raise a finger at security forces when they pass. Others offer hugs to male strangers. At Tehran's Sharif University, male students form a line of defence against the *basij*, the regime's militia of vigilantes, as women enter the male canteen.

Detractors and supporters alike speak of a sexual revolution. "For dancing in the alley. For being afraid of kissing one another," run the lyrics of a song, "*Baraye*", meaning "for", which has become the protesters' anthem. "For changing brains which have got rotten. For being embarrassed. For yearning for a normal life." "The future of Iran is a woman," says Ali Karimi, a football star who fled to the United Arab Emirates and is emerging as a spokesman in exile.

The protesters are mostly young; many are radical. Their vanguard is drawn from university and school students, who make up around a third of Iran's 86m-odd people. They are fired by ideas racing across social media, including *khoshunat-e mashroo*, or legitimate violence. They have chased Mr Khamenei's officials out of their schools, thrown Molotov cocktails at the security forces, burned down billboards with images of the supreme leader, torn down signs of the morality police centres, and mugged lone policemen and clerics.

Some of the chants mock the regime's hate-speech: "Death to the dictator!" rather than the official "Death to Israel!" The symbolic burning of hijabs has replaced the routine setting fire to the Stars and Stripes. When the shah was the butt of protests, the leader of the revolution, Ayatollah Ruhollah Khomeini, famously used to intone: "When the people do not want such a servant to serve them, he should step aside." Now the protesters echo that saying, with Mr Khamenei as their target.

That message may be swaying pious Iranians, who have been the regime's traditional base. Some of the biggest protests have been in conservative shrine cities, such as Mashhad and Qom, and in female universities, like al-Zahra in Tehran, where the regime once trained youthful Islamic ideologues. Few have answered Mr Khamenei's calls to mobilise. "They're just not showing up," says an Iranian analyst in Dubai. Many religious Iranians are appalled



Khamenei at bay

by the corruption as well as the violence perpetrated in the name of their faith. They fume at the sight of ayatollahs' sons driving Ferraris or Porsches.

So far the protesters have perhaps intentionally eschewed programmes and leaders. Their diversity makes it hard for them to agree on either. They are wary of relying on a leader who could be killed, jailed or put under house arrest, as happened to the Green Movement's leading lights after the mass protests of 2009.

Cunningly leaderless

Instead the organisation is horizontal, with hundreds of small and disparate social-media networks. They gather along main roads, not at junctions, where the riot police lie in wait. Experience has taught them that ambitious manifestos in so complex a country can be divisive. So their demands, circulated in slogans and on social-media platforms (particularly Telegram), tend to be limited to calls for the release of students from jail, the trial of security men responsible for killing protesters, and the sacking of teachers who have snatched on them.

The regime's prisons may, however, be a font of revolt. "There's more space to talk there than in cafés," says an activist who spent five years in a communal cell with 90 other dissidents. "You spend all your time thrashing through ideas with people from across Iran. We were living together and became very close." Fellow inmates included atheists, Shia reformists, Sunnis, Sufi mystics, Bahais, Christian converts and even jihadists loyal to Islamic State. Much as leftists and Islamists both did under the shah, they have honed their ideas and plans of action inside. They agree on equal rights and an end to discrimination against religious and ethnic minorities. In their separate jail blocks, women have

done the same. On their release they have met and plotted.

But this revolt has mostly been of Mr Khamenei's own making. At its outset, the regime's leadership was a hybrid of clergy chosen within their own councils and representatives elected by the people, albeit after being vetted for loyalty to Islamic rule. Parliament and a president were elected every four years. But during his reign of 33 years Mr Khamenei has ruled with an increasingly iron fist. His men on the Guardian Council excluded ever more candidates. Last year they fixed the presidential race so that Mr Raisi, an obedient hardliner, would win. The turnout was the republic's lowest on record. The safety-valve of even controlled elections was discarded. Mr Khamenei purged his theocracy of reformists. The tightening of the morality code and the raising of fines for violations curbed what personal freedom Iranians still enjoyed.

The regime is becoming bloodier, too. In 2009 it may have killed 70 people to suppress protests over a rigged presidential election. In 2019 it killed more than 1,500 in under a week of protests against cuts in subsidies, according to human-rights groups. The security forces have so far been loth to pour fuel on the fire by shooting schoolgirls. But the scale of repression has already exceeded that of 2009. Exhausted and overstretched, the security forces have sometimes failed to give warning shots. The regime is said to be offering the police double pay to enforce order. A massacre could turn the protests into a full-scale revolution.

The regime is also ramping up its surveillance. Its thugs raid protesters' homes to confiscate phones. "Don't make a fuss or we'll take you as well," they say, ensuring compliance. Newly installed high-resolution cameras match pedestrians to their identity cards and mobile phones. Businessmen who have been caught flashing v-for-victory signs at protesters have been summoned for questioning in mosques. The authorities are also rolling out a countrywide intranet to seal Iran hermetically from the world wide web. VPNs that have been used to circumvent the intranet are being closed down. The authorities have reduced street lighting, plunging neighbourhoods into darkness.

The regime's most effective weapon may be economic. Few can afford to heed calls for an indefinite general strike. Inflation, at over 50%, is at its highest in a decade. The currency's value has plummeted. Millions have fallen into poverty.

So the protesters' road is long and uncertain. The largest demonstrations have numbered tens of thousands, not the millions that toppled the shah. If the revolt is to succeed, more middle-class and middle-aged Iranians need to join the fray. The se- ➤

curity forces, police and Islamic Revolutionary Guard Corps (IRGC), the regime's praetorian body, have so far stood loyal.

There have been no significant defections from the regime. But in its senior echelons a striking silence has prevailed. Despite Mr Khamenei's call to denounce the protests, none of the former presidents has spoken up. Criticism of Mr Khamenei's slow and rigid responses is growing in official circles. Seminarians and Islamist reformists have condemned the regime's recourse to violence. A former long-serving speaker of parliament, Ali Larijani, has urged the regime to relax its enforcement of the hijab. The sports minister hosted a female climber who recently competed in Korea without a veil, wearing a hoodie and cap instead. There has been wrangling in the state media.

Mr Khamenei has long feared concessions, seeing them as signs of weakness. "He never budges," says Mohsen Kadivar, a senior theologian who now lives in America. He notes that regimes in the Middle East, such as Morocco and Jordan, that quickly amended their constitutions in the face of the Arab spring of 2011, emerged the least scathed. From Los Angeles, Reza Pahlavi, son of the last shah, has called for a referendum to decide whether Iran should be an Islamic republic, a secular one or a reconstituted monarchy.

Arguments over the succession may weaken the regime from within. Mr Khamenei, who is said to have cancer, may favour his 53-year-old son, Mojtaba, who runs the supreme guide's office and has lately—on flimsy religious grounds—been named an ayatollah. Some clerics and generals are against a dynastic succession. In June Mr Khamenei sacked Hossein Tayeb, the Revolutionary Guards' powerful head of intelligence, reportedly for opposing it.

"The IRGC are seeing the ground shift and are holding back," says Sadegh Zibakalam, a political scientist in Tehran. A former diplomat in Iran agrees. "Maybe some of the commanders are supporting the crackdown, but the rank and file sympathise with the protesters," he says.

The IRGC is not monolithic, in any case. Many of its senior people are motivated more by money than religion; the IRGC has huge business interests. Some analysts think it might sweep away the supreme guide's establishment and impose a military rule of its own under a veneer of piety.

What is certain is that Mr Khamenei and the Islamic regime are both in deeper trouble than at any time since the shah was toppled in 1979. They are dithering, unsure whether to repress more brutally or give ground. The protests could yet fizzle out, as they have before. But this time there is at least a chance that they will persist. The beginning of the end of the Islamic regime must surely be in sight. ■

Iran and the Gulf

The battle of the proxies

DUBAI

A change in Iran could drastically reshape the Middle East

IN 1985 A still young Lebanese group called Hizbullah set out its manifesto. The "Party of God", as its name means in Arabic, promised to fight Israel and the West and urged its countrymen to establish an Islamic state. Many Lebanese thought it would be a passing fad. Almost 40 years later it is the country's strongest militia, better equipped than even the army. It is a key to Lebanon's politics.

Hizbullah has been the most successful example of Iran's reach across the Middle East. Since 1979 the region has been shaped by its conflict with Saudi Arabia. Iran saw several reasons to befriend regimes and cultivate proxy militias. It hoped to spread its Islamic revolution and stride forth as a defender of its Shia Muslim co-religionists. It also sought a sort of strategic depth. Some of its leaders felt a degree of Persian chauvinism towards Arabs, particularly those in the Gulf.

The Gulf states, for their part, tried to push back. In the 1980s they supported Saddam Hussein's war against Iran (he would thank them, not long after, by invading Kuwait). And they tried to boost their own allies in places like Lebanon, often with no great success.

The late King Abdullah of Saudi Arabia called Iran's regime "the head of the snake". The Gulf states certainly hope for a change of regime to reshape the region's geopolitics. Saudi-funded news channels have covered the protests with élan: even small de-

monstrations in provincial towns merit excited coverage. On the other hand, Iran's allies are nervous. Hassan Nasrallah, Hizbullah's leader, has derided the recent protests in Iran as a foreign plot.

Yet it is hard to predict how a different Iran might look. The first question raised in Gulf circles is what kind of government would replace the clerical one. If a military regime took over, perhaps led by the Islamic Revolutionary Guard Corps, it would probably maintain support for regional proxies—if not for ideological reasons, then for strategic ones. A democratic government, by contrast, could trim Iran's ambitions. Some Iranian protesters have chanted slogans like "No to Gaza, No to Lebanon", signalling hostility to the wasteful spending of billions of dollars abroad on ruthless dictators and militias.

But if the ruling ayatollahs fell, their regional proxies would not collapse. Even cut off from its Iranian patrons, Hizbullah would still be Lebanon's strongest force. Wealthy supporters and illicit businesses would still subsidise it, and the many Lebanese Shia who see it as a bulwark against Israel and a voice for a downtrodden sect would still back it.

The Houthis, a Shia rebel group that controls much of Yemen, have drawn closer to Iran during an almost eight-year war against a Saudi-led coalition. But they are not just a cat's-paw: they emerged in the 1990s as a local insurgency. Though diminished, they would keep fighting. In Iraq, pro-Iranian factions often compete with other Shia groups, not over ideology but over access to the state's oil wealth. They could wind up battling each other, whatever the nature of the regime in Tehran.

The biggest shift could come in Syria. Bashar al-Assad relied on Iranian support to survive a long civil war, but he has no ideological affinity with the ayatollahs. He has tried to balance Iran with Russia. The invasion of Ukraine has made that harder: Russia has withdrawn some of its troops from Syria, as they are needed elsewhere.

If he could not count on either Russian or Iranian support, Mr Assad would be forced to look for new friends. He is trying to restore ties with the Gulf states, which eagerly backed the rebels who tried to overthrow him. Earlier this year he visited the United Arab Emirates, his first trip to an Arab country in a decade. If he lost his Iranian patron, he would still more eagerly crave the friendship of fellow Arabs.

Gulf states had territorial and political disputes with Iran's shah before his fall in 1979, but they found a *modus vivendi* with a fellow oil-exporting monarch. A more normal regime in Tehran could allow for expanded trade and investment across the Persian Gulf and could nudge Arab monarchs to cut back their lavish military spending. But that would depend on Iran ▶▶



▶ curtailing its support for groups like the Houthis and militias in Iraq. The same goes for Israel, which had friendly relations with the shah's Iran. It could have them again—but only if Iran curbed its nuclear programme and stopped backing groups such as Islamic Jihad in Gaza.

Some Iranians fear an uprising in their country would end not in democracy, or even a stable military regime, but something like Syria: a failed state torn apart from within. If that happened, Iran's role could ironically be reversed. Instead of directing proxies across the region, it could find itself a playground for foreign powers.

Turkey has occupied parts of Syria to

push Kurdish fighters away from the border and periodically hits Kurdish targets there and in Iraq. It might do the same in an unstable Iran. The Gulf states, meanwhile, could finance and equip ethnic Arab separatists in Iran's south-west.

For now, the Gulf is revelling in the Iranian regime's discomfort. A government that has caused so much chaos across the region now faces its own at home. But turmoil in Iran could bring unhappy consequences elsewhere. The Gulf states could look like an easy bolthole for fleeing Iranians, and the clerical regime could still urge its proxies to lash out: bring us down, and we bring down the neighbourhood. ■

struggled to control a fractured coalition of small parties that do not easily accept his leadership. His defence minister, Benny Gantz, a 63-year-old former general, leads another centrist party and claims to have a better chance of forming a government after the election. Mr Gantz believes he can entice ultra-Orthodox Jewish parties away from the Netanyahu camp.

Mr Lapid has problems on his left, too. Labour and Meretz, two of his allies, risk falling beneath the threshold of 3.25% of the total vote that is required to win seats. Under Israel's proportional-representation system, no single party has ever won an outright majority in the Knesset. So it is virtually impossible to become prime minister without horse-trading to form and maintain a coalition. If the small left-wing parties fail to make the cut, Mr Netanyahu could well have his majority.

"Israel needs parties with distinctive ideologies, like Labour," insists Naama Lazimi, who won the second spot on Labour's slate of candidates. At 36, she stands for a new generation of Labour politicians fighting to keep the party relevant. Though it founded Israel in 1948 and was in power for half its history, voters have been steadily abandoning it, heading away from the left.

"Israeli politics has been corrupted by this never-ending dispute over Netanyahu," she says. "It's why we've got Lapid's mishmash of centrism which means nothing. Someone has to be thinking about the day after Netanyahu, working to create a more equal economy and to make peace with the Palestinians."

Whereas Mr Netanyahu has shown scant interest in accommodating the Palestinians in the territories occupied by Israel, or even Arab Israelis within the Jewish state, Mr Lapid endorsed the idea of a two-state solution in a recent speech at the UN. With America's help he has also achieved a ▶▶

Israel's election

Bibi's comeback?

JERUSALEM

The race could be close, but Binyamin Netanyahu may have the edge

SIXTEEN MONTHS after Binyamin ("Bibi") Netanyahu, Israel's longest-serving prime minister, was turfed out of office by an unwieldy coalition led by a former aide, he is on the brink of returning to power. The opinion polls suggest that his Likud party will be the largest after the election on November 1st. The right-wing and religious coalition supporting him seems to be inching towards a majority in the Knesset, Israel's parliament.

But it is far from certain. This is Israel's fifth election in less than four years, after the previous four failed to yield a solid government. There may be yet another stalemate between the pro-Netanyahu bloc and the parties who refuse to join a government under a prime minister who has been indicted for fraud and bribery.

"This time will be different," promises Boaz Bismuth, a former newspaper editor running as a candidate for Mr Netanyahu's right-wing party, Likud. "The elegant explanation is that voters realise that Israel's unprecedented economic prosperity was due to 12 years of Netanyahu in office and want him back. The less elegant explanation is they've seen how, in the name of anyone-but-Bibi, his rivals included even the Muslim Brotherhood in government."

This refers to the coalition formed last year by Yair Lapid, the incumbent prime minister, who cobbled together a wobbly array of eight parties, including nationalists, centrists, left-wingers and—for the first time in Israel's history—a conservative Islamist party.

Mr Lapid was so bent on forming a government that in order to ensure a majority he was prepared to let Naftali Bennett, the

leader of a small right-wing party, have the first stint as the coalition's prime minister. But the government failed to sort out its differences. After just a year in office, on June 20th Mr Bennett announced he was resigning, leaving Mr Lapid as caretaker prime minister until the coming election.

A former columnist and chat-show host now aged 58, Mr Lapid has built up Yesh Atid, the centrist party he founded in 2012, to become the second-largest in the Knesset, rivalling Likud. He offers Israelis the prospect of "normalcy" after years of strife under Mr Netanyahu. "Israelis are sick of waking every day to a prime minister in the headlines," he says.

Unlike Mr Netanyahu, now 73, he has



Unfurling the irrepresible Bibi

deal with Lebanon to demarcate the maritime border between the two countries, allowing a rich gasfield to be exploited. At the same time he buffed up his security credentials in the summer by overseeing a brief offensive against Islamic Jihad in Gaza. This week he praised his armed forces for a raid on the West Bank city of Nablus, where they killed five militants.

Nonetheless, the Palestinian issue has barely featured in the campaign. Israel's century-old conflict with the Arabs was once the main division in Israeli politics, but now the camp aligned with Mr Lapid includes right-wingers resolutely against creating a Palestinian state.

This election campaign has anyway again been short of real arguments over policy. The two blocs have made crude accusations against each other. Mr Lapid's lot warn of the "end of democracy" if Mr Netanyahu were to return. The right-wing religious camp laments the "end of the Jewish state", should Mr Lapid's coalition prevail.

Mr Netanyahu craftily engineered the merging of three small far-right parties into the Religious Zionism list. This includes Jewish Power, an intensely anti-Palestinian and Jewish supremacist party, led by Itamar Ben-Gvir, that was once on the very margin of Israeli politics. To form a coalition Mr Netanyahu may have to meet some of the ultra-nationalists' demands for control over law enforcement.

Religious Zionism has concocted a plan to change Israel's legal system by limiting the powers of the Supreme Court, which has been sturdily independent. It also wants to abolish the "breach of trust" clause in criminal law, whereby many officials have been indicted. Mr Netanyahu is facing three such charges in a corruption trial that began two years ago.

Simcha Rothman, a member of the Knesset from Religious Zionism who wrote the legal-reform plans, hotly denies that the intention is to get Mr Netanyahu off the hook. And religious Zionism, if the opinion polls are right, is on course to become the third-largest party. It appears to be taking votes away from Likud and Mr Netanyahu's other religious partners. The far-right's message is apparently resonating with young, first-time voters.

With the two camps almost neck-and-neck, turnout may tip the balance. Arab Israelis, about a fifth of the population, may be crucial. In the last election, in March 2021, turnout nationwide was 67%, but among Arab Israelis it was around 45% and is likely to stay the same. Last time some of the main Arab parties came together in the Joint List. But this time three Arab parties are running separately, each liable to drop below the threshold. If that happens, Mr Netanyahu's chance of winning a majority will rise. Only a last-minute surge of Arab votes might keep him out. ■

The war in Tigray

Slow-talking

NAIROBI

Ethiopia's peace talks may be overtaken by battlefield advances

IT WAS AN inauspicious start to ending a catastrophic war. The first official direct peace talks between the Ethiopian government and the leaders of Tigray, its rebellious northern region, were meant to have begun in early October in South Africa. When they at last opened on October 24th, the delegation sent from Addis Ababa, the Ethiopian capital, had still not arrived. Its chief negotiator, Ethiopia's deputy prime minister, Demeke Mekonnen, failed to show up at all. Thus the first scheduled day of talks slipped by without progress.

There ought to be no time to waste. Hundreds of thousands are believed to have died in the war, which is about to enter its third year, either in the fighting or from hunger and disease. Millions of civilians in Tigray, the focus of the conflict, are under blockade and running out of food and medicine. Almost no aid has entered the region since late August, when a five-month humanitarian truce ended.

Since then tens of thousands of ill-trained recruits from Ethiopia and neighbouring Eritrea have been slung into battle against the self-styled Tigray Defence Force (TDF). The mounting devastation and risk of yet more atrocities in a conflict already deeply stained by the blood of murdered civilians are reasons why many Ethiopians and outsiders hope for a swiftly negotiated end to the war.

They will probably be disappointed. Ethiopia seems to be in no rush to talk because its forces and their Eritrean allies have made rapid gains on the battlefield. On October 17th they captured the strategic town of Shire and soon after that the historic cities of Adwa and Axum (see map). Just days later Abiy Ahmed, Ethiopia's

prime minister, proclaimed that victory was nigh. Federal forces now appear to be closing on Mekelle, Tigray's regional capital. This raises the prospect of Tigray's leaders, the Tigrayan People's Liberation Front (TPLF), being forced to evacuate the city for the mountains as they did in November 2020. Then, too, Abiy declared victory. Yet Tigrayan troops soon switched to guerrilla tactics and in July 2021 regained control of Mekelle and other key towns.

The latest advance of Ethiopian and Eritrean troops into Tigray has sparked an exodus of hundreds of thousands of civilians into the countryside. Many remember the lootings, murder and rapes during the occupation by federal forces last year. "Massive displacement again," says a UN official. "The numbers are staggering."

The prospect of an even greater humanitarian disaster is shaking outsiders. On October 17th the UN secretary-general, António Guterres, warned that the situation was "spiralling out of control". Both the AU and the UN Security Council have since met to discuss the crisis.

In the talks Tigray's leaders have demanded an immediate halt in fighting (as have the AU and Western countries). But Abiy and Issaias Afewerki, Eritrea's dictator, are unlikely to agree to this. Instead they seem determined to repeat the trick the TPLF itself pulled off in 1991 when it was a rebel army fighting the oppressive communist junta running Ethiopia. That was to make ongoing peace talks redundant with a decisive military victory. People familiar with the government's plan say it is to install an interim administration in Tigray while it hunts down whatever remains of the TPLF's leadership.

There is little reason to believe this effort would be any more successful than a previous attempt in early 2021. And although Tigray's leaders may soon relinquish control of Mekelle, they are unlikely to give up the fight. "The only option we have is to resist," said Debretzion Gebremichael, the regional president, on October 24th. Indeed, the TPLF's great strength lies in guerrilla warfare. It was using these tactics that it overthrew the central government in 1991 (before taking the reins itself for the next three decades) and kicked the occupying Ethiopian and Eritrean armies out of Tigray last year. "They're going to make Tigray ungovernable," predicts Alex Rondos, a former EU special envoy to the Horn of Africa.

Abiy, meanwhile, is already battling on other fronts. On October 22nd rebels in Oromia, the largest region, said a government drone strike had killed scores of civilians there. The task of pacifying Tigray will further stretch Abiy's forces and the country's fast-deteriorating economy. A protracted insurgency in Tigray is the last thing Ethiopia needs now. ■



Kenya's new president

See no evil

NANYUKI

Will William Ruto serve the people or himself and his pals?

CABINET CONFIRMATION hearings rarely make for compulsive viewing. But few parliamentary committees are asked to vet nominees with pasts quite so contentious as some of those proposed by William Ruto, Kenya's new president (pictured). Take, for instance, Aisha Jumwa, Mr Ruto's nominee for gender secretary, who has spent the past year juggling simultaneous murder and corruption trials. Or Mithika Linturi, put forward to run Kenya's agriculture, who was charged last year with attempted rape. (Both deny all charges.)

This should be red meat for any self-respecting watchdog committee. Yet its members have seemed strangely reluctant to munch. Ms Jumwa's legal troubles elicited only a brief mention when she appeared before them on October 18th. Others who have been in and out of trouble in the past got an even easier ride. The committee did not ask one nominee why he once threatened to sexually assault a female MP with a beer bottle and glossed over British court documents suggesting that another had taken bribes from two British businessmen jailed in 2015. Njuguna Ndung'u, the president's treasury secretary, happily batted away politely couched questions about the scandals that marred his time as the governor of Kenya's central bank.

Kenya has a dire history of corruption and impunity. Had Mr Ruto been so minded, he could have appointed ministers with cleaner reputations. He did not. One reason is expediency. He won the election in August by a wafer and against the odds. To defeat the combined forces of his predecessor, Uhuru Kenyatta, and Raila Odinga, Mr Kenyatta's favoured successor as president, Mr Ruto had to build a large, multi-ethnic coalition. In so doing, he accrued a fat wodge of political debt, some of it from less-than-salubrious types. Several of his cabinet choices smack of payback.

Mr Ruto seems untroubled by his minions' baggage, perhaps because he carries so much of his own. He was charged by the International Criminal Court in The Hague with orchestrating ethnic killings after a disputed election in 2007. He pleaded innocent and the trial was halted amid accusations of witness-tampering, though the judges pointedly declined to acquit him.

The charges evidently did not hurt Mr Ruto when it came to the recent presidential poll. Indeed, most Kikuyu, allegedly the main victims of the killings after the



An audacious start

election of 2007, voted enthusiastically for him. He may reckon that if voters were willing to overlook so great a scandal they would be unbothered by smaller ones, too.

Unlike Mr Odinga's campaign team, the new president's one pointedly refused to make the fight against corruption a priority. "For chrissakes stop whining," David Ndi, his chief policy strategist, wrote on Twitter last December in response to concerns about Mr Ruto's seeming indifference to financial transparency. "If you are looking for an anti-corruption platform don't support [us]." Instead of "virtue-signalling", says Mr Ndi, the Ruto administration will deliver competent government, an end to injustice and greater prosperity for those at the bottom.

Hard bargain

Such promises may raise eyebrows, given the wealth at the top. The 22 cabinet nominees who appeared before the committee declared they had a net worth of \$125.7m between them. Since the average Kenyan has a yearly income of just \$2,000, this disparity might cause resentment. It should rather be a source of inspiration, says Mr Ndi, a sign that in President Ruto's "hustler nation" every Kenyan will have an "equal opportunity to be a billionaire".

So a tacit bargain is being offered to the Kenyan people: forgive us our trespasses and we will deliver you from poverty. This is reflected in the Ruto administration's

early policy pronouncements. On October 4th the government lifted a ban on cultivating and importing genetically modified maize, a move that could help lower food-price inflation, which surged to 15.5% in September. Mr Kenyatta's petrol subsidy, which favoured richer car-owners, was swiftly ditched, but kept in place for diesel and kerosene, fuels used by the poor. Subsidies have been introduced for fertiliser in an effort to lower the price of farm inputs. Meanwhile, the government is set to launch a fund in December to ease access to credit for small businesses.

Other early moves have raised cautious hopes. Mr Ruto has promptly disbanded the Special Service Unit (ssu), a police unit infamous for dispensing summary justice and clogging rivers with the corpses of its victims. The president is also trying to burnish his pro-market credentials with plans to privatise state-owned companies. Seeking to contrast himself with his predecessor, who let public debt swell alarmingly, Mr Ruto has told the treasury to cut \$2.5bn in recurrent spending.

He sounds pragmatic in foreign policy, too. Whereas he was often hostile towards China in his campaign, promising to deport Chinese citizens he claimed were taking Kenyan jobs, his tone in office has become more conciliatory of late. This has not stopped him aligning with the West elsewhere, however. Kenya recently voted in the UN General Assembly to condemn Russia's annexation of four Ukrainian regions, unlike the 18 African countries including South Africa that abstained. It did the same in the UN Security Council, where it holds a non-permanent seat.

It is too soon to say whether the president is keener to serve Kenya's people than himself and his cronies. Some suspect, for instance, that he disbanded the ssu only because it abducted two Indian members of his election-campaign team, who disappeared along with their Kenyan driver in July and have not been seen since.

Some signs are worrying, however. Criminal cases against Mr Ruto's allies are rapidly being abandoned. Mr Linturi's attempted-rape trial collapsed after his alleged victim withdrew her complaint. The director of public prosecutions announced he was withdrawing corruption charges against Ms Jumwa, while the family of the man she allegedly murdered says it is now pursuing an out-of-court settlement. A corruption case against Rigathi Gachagua, who has not even bothered to attend his trial since he became deputy president, is also likely to be dropped.

Mr Ruto's aides insist that all these cases were trumped up by his predecessor in order to silence him. Kenyans will be praying so. But impunity today in exchange for the vague promise of prosperity tomorrow is not the deal most were hoping for. ■



Russia

Life after Putin

Some among Russia's elite are starting to think the unthinkable

WHAT IS NEXT? Is there life after Putin? How does he go and who replaces him? Such are the questions that weigh heavily these days on the minds of the Russian elite, its bureaucrats and businessmen, as they observe the Ukrainian army advancing, talented people fleeing Russia and the West refusing to back down in the face of Vladimir Putin's energy and nuclear blackmail. "There is a lot of swearing and angry talk in Moscow restaurants and kitchens," one member of the elite says. "Everyone has realised that Putin has blundered and is losing."

This does not mean that Mr Putin is about to bow out, be overthrown or fire a nuclear weapon. It does mean that those who run the country and own assets there are losing confidence in their president. Russia's political system appears to be entering the most turbulent period of its post-Soviet history. Western governments, too, are starting to worry that Russia could become ungovernable.

"Never before has Vladimir Putin been

in such a situation in the 23 years of his rule," says Kirill Rogov, a Russian political analyst. In the past, when confronted by difficult situations such as the loss of the submarine *Kursk* and its 118 crew members in 2000, or an appalling school siege in 2004 that ended with the deaths of 333 people, he managed to deflect responsibility and retain his image as a strong leader. "Now he is planning and executing operations that are visibly failing."

The invasion of Ukraine on February 24th was a shock to the Russian establishment, which had persuaded itself that Mr Putin would not risk full-scale war. But the mixture of his initial, if limited, military

advances, the absence of an economic collapse in Russia, and early attempts at peace negotiations calmed nerves. (Heavy drinking may also have helped; it became so acute that Mr Putin started to complain in public about alcoholism.) Some members of the elite even, for a while, persuaded themselves that Mr Putin could not lose.

This view has been shattered by Mr Putin's "partial" mobilisation. It showed that his "special military operation" was faltering; and, by drafting more troops, he was seen to be dragging the country deeper into the conflict. And as a mass exodus and extensive draft-dodging have shown, his attempt to turn his venture into a new "Great Patriotic War" has so far failed. The mobilisation has broken the basic premise of the public's acquiescence to the war: that it would not demand its active participation. In Moscow, Russia's richest city, where men were being press-ganged in the streets, the mayor, Sergei Sobyenin, felt compelled on October 17th to announce that conscription was over. Other regions, with less lobbying power, will have to make up the shortfall.

Mr Putin cannot win his war, for from the very start it had no clear goals; and, having lost so much, he cannot end it without being deeply humiliated. Even if the fighting in Ukraine were to cease, a return to peaceful pre-war life is all but impossible under his belligerent presidency. Meanwhile, the economy is starting to ►►

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▶ show the effects of sanctions and of the exodus of the most skilled and educated members of the workforce; consumer confidence is on the slide.

A ceremony on September 30th, in which, after a ranting speech against the West, Mr Putin annexed four provinces in Ukraine that he does not actually control, was so absurd that it probably undermined his aura of strength even within Russia. As Tatyana Stanovaya, a political consultant, puts it: “Until September, the Russian elites had made the pragmatic choice to support Putin...but matters have progressed so far that they may now have to choose among various losing scenarios.”

A military defeat might well lead to the collapse of the regime, with all the associated risks for those who have supported it. Mr Putin’s bellicosity meanwhile “raises the question of whether the Russian elites are prepared to stick with Putin until the bitter end, particularly amid growing threats to use nuclear weapons,” Ms Stanovaya notes. Mr Putin has gone from being a perceived source of stability to one of instability, and danger. This week Ksenia Sobchak, reputed to be Mr Putin’s goddaughter, fled ahead of arrest, a sign that the elite is now devouring its own.

Abbas Galyamov, a political analyst who has spent time in the Kremlin, argues that in the next few weeks and months the elite, whose members have always trusted Mr Putin’s ability to preserve his regime (and them), will realise that it is up to them to save it and even their own lives. This, he says, will intensify the search for a possible successor within the system.

Mr Galyamov’s list of potential candidates includes Dmitry Patrushev, the son of Nikolai Patrushev, who is the head of the Security Council and one of the chief ideologues of the regime. Mr Patrushev junior is a former minister. Though part of the family, he could be seen as a fresh face because of his youth. More familiar possibilities include Sergei Kiriyenko, the deputy chief of staff at the Kremlin; Mr Sobyenin, the mayor of Moscow; and Mikhail Mishustin, the prime minister, who could make an alliance with some of the security men and play the role of a moderate negotiator with the West.

Yet, as Alexei Navalny, Russia’s jailed opposition leader, argued recently in the *Washington Post*, the hope that “Mr Putin’s replacement by another member of his elite will fundamentally change this view on war, and especially war over the ‘legacy of the USSR’, is naive at the very least.” The only way to stop the endless cycle of imperial nationalism, Mr Navalny argued, is for Russia to decentralise power and turn itself into a parliamentary republic. In what looked like an appeal to the Russian elite, Mr Navalny argued that parliamentary democracy is also a rational and desirable

choice for many of the political factions around Mr Putin. “It gives them an opportunity to maintain influence and fight for power while ensuring that they are not destroyed by a more aggressive group.”

This “more aggressive group” has already started to emerge. It includes Yevgeny Prigozhin, a former criminal known as “Putin’s chef”, who runs a group of mercenaries called the Wagner group, and Ramzan Kadyrov, the strongman of Chechnya, who has his own private army. Both men are seen as personally loyal to Mr Putin. Ekaterina Schulmann, a political scientist, has likened Mr Prigozhin’s men to *oprichniki*—a corps of bodyguards established by Ivan the Terrible—who have plunged the country into chaos. Russia’s dictator wants to turn Ukraine into a failed state. Instead, he is fast turning Russia into one. ■

Ukraine

Fighting dirty

KYIV

Russia braces for a battle over Kherson

EVEN THE statues are leaving. For decades, the stone and bronze busts of Fyodor Ushakov and Alexander Suvorov, a pair of 18th-century Russian commanders, looked over the centre of Kherson, a city in Ukraine’s south. In late October, under the cover of darkness, they disappeared, presumably carried off by the Russian troops who have occupied the city since March. The living are on the move, too. The puppet authorities installed by the Russians are evacuating thousands of the city’s remain-

ing residents across the Dnieper river, deeper into Russian-controlled territory. Some Russian officers are following in their footsteps. They are not packing light. Ukrainian officials say cash has been removed from the vaults of Promsvyazbank, the biggest Russian bank in the city. Looting has become common.

Months of Ukrainian artillery strikes seem at last to have paved the way for advances on the ground in surrounding Kherson province. Since early October, Ukrainian forces have broken through Russian defences in the province’s north-east, recapturing more than 500 sq km of territory. But the evacuation of the city, and the withdrawal of some troops, does not mean Russia is about to give it up. The advancing Ukrainians want to avoid an urban battle, which would risk leaving the city in ruins. But they may have no choice.

Kherson is the gateway to Crimea, which Russia has occupied since 2014. In September, a month after Ukraine launched its southern counteroffensive, the Russians formally annexed Kherson province, along with three others: Luhansk, Donetsk and Zaporizhia. Heavy Ukrainian shelling, and the use of American HIMARS artillery systems capable of hitting targets deep behind enemy lines, have destroyed Russian bases and supply routes, including bridges over the Dnieper.

But this has not softened up Russian defences as much as expected. “We believed they would try to move their bases far away to save their officers and armour,” says Volodymyr Omelyan, an army captain and former government minister, who recently came back from the Kherson front. “But after we destroy one base, they move more people into place and we hit once again.” Mr Omelyan says that Russian commanding officers are indeed being moved back to the eastern bank of the river, but are being replaced by ordinary troops, including new conscripts.

The Russians are pulling back their most capable troops to refashion them into units that would be able to go on the offensive early next year, says a Ukrainian intelligence source. The defence of the Russian strongholds will be left mostly to newly mobilised troops. At least for now, the Russians are not retreating, but regrouping. Russia cannot afford to abandon the Dnieper’s western bank to the Ukrainians, says Oleg Zhdanov, a military expert. “The defence in the Zaporizhia direction would collapse. They would lose the nuclear power plant, the North Crimean Canal, meaning the water supply to Crimea, and the land corridor to Crimea,” he says. But the Russians are keenly aware that Ukraine has the momentum.

Meanwhile, Russia has begun to talk up the threat of a dirty bomb or an attack on the nuclear plant in Zaporizhia, which it ▶▶



▶ would blame on the Ukrainians. Volodymyr Zelensky, the Ukrainian president, claims Russia is planning to blow up the dam at Nova Kakhovka, upriver from Kherson. The resulting floods would prevent Ukrainian troops from pursuing the Russians across the Dnieper. They would also displace hundreds of thousands of people.

Russia's warnings are directly related to the situation in Kherson. Vladimir Putin is hoping to put pressure on Ukraine and its Western partners to accede to negotiations and a ceasefire, says Mr Zhdanov. "Putin needs to stop Ukraine's armed forces at any cost," he says, "because he understands that his army is not holding what they have captured." The Ukrainians are not likely to give in to such blackmail. In Kherson, Mr Putin and his commanders may soon face some difficult choices indeed. ■

Italy

Enter Giorgia

ROME

Italy's new prime minister takes office

A REASON COMMONLY given by voters for choosing Giorgia Meloni and her Brothers of Italy (Fdi) party in last month's general election was her consistency. In her eight years leading the party, she had never wavered in her advocacy of hardline conservative policies, even resisting the lure of office in 2021 by refusing to join Mario Draghi's outgoing government of national unity.

However, on the evidence of Ms Meloni's moves since becoming Italy's first woman prime minister on October 21st, the last thing anyone should expect of her is consistency. Fated to govern with two fractious coalition partners and seen in much of Europe as a far-right Eurosceptic, she has too many balances to strike and fears to allay to remain dogmatic.

In her first speech to parliament, on October 25th, Ms Meloni went to unprecedented lengths to dispel the misgivings that arise from her and her party's erstwhile allegiance to neo-fascism. "We shall combat all forms of racism, anti-Semitism, political violence and discrimination," she declared. Using stronger language than ever before, Ms Meloni said the anti-Jewish laws passed under Benito Mussolini's dictatorship in 1938 were "a disgrace that will taint our people for ever". Less convincingly, she claimed she had never felt sympathy for undemocratic regimes (even though, in a filmed interview as a young activist, Ms Meloni praised Mussolini).

Her speech will have found favour in

Washington. Acknowledging that Russia's invasion had brought higher energy costs that would ruin companies and cost jobs in Italy, she insisted that "those who believe Ukraine's freedom can be bartered for our peace of mind are wrong". In Brussels and Frankfurt, observers may be more wary. True, Ms Meloni made no mention of the wholesale revision of the EU's treaties that once featured in her party's manifesto. But she reserved the right to criticise its workings, vowing to "make [Italy's] voice heard loudly". And she took a swipe at the ECB over its interest-rate policy.

Italy stands to receive almost €200bn in grants and cheap loans from the EU's post-pandemic recovery fund. But the flow of cash depends on the introduction of structural reforms, and Ms Meloni made no commitment in her speech this week to implement them (though self-interest suggests that she will have to). That, however, was all of a piece with the uncertainty that clings to much of her government's economic direction. The Brothers inherited from their political forebears a taste for state intervention that is anathema to the other main parties in the coalition, the Northern League and Silvio Berlusconi's Forza Italia. Apparently embracing economic liberalism, Ms Meloni declared that her government would embark on a programme of simplification and deregulation to ensure the least possible interference with business. Yet she also appeared to foreshadow a renationalisation of Italy's strategic infrastructure, starting with communications. The ownership of key networks would be public, she said, while the operators would continue to compete freely on them.

In what looked like an attempt to upstage and pre-empt Ms Meloni, the leader of the League, Matteo Salvini, held an "eco-

nomie summit" on the eve of her big speech to agree his party's line on the policies the government should adopt. Mr Salvini is also the infrastructure minister, a post that offers him control of Italy's ports and coastguard. That in turn gives him a say in dealing with the handling of migrants rescued from the Mediterranean. But the infrastructure ministry also provides him with a chance to revive his party's waning popularity by authorising costly investments that generate jobs and profits (he is already pressing for a bridge to link Sicily to the mainland). Ms Meloni, by contrast, has nailed her colours to the mast of fiscal prudence. How this tug-of-war will play out may also depend on the new finance minister, Giancarlo Giorgetti, a respected moderate, but also subordinate to Mr Salvini in the League.

Some things are clear. Ms Meloni intends to spend most, if not all, of a handy €10bn surplus left by Mr Draghi on further measures to offset the burden of energy costs. More controversially, she plans a moratorium on fines for the non-payment of taxes. She also committed herself to other measures to stimulate growth, including income- and employment-tax cuts and the extension of a flat rate for the self-employed. But these, like a reform of the pension system, would either be phased in gradually or introduced later.

Ms Meloni wants to open unexploited offshore-gas fields and remove bureaucratic obstacles to the development of renewables, particularly in the south. Both measures are bound to run into opposition, though. An important reason for the red tape surrounding wind and solar farms is that Italy's mafias have proved adept at securing the contracts to build them. As Ms Meloni is doubtless aware, Italy is not an easy country to govern. ■



Just an old sweet song

European energy links

Gridlocked

LONDON AND MADRID

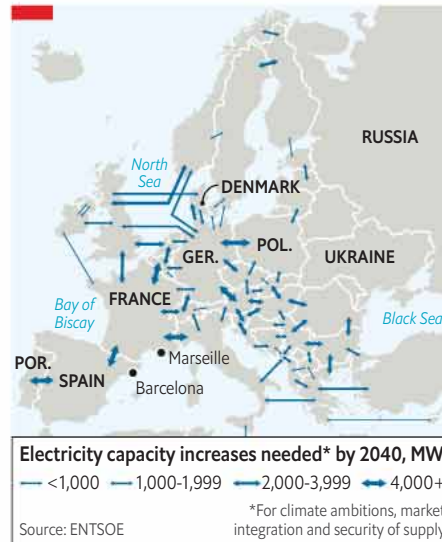
Europe needs a lot more gas and electricity interconnections

THE EUROPEAN project is all about connecting countries. But when it comes to energy, that has often proved tricky. After years of discussion about MidCat, a gas pipeline through the Pyrenees aiming to bring imported Spanish natural gas to the rest of the continent, the plan was abruptly shelved on October 20th. France has its own energy plans, with a dominant nuclear-power industry and sufficient gas-import facilities for its needs, and saw little need to spend money on the project. As compensation, France's Emmanuel Macron agreed to launch a new scheme—an undersea pipeline for natural gas and hydrogen from Barcelona to Marseilles, called BarMar.

The logjam over MidCat is a good example of why Europe's energy market remains fragmented. The continent's energy system is undergoing its largest transformation yet. It needs to slash carbon emissions through increasing the share of renewables in electricity generation, while producing more juice for an increasingly electrified population of cars, and to run heat pumps that replace gas. Meanwhile the gas market, which in Germany and its eastern neighbours has long been dominated by Russia, now needs to adapt to receiving more liquefied natural gas (LNG) through ports for distribution across Europe.

This new reality requires more comprehensive European energy grids. Start with electricity. Solar and wind power are intermittent, so large amounts of electricity need to be moved from where wind and sun happen to be plentiful to where electricity is needed. "It is a lot cheaper to make a power market more flexible across space, through the grid, than to make it more flexible across time by storing electricity," says Christoph Maurer of Consentec, an energy consultancy. To avoid overloading a grid that is not able to distribute power widely, renewable energy sometimes just has to be switched off, which is a waste.

Denmark, for instance, is a large supplier of wind energy. It would like to send more power southward. But there is too little transmission capacity within Germany, mostly out of NIMBYISM, as few people enjoy living next to large power lines. When there is too much wind along both countries' coasts, Germany shuts down the interconnector in order to prioritise its own wind power. As a result, Danish turbines have to stop turning. Europe's transmis-



sion operators reckon that a proper continent-wide grid (see map) could be saving 110 TWh in renewable energy a year this way by 2040, which amounts to about 10% of current renewable generation.

As for Europe's gas grid, it was designed to bring in gas through pipelines from the north and east, and to connect countries so that some of it can be distributed further. It was also meant to increase competition between different gas providers. Now that Russian supplies have evaporated, Spain's six regasification terminals for LNG—a



Power to the people

third of the EU's entire capacity—would come in handy to bring in more gas and diversify Europe's supplies. Yet just as Germany declined to build costly LNG terminals before the Russian invasion of Ukraine, France was never keen on Spanish competition. In fact, the only pipeline connecting Spain and France was originally built to export North Sea gas to Spain, not the other way around.

With politics standing in the way of decent grids, the EU's energy market remains incomplete. The EU has done much to set energy-market rules. But its members retain the final say over the building and approval of the physical kit—pipelines, power lines, wind-parks, solar farms and LNG terminals. To speed things up, the EU has set targets for more interconnectors. However grid projects in Europe, either within countries or between them, take time.

Things could get worse before they get better. Though there is now a drive to fast-track the approval and construction of renewable-energy sources, the EU's electricity grid may not expand fast enough. Long-distance, high-voltage lines take a decade or more to plan and build, while wind-parks typically take only five years and solar plants even less.

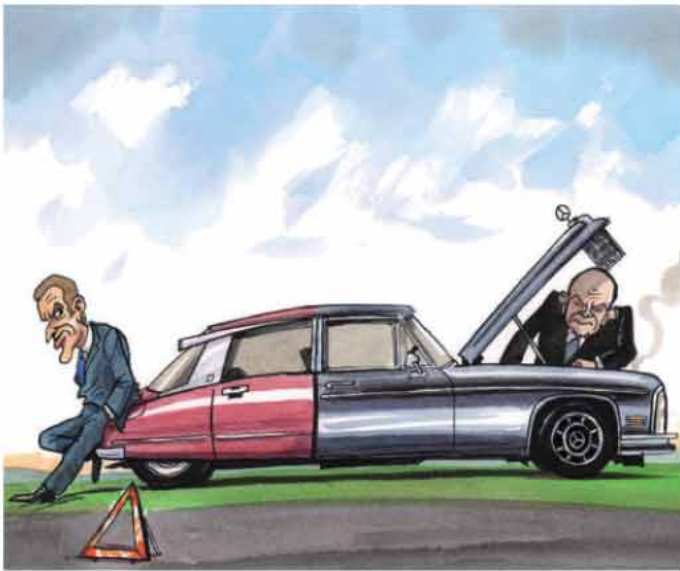
Grid planners have now started to respond. An offshore wind-park in the German North Sea will not be connected to the local grid at all. Instead, its operators plan to build a 250km underground cable to the northern Ruhr area. In effect, they plan to bring the power to the grid as if the offshore park were handily in the middle of Germany's industrial heartland. Bruegel, a think-tank, reckons that 16bn cubic metres' worth of EU gas interconnection will come online in 2022, about a tenth of the loss from Russia, because some countries such as Poland did prepare and diversify. More will follow.

As for sun-soaked Spain, bringing its vast solar-power potential to the continental market requires high-capacity connections to France. But the countries have been at loggerheads for years, if not decades, over French resistance to opening its market to Iberian power. As part of the deal over BarMar, the countries also agreed to speed up a planned undersea electrical connector to run beneath the Bay of Biscay. That is a start. In Denmark, interest in connecting the country's large wind-parks to Germany, the Netherlands and Belgium is high, says Klaus Thostrop from Energinet, the Danish grid operator.

And the BarMar project itself may get lucky. It is intended to transport hydrogen produced with renewable power to the European market. Since producing and using "green hydrogen" at scale is still a long way off, BarMar may be one of the few energy-infrastructure projects in Europe that is completed in good time. ■

Charlemagne | The missing spark

Europe has a problem: France and Germany have forgotten how to fight



THE RELATIONSHIP between France and Germany is of such import to both that each side has home-grown analogies to describe it. For the romantics in France, the country of Charles Baudelaire and Victor Hugo, the alliance is often imagined as a couple, who bicker and occasionally dally with others. In no-nonsense Germany, home of Audi and Volkswagen, the duo forms an engine, a series of controlled explosions used to drive Europe forward. Whichever image one prefers, the current state of the relationship is dire. The ardour has cooled/the cylinders are misfiring. Previous bouts of Franco-German discord strained the EU but led to resolutions that forged European integration. Today's squabble is nothing spectacular but it is worrying: nobody can see how it ends in productive compromise.

This week ought to have marked the annual renewal of vows/regular tune-up of the Franco-German motor. A joint cabinet meeting bringing together both countries' ministers was due to take place on October 26th. Awkwardly for a symbolic show of unity, the confab was postponed at short notice. Officially a clash of diaries was to blame; a lunch between the German chancellor Olaf Scholz and Emmanuel Macron, France's president, was hastily arranged instead. In truth Germany and France are on opposing sides on an unusually long list of topics. Neither side felt its ministers had much to chat about. Repeated assurances from both capitals that things are fine merely add to the feeling they are not.

Much of the latest strain is related to Ukraine. As regards the war itself, France and Germany broadly agree that Ukraine needs support but not at the cost of totally alienating Russia—an approach that has earned them both brickbats from hawks in central and eastern Europe. It is the handling of the war's ripples that has deepened sometimes pre-existing rifts. France had hoped for more EU joint borrowing to finance the cost of more expensive energy, or for gas prices to be capped; Germany pushed a €200bn (\$200bn) domestic-subsidy package instead. Germany wants to revert to pre-covid EU budget rules; France wants to keep spending. France wants joint EU procurement of military kit; Germany thinks that is a sop to French firms and prefers American materiel. The list goes on.

Strains in relations between France and Germany matter be-

yond Paris and Berlin. Though it may be resented in 25 of the EU's 27 countries, the couple/engine sits at the heart of the endeavour. All the milestones of European integration, from the euro to free movement, enlargement or the single market, were the result of Franco-German compromises. Agreement between the two is usually a sufficient condition for European policy to be made: it is always a necessary one. In part that is because of their size. The two combined make up a third of the EU's population and two-fifths of its GDP. But elemental differences between the two amplified the impact of any agreement they reached. A policy that was amenable to the heart-led French could be assumed to appeal to much of southern Europe. What hard-headed Germany found acceptable would also pass muster in anywhere from the Netherlands to Austria and eastern Europe, at least before the war.

A division of labour worthy of an old married couple/a finely tuned machine has emerged over the years: France comes up with lots of new ideas, Germany accedes to a few of them. Mr Macron wanted a big euro-zone budget, for example, and the then chancellor, Angela Merkel, stalled for years and at last agreed to a big pandemic recovery fund. Disagreement has been a feature of the relationship, not a bug. These days France still buzzes with new schemes. But in its eyes Germany is not so much unresponsive as diplomatically comatose. In the past the finding of compromise could be dramatic. A decade ago Mrs Merkel was moved to actual tears of frustration when offered a French-infused plan to save the euro, a version of which she later agreed to. Mr Scholz in contrast seems completely unmoved by Parisian griping. It is not known whether he even has tear ducts.

It does not help that Messrs Scholz and Macron have little in the way of a personal relationship. The two are different, and need different things from each other. The French president is a young risk-taker whose best route to a legacy as a reformer (having lost control of parliament back home) goes via Europe. Mr Scholz is a former regional politician near retirement, who will probably be remembered (or not) for his *Zeitenwende*, a recasting of German defence and foreign policy that followed the invasion of Ukraine. Mr Macron needs Germany to achieve his aims; Mr Scholz is focused on keeping his two domestic coalition partners happy.

Vorsprung durch Europa

Low-level issues like subsidies and budget rules aren't usually enough to sour the Franco-German relationship. But the way Europe is changing means such irritants can gain a new dimension, says Luuk van Middelaar, a Dutch political writer. The war has rebooted the idea of an EU stretching to Kyiv and beyond—as Mr Scholz has noted. Geographically speaking at least, a pivot to the east would make Germany look central and France seem rather peripheral, especially after Brexit. Politically, in certain instances a more assertive Germany post-*Zeitenwende* could find ways to replace its age-old French ally if circumstances suit one day, though France has no appealing way of bypassing Germany.

That anyway seems a distant prospect at present: Germany is isolated in Europe and France is not. Mr Macron's agenda of "strategic autonomy" has aged better than German dependence on Russian gas and exports to China. But things might change. A future where France is merely one of many potential partners for its bigger neighbour is a discomfiting possibility in Paris. A spat with Germany, followed by a make-up episode filled with new EU policies, would be a way for France to show it still matters. But you can't fight someone who seems not to care. ■



Rishi Sunak

Smiles atop the rubble

Rishi Sunak, Britain's new prime minister, starts on the defensive

BRITAIN HAS HAD a run of new prime ministers with bold agendas. From Theresa May to Boris Johnson to Liz Truss, each has announced plans to restitch the fabric of Britain by government edict. Each has been felled in short order by some combination of crisis, scandal and the Conservative backbenches. On October 25th Rishi Sunak became the fifth Tory prime minister during their 12 years in power—and the third of 2022. He promised no such transformation.

Instead Mr Sunak's twofold task is to repair Britain's public finances and to patch up Britons' broken trust in the Conservative Party. His first address to the country from Downing Street was elegant but modest: shorn of ideological flair and fine rhetoric, short-termist in its goals and defensive in its posture. No longer does the government have a grand plan to remake Britain. Its own survival will be a victory of sorts. One poll, conducted just before Mr Sunak took office, gave the opposition Labour Party a 26-point lead.

The circumstances of his appointment

explain these limited ambitions. Ms Truss announced her resignation as prime minister on October 20th, making her stint in charge the shortest in British history (see chart 1). The bond markets' rejection of her mini-budget had shredded her authority. Mr Sunak was named as her successor as Conservative Party leader four days later



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without a ballot being cast, the only candidate to get the 100 nominations of MPs to enter the party's contest.

The next day, he accepted King Charles III's invitation to form a government. The child of a doctor and a pharmacist of Indian descent, Mr Sunak is a first in a country that has never had a black or Asian prime minister. At 42 years old, he is also the youngest prime minister in two centuries, and has had the shortest parliamentary career of any since at least 1900 (see chart 2 on next page). Yet this is not the time for youthful idealism. Britain, he said on taking office, is "facing a profound economic crisis," which he blamed on covid-19, the war in Ukraine and the "mistakes" of Ms Truss. It fell to him to fix them.

On November 17th Jeremy Hunt, who remains chancellor, will unveil a package of tax cuts and spending rises designed to make good the post-Trussonomics hole that remains in the public finances. That hole has become a little smaller now that Ms Truss has gone: by October 26th the cost of government borrowing was close to the level it was at before her mini-budget, reducing the amount being shelled out on interest by the Treasury. But billions still need to be found to balance the books.

Mr Sunak describes these as "difficult decisions". Yet they will also be a vindication. He spent the summer leadership contest warning that Ms Truss's unfunded tax cuts were dangerous fairy tales. He approaches debt as a moral issue: Britons ▶▶

Team Rishi

Britain, selected ministers in the Sunak government, October 2022

Jeremy Hunt	A former health secretary, the chancellor of the exchequer is used to being unpopular, which is lucky
James Cleverly	Perpetual loyalty to whoever is in charge helped him keep his job as foreign secretary
Suella Braverman	Returns to her role as home secretary six days after resigning from it for a security breach
Ben Wallace	Irreplaceable defence secretary is not replaced
Grant Shapps	Once a businessman. Now a business secretary
Steve Barclay	The health secretary does not like NHS England and NHS England does not like him
Kemi Badenoch	A critic of critical race theory becomes equalities minister as well as retaining her role as international trade secretary
Michael Gove	An always revolutionary, and sometimes loyal, minister returns at the department for levelling up
Penny Mordaunt	Almost became prime minister twice in two months. Leader of the Commons will have to do

Sources: Prime Minister's Office; *The Economist*

cannot leave their children “with a debt to settle that we were too weak to pay ourselves”. Although Mr Sunak added somewhere in the range of £310bn-410bn (\$360bn-477bn) to government spending during the pandemic, his instincts are to shrink the size of the state. He believes the health service’s principal problem is poor management and inefficiency. Defence spending, foreign aid and working-age benefits are all on the table, as is the inflation-proof state pension.

As he and Mr Hunt crunch the numbers, Mr Sunak must avoid being consumed by a party that, like some ancient civilisation, has developed a taste for sacrifice. His immediate predecessors used cabinet reshuffles to appoint loyalists. Mr Sunak’s top table is drawn from across the party’s factions. It is also experienced: 24 of 29 ministers attending cabinet have previously sat around that table; 15 have been given posts they held under Ms Truss or Mr Johnson.

The aim is to bring nous and stability, says Mr Sunak’s office. No bad thing, perhaps, after the merry-go-round of ministers this year (Gillian Keegan is the fifth education secretary of 2022). But it is a defensive move by a young prime minister whose party has become nigh-on ungovernable. It may also backfire.

As his fixer he has appointed Sir Gavin Williamson, fired from cabinet three years ago for leaking from the National Security Council. He returned Suella Braverman, a tribune of the populist right, to the role of home secretary, days after she was forced out of that role by Ms Truss for breaching the ministerial code. Ms Braverman had also declared that the government should commit to an old goal of reducing legal migration in absolute terms. By promoting her, Mr Sunak risks damaging his own reputation for integrity and surrendering control of his agenda. He has put unity before competence, and may get neither.

Mr Sunak’s own ability is less in doubt. His former colleagues at the Treasury confirm he is clever and fastidious. He will be

courteous to the leaders of devolved governments in Scotland and Wales (Ms Truss never picked up the phone). During the summer campaign, he declared his greatest weakness to be perfectionism. That sounded like false modesty but it reflected a real flaw, says a cabinet minister: whereas a chancellor has time to prepare immaculate statements, a prime minister is permanently juggling imperfect decisions.

But Mr Sunak’s greatest vulnerability lies in the fact that he is one of the winners from globalisation at a time when his party, and the country, have become much more animated by the fate of its losers. He met his wife, Akshata Murty, whose father founded Infosys, an Indian technology giant, while studying for an MBA at Stanford University. He has worked at Goldman Sachs, a bank, and RCI, a hedge fund.

Earlier this year it emerged that Ms Murty was “non-domiciled” for tax purposes and that Mr Sunak had until recently held an American green card, allowing permanent residency in that country. His critics found both incidents politically naive. His response to scrutiny of his family’s financial and business interests was surprisingly thin-skinned. “Both Will Smith and me having our wives attacked—at least I didn’t get up and slap anybody,” he said at

the time, a nod towards the actor’s assault of Chris Rock, a comic.

He is sometimes imagined as a social liberal, perhaps because of his youth, affection for “Star Wars” and millennial vibes (in a recent interview he described eating “a lot of gluten” as one of his “vices”). Yet his cv is straight from Tory central casting: Winchester College, Oxford University and the true-blue farming constituency of Richmond, in North Yorkshire. He owes his swift rise in part to backing “Leave” in the Brexit referendum of 2016. “Brexit became a test of faith that he passed, and his ascendancy was more rapid than it could or should have been,” says Tim Bale, a political scientist at Queen Mary, University of London.

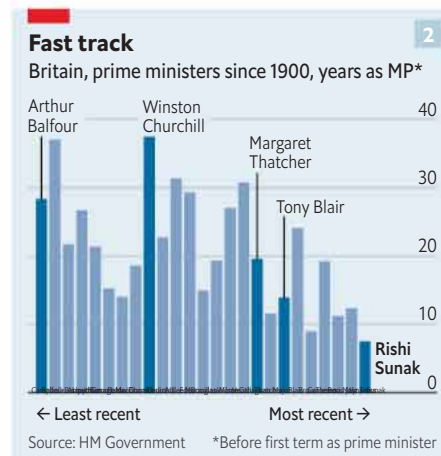
As his polling faltered in the summer’s contest against Liz Truss, he further embraced the right of the party. “I want to take on this lefty woke culture that seems to want to cancel our history, our values and our women,” he would say. He has given the job of equalities minister to Kemi Badenoch, a critic of critical race theory.

Ms Truss’s downfall came about in part because she failed to account for the shallowness of her support within the party. Her dash for growth was unpopular among Conservative MPs representing seats in suburban and rural England. Mr Sunak will make no such mistake. Her plan to permit onshore shale-gas extraction has already been ditched, along with much of her supply-side agenda. During the summer, Mr Sunak promised to tighten Britain’s already-restrictive planning laws and to oppose onshore wind farms.

He will instead govern according to the manifesto of 2019 on which Mr Johnson won his majority—a bright and inoffensive prospectus of more nurses and more policemen. This manifesto, Mr Sunak says, gives his party all the mandate they need to govern. That is an orthodox understanding of Britain’s parliamentary system, and one that means no election is strictly necessary before January 2025.

But it is a contested one. Mr Sunak was compelled to rebuke Mr Johnson’s claim that he possessed a quasi-presidential mandate to return to office, saying the mandate of 2019 was “not the sole property of any one individual”. Sir Keir Starmer, the Labour leader, insists a general election is needed if he wishes to govern with authority. “The only time he ran in a competitive election, he got trounced by the former prime minister, who herself got beaten by a lettuce,” Sir Keir said on October 26th, a nod to Ms Truss’s absurdly short tenure.

Polls suggest voters agree. As the work of repairing the public finances begins, and the Conservative Party’s brief moment of unity is tested, those calls for an election will get louder. The stability Mr Sunak seeks will be fragile. ■



The Bank of England

Needle not yet threaded

The central bank has seen off some threats. But not all

WHAT A DIFFERENCE a month can make. On September 26th officials at the Bank of England were dealing with a toxic brew of high inflation, fiscal profligacy from a prime minister who wanted to revisit the bank's mandate, and an incipient financial crisis. On October 26th a new prime minister was in place; the government was committed to balancing the books; and calm prevailed in the financial

markets. But the central bank, whose monetary-policy committee will meet on November 3rd, still faces daunting problems.

The bank's biggest sigh of relief is over financial stability. After Liz Truss's package of tax cuts was announced on September 23rd the price of long-term government debt, or gilts, fell sharply; that created havoc for pension funds and for managers of their money. By September 26th bank officials were seeing signs of a vicious spiral of falling asset values forcing asset sales, pushing values down further. An emergency bond-buying programme, which ended on October 14th, gave pension schemes a chance to get their house in order.

The bank also had to cope with the effects of Ms Truss's expansionary fiscal policy. She had sought extra borrowing worth £72bn (\$83bn; 3% of GDP) in the fis-

cal year up to April 2023, falling to £45bn in 2027-28 as the effects of energy-price support faded. That set up a tension between fiscal and monetary policy, one pressing hard on the accelerator and the other pushing down on the brake.

Expectations that rate-setters would respond aggressively to the "mini-budget" helped to send mortgage rates higher. That rise—combined with the insistence of Andrew Bailey, the bank's governor, that its bond-buying programme would not be extended—turned an economic problem into a political one. Ms Truss reversed most of her tax cuts, scaled back promises of help with energy bills and fell on her sword. Under Rishi Sunak, the new prime minister, fiscal policy will continue on that tighter path. Gilt yields have fallen as a result. Investors now expect the bank to raise interest rates from 2.25% to a peak of 5% by October 2023 (see chart).

In a tumultuous set of circumstances, then, the bank has done pretty well. But the problem of rising prices is as testing as ever. Annual inflation in September was an eye-watering 10.1%. The government's plan to scale back energy subsidies from April 2023 makes the outlook very cloudy. Even with recent falls in wholesale gas prices, Cornwall Insight, a consultancy, predicts that an uncapped annual average household bill in the second quarter of next year could be as high as £4,350, compared with around £3,500 now.

The bank faces pressure from all sides. Sanjay Raja of Deutsche Bank says that questions linger among investors about its anti-inflation credentials, particularly since British policymakers have sounded more dovish than those in America and the euro area. If the bank does not raise rates as much as markets expect (a 0.75 percentage-point rise is anticipated in November), that could mean a weaker pound and more imported inflation.

The bank could also raise interest rates too sharply. Officials could be reasonably confident about the effects of a thumping fiscal stimulus, but the way a massive en-

The Tories

Big Dog has no bite

Boris Johnson's return to British politics crash-lands



IN 1917 LENIN opted for a sealed carriage. In 2022 Boris Johnson chose British Airways flight BA2156 from the Dominican Republic. Liz Truss's abrupt departure after six weeks as prime minister had left a power vacuum at the top of British politics. To show his willingness to serve, he cut short a holiday to the Caribbean, cramming himself into economy class, to canvass Tory MPs.

The return of "Big Dog", Mr Johnson's nickname when he was in Downing Street, started smaller dogs yapping. Brendan Clarke-Smith, the MP for Bassetlaw, was happiest about Mr Johnson's return. "My reaction when the left are panicking, spitting feathers and frantically sending me abusive messages

because we want to #BringBackBoris," he wrote in a tweet. It was accompanied by a clip of Shaun Williamson, best known as a character on "EastEnders", a soap opera, singing "Something Inside So Strong" and repeating the phrase: "We're going to do it anyway."

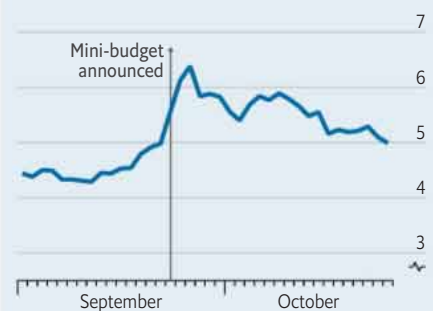
Unfortunately, Big Dog did not have the Big Mo. Candidates required the endorsement of 100 MPs to be nominated. Rishi Sunak, the man whose resignation helped tip Mr Johnson from office, flew past that mark. Mr Johnson amassed only 61 supporters willing to call publicly for his return. Journalists were puzzled why they would keep quiet. "It's because they don't exist," said one MP.

A return was always Mr Johnson's plan. Dominic Cummings, still an astute observer of British politics if not always a reliable narrator, claimed Mr Johnson had offered Ms Truss tacit support in the knowledge she would probably blow up, clearing the way for a comeback. If true, the plan worked too well. Ms Truss exploded too soon; memories of Mr Johnson's slapstick tenure were too fresh.

Mr Johnson admitted defeat on the evening of October 23rd, having been back in Britain for only a few hours. He claimed (unverifiably) that he had 102 supporters, not even a third of Conservative MPs. Although that would have been enough to get on the ballot, and probably to win among the Conservative Party's membership, it would not have been enough to ensure his survival in Parliament. Tail between legs, he will have to wait for another opportunity.

Climb down

Britain, market expectations of Bank of England interest rate in 12 months, 2022, %



Source: Bank of England

ergy-price shock feeds through to domestic prices is less well understood. It is unclear how insistently workers will ask for wage increases, or how keenly companies will try to protect their profit margins. On October 20th Ben Broadbent, the Bank of England's deputy governor, appeared to be trying to moderate expectations of hawkish policy, by suggesting that interest rates of over 5% would cause enormous damage to the economy.

A further problem is a tension between the bank's inflation-fighting objectives and Mr Sunak's quest for sound public finances. Higher interest rates reduce the value of bonds that the bank bought to support the economy during the pandemic; that means losses when the bank starts selling those assets as part of its programme of "quantitative tightening". As

the Treasury has promised to cover any such losses, tens of billions of pounds each year will soon start flowing from the government to the bank. "That creates contractionary fiscal policy at a time when the economy is struggling most," warns Chris Marsh of Exante Data, a research firm.

As mortgages become more expensive and the economy weakens, the bank's biggest challenge may be to persuade people that what they are doing to tame inflation is necessary. The point of central-bank independence is to take tough decisions without having to worry about political considerations. But if unelected rate-setters are seen to be imposing too much pain on the public, their autonomy may be questioned. The bank has passed several tests of its credibility in recent weeks. There are more to come. ■

at the wrong culprit. On October 26th the Institute for Fiscal Studies, a think-tank, released research arguing that two separate phenomena, both of which have been at work since the pandemic, are being conflated. The first is that a growing number of older workers have been leaving paid work to take early retirement. The second is that an increasing proportion of 50- to 64-year-olds who were already out of work have recently been attributing their inactivity to sickness. Inactive people are falling sick, in other words, instead of sick people suddenly becoming inactive.

Finding out where the truth lies is made harder by problems in the data. Researchers at the Bank of England have argued in the past that survey questions which compel respondents to choose either retirement or illness as the reason for leaving the labour force mask the true numbers of long-term sick. And when it comes to parsing the relationship between health care and employment, official NHS waiting-lists are only "the tip of the iceberg", says Benjamin Ellis, a consultant rheumatologist at Versus Arthritis, a charity.

Take heart problems, the most common health condition reported by workers who have recently become economically inactive. Britain is poor at rehabilitation for working-age adults, especially for pulmonary, neurological and cardiac conditions, says Nigel Edwards of the Nuffield Trust, a think-tank. Just 43% of NHS trusts meet the target of offering rehabilitation services to over 90% of their eligible patients who have suffered heart failures. In 2021 the numbers of people undergoing cardiac rehabilitation fell by a third; they are not on a waiting list but the prospects for their recovery are gloomier.

Whatever the reasons for people leaving the workforce in greater numbers, one thing that researchers do seem to agree on is that sickness is on the rise among the oldest working-age cohort. Even if ill-health is not causing people to drop out of the labour market, it is increasingly affecting their quality of life. ■

The labour market

Where did all the 50-somethings go?

A debate rages about the relationship between health and economic inactivity

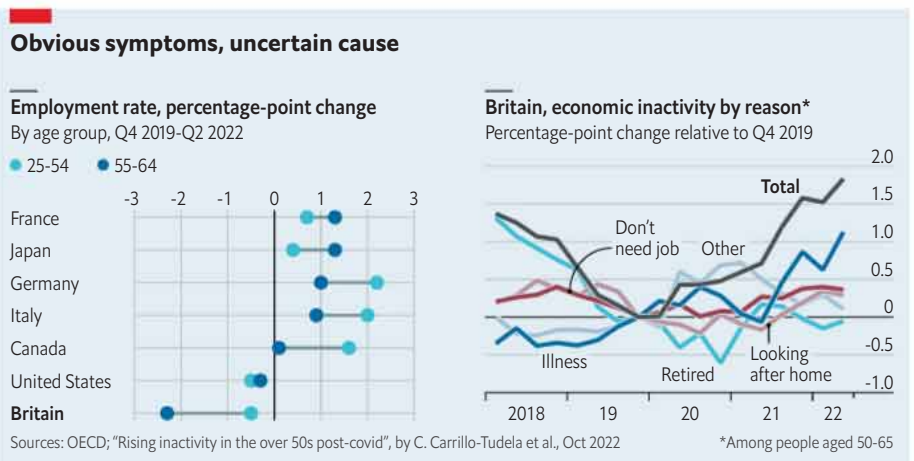
THREE YEARS ago Brenda Pugh was at the zenith of a career in HR. Following a diagnosis of arthritis in February 2020, the nadir quickly followed. During an agonising wait for surgery Ms Pugh became housebound and was forced to give up the job she loved. By the time she had her second hip replacement 28 months later, it was too late to fix her twisted pelvis, "gammie knee" and plummeting confidence. The excruciating pain is gone, but so is the likelihood that she will return to work.

Ms Pugh, who is now 62, is one of hundreds of thousands of British workers who have left the labour market in recent years. This exodus seems to be a peculiarly British problem; most other rich countries have seen their workforces rebound as they emerge from the pandemic (see left-hand chart). The trend is particularly pronounced among older and more experienced workers. That is unwelcome news for policymakers: a smaller workforce means lower tax revenues and more pressure on inflation. But the question of what to do about rising levels of economic inactivity depends on what is causing it. And here debate rages.

Some reckon that Ms Pugh's reasons for leaving work—ie, sickness—lie behind the broader trend. A recent study from the universities of Essex and Edinburgh, for example, finds that among 50- to 65-year-olds, more than half of the increase in inactivity since the end of 2019 is due to people reporting illness (see right-hand chart).

But if illness were forcing lots of people out of the workforce, it is hard to see why that might be. Some point the finger at covid-19 itself. Yet one survey of 50- to 64-year-olds suggests that long covid accounts for at most 1% of labour-force departures since the pandemic began. A more plausible theory is that the backlogs in the National Health Service (NHS) are to blame. Sprawling NHS waiting lists, which between February 2020 and August 2022 grew from around 4.4m to over 7m, mean that people like Ms Pugh are waiting years to start treatment. Yet of those over-50s leaving work since the pandemic started, only around one in five report that they are on an NHS waiting list.

Some think the finger is being pointed



Translation

How long have you had that goitre?

Sales of phrasebooks are falling fast. They are an odd, but revealing, genre

THE PHRASEBOOK had looked so helpful. When Eric Newby, a writer, set out to walk in the Hindu Kush in 1956, he knew he would be visiting places no Englishman had been since 1891. Nonetheless, he was hopeful of communicating. In his bag he carried “Notes on the Bashgali Language”, a phrasebook published in Calcutta in 1902. Opening it one afternoon in the high Himalayas, his hopes faded. Whereas most guidebooks explain how to order a small glass of red wine or a coffee, this offered phrases of more opaque utility.

“*Ini ash ptul p'mich e manchi mrisht waria'm*” ran one which, it explained, meant: “I saw a corpse in a field this morning.” That was followed by “*Tu tott baglo piltia*” (“Thy father fell into the river”); “*I non angur ai; tu ta duts angur ai*” (“I have nine fingers; you have ten”); and “*Ia chitt bitto tu jarlom*” (“I have an intention to kill you”). Some struck a more conversational tone, such as “*Tu chi se biss gur bititi*” (“How long have you had a goitre?”). But on the whole the book left him with “a disturbing impression” of Bashgali life.

Newby's guide was an eccentric but by no means unique example of a neglected literary genre: the phrasebook. These began in antiquity, gathered pace with medieval pilgrimages and flourished in the age of empires and, later, of aeroplanes. Once they were essential. Now the internet and machine translation are rendering them obsolete. Figures from Nielsen Book Research, a market-research firm, show that sales in Britain have fallen by 40% in three years. The phrasebook is dying.

Few readers will mourn them. The conversations they mapped out rarely ran so smoothly in life as on the page. But for historians they are invaluable. Newby thought his phrasebook was revealing about the Bashgalis; in truth such books reveal much more about their English-speaking authors. To sift through old phrasebooks is to study an unparalleled source on the assumptions made by Britons abroad. It is an archaeology of othering.

Two things quickly become clear. The first is that travel was seen as a troublesome, even perilous, pursuit. The other is that the now familiar form of the genre—books offering sentences that are practical and predictably useful—took some time to develop. The 1900 English-Welsh phrasebook “for the use of Travellers and Students” offers “Have you any apples?”

and “Where is the butter market?” before adding the more unexpected: “They have cut off his arm.”

The savour of national stereotypes can be tasted on almost every page. J.B. Leek's 1928 English-Italian Conversation Handbook shows that Italy has long been seen as a land of aesthetic indulgence. A section on hair care (“Shave my mustachio/ Kindly twist up my mustachio/A little pomade on my mustachio”) follows a lengthy section on food. “Give me a bottle...of red wine/ of white wine/ of claret/ of Burgundy...” it runs. “Give me some Brie cheese/ some Camembert/ some Gruyère...”

The consequences of eating are of abiding interest to British travellers of old. After the food, Leek's Italian offers the regretful: “I feel qualmish, sick.” No destination is without its particular intestinal anxiety. “After vomiting his food,” explains one physiologically intriguing entry in an old Korean manual, “his constipation was relieved.” A 1903 medical phrasebook for Luganda, a Bantu language, offers the unexplained but authoritative: “Keep everything you vomit.”

To judge by these publications, the Briton abroad must have cut a strange figure. Many position themselves as aids to conversation. The 1909 “Manual of Palestinian Arabic”, for example, explains that its sample sentences “will, it is hoped, be useful to the traveller in his hotel” and “may conceivably be of use in daily life”. The word “conceivably” is working very hard in that sentence. The book's phrases

include: “We reached the precipice and saw him fall down”; “He died before we found him”; and the gnomic “Gargle twice daily.” Conversation will have hung heavy in the foyers of Jerusalem.

Books from the colonial era are unintentionally telling. History books tend to concentrate on the obvious moments of imperial brutality—on war and rebellion. Phrasebooks offer the chance to eavesdrop on quieter colonial cruelties in the drawing rooms of empire. “Hold your tongue!” barks one phrase in a 1908 “Hindustani Self-Taught” manual. “Beat that lazy boy” snaps an entry in another guide.

Many phrasebooks remained in use for a surprisingly long time. When Elisabeth Kendall, the mistress of Girton College, Cambridge, studied Arabic at Oxford University in the early 1990s, she did so using grammar books that dated back to 1859 (“The cow's tongue is long” was a typical phrase). She retains a linguist's affection for their methodology. Some phrases may have lacked practical utility but often illustrated “a grammatical construction in the simplest possible way”—and they were memorable. Steven Pinker, a professor of psychology at Harvard University, agrees. A language, he says, “is not a list of phrases”. The impracticality of some entries may have been intentional so “speakers would not be locked into canned expressions in stereotyped situations”.

The fading genre of the phrasebook is unlikely to be missed. But something will be lost when it is gone. Poetry, Robert Frost supposedly said, is what gets lost in translation. Read these books' dislocated phrases and poetry can be found in it, too. “Owing to the road being slippery I nearly fell / Ten years ago / Come here,” runs one T.S. Eliotish section in a 1894 Tai-Khamti Grammar. The last words go to entries in an English-Kashmiri manual: “I am now composing a grammar/I don't exactly comprehend this.../ It is time to conclude.” ■



Bagehot | Rishi, heal thyself

The prime minister's first job? Clearing up the mess he helped make



RISHI SUNAK entered Downing Street clutching an invisible dustpan and broom. “Mistakes were made,” declared the new prime minister on October 25th, all but rolling up his sleeves. “I have been elected as leader of my party...to fix them.” The voice was passive but the identity of the culprit was clear—Liz Truss, Mr Sunak’s hapless predecessor, who managed just 49 days in the job. It is the morning after the night before in the Conservative Party. The grown-ups have returned to find the house has been trashed. Now Mr Sunak must start the clean-up.

There is just one problem with this narrative. Mr Sunak is a cause of the problem as well as the solution. The new prime minister is helping tidy up a mess that he helped create.

When the Conservative Party has erred in recent years, Mr Sunak has nearly always been in favour of the mistake rather than the fix. There were many reasons to support Britain leaving the EU. Mr Sunak, however, picked the worst one: he thought it was a cracking idea. Britain will be “freer, fairer and more prosperous outside,” wrote Mr Sunak in 2016. It was a pragmatic decision, not a romantic one. The fundamental problem at the heart of his own government will be a policy for which he long campaigned. Likewise, Mr Sunak was comfortable with a “no deal” Brexit so long as Britain actually left the EU. Mr Sunak has pledged a more constructive relationship with the bloc. Better not to have broken it at all.

After the referendum triggered three years of political deadlock, Mr Sunak supported an extraordinary solution to the mess: Boris Johnson. That decision can be put down to cynicism. Mr Johnson was likely to win regardless of whether he was endorsed by Mr Sunak, at the time a junior minister in the department for local government. But intellectual contortions were required to join the bandwagon. Theresa May was competent and diligent yet also a total failure, ran Mr Sunak’s logic, so it did not matter that Mr Johnson was neither competent nor diligent. In July Mr Sunak resigned from his position as chancellor of the exchequer, prompting a cascade of ministerial departures that ended Mr Johnson’s reign. But why put him in Downing Street in the first place?

Mr Sunak embodies the tension between the Tories’ lust for low taxes and their habit of making big-state promises. Colossal spending programmes during the pandemic made Mr Sunak brief-

ly the most popular politician in the country. Yet these were also the decisions he most resented; he tried to curtail schemes such as furlough prematurely in a bid to save cash. In the spring of this year, Mr Sunak similarly dragged his feet on offering support for ballooning energy bills. He is, at heart, a small-state Conservative, even if he has shown a commendable ability to overcome his natural instincts when urgent need arises.

If fiscal conservatism comes first for Mr Sunak, what comes after is much more erratic. As an ambitious backbencher Mr Sunak supported low-tax “freeports”, which shuffle economic activity around rather than generating it. As chancellor Mr Sunak championed the “Eat Out to Help Out” scheme, when the government in effect paid unvaccinated people to sit together during a pandemic and infect each other. Mr Sunak pushed the Royal Mint to issue a non-fungible token this summer, just as the market for these digital assets crashed. Support for quixotic policy is the norm for Mr Sunak rather than the exception.

In politics, however, luck sometimes masquerades as judgment. Losing the leadership contest to Ms Truss this summer was a big stroke of fortune. During that campaign Mr Sunak predicted that Ms Truss would be a disaster, and she was. He warned that reckless spending commitments would force mortgage rates higher; his campaign team even put together a calculator, pointing out the high bills that would hit households if rates hit even 5%. Yet mortgage rates were heading up regardless of Ms Truss’s rash budget. Her errors have obscured the fact that, had Mr Sunak won in the summer, rising interest rates would have left him with tricky questions to answer. Instead he can pin it all on Ms Truss.

During the summer campaign, and throughout his time on the front benches, Mr Sunak has taken a path long followed by the Conservative Party, which has governed in its narrow political interest rather than the national one. Pledges to curtail onshore wind and solar development please a few zealots but make it harder for Britain to reach its climate goals. Slashing fuel duty as chancellor provided a few days of positive headlines, but failed to put much money in people’s pockets and did not help the environment. There is little evidence that Mr Sunak will take on the vested interests, often in his own party, that hold back Britain’s economy.

Standing on the shoulders of dwarves

The prime minister is a cut above most of his peers. But this is as much a function of a Conservative civil war that killed off competent colleagues as Mr Sunak’s own talents. Elected only in 2015, Mr Sunak has not been doing the job very long. Inexperience, even with copious intelligence, is always a problem. Yet the Conservative Party had nowhere else to turn. It would be comforting to think of Mr Sunak as a clever cynic, a gambler who bet big on Brexit and Mr Johnson and (with a helping hand from Ms Truss) became the youngest prime minister in two centuries. A more worrying analysis is that he is a bright and decent man with bad ideas.

On this reading Mr Sunak does not mark a change from the Tory policies that have left Britain in such a state. Rather he personifies them. The rot in the Conservative Party did not begin with Ms Truss. Britain’s departure from the EU, which Mr Sunak supported, is the thing that acts as a handbrake on the country’s economic prospects. Mr Johnson’s chaotic reign, which he also supported, caused even more ruin. It is the Conservative Party’s failure to take on its supporters that does so much damage to the country. Mr Sunak may be the only available man to fix the government’s errors. But he also helped make them. ■



Tuberculosis

A baleful legacy

RIO DE JANEIRO

Covid-19 made the tuberculosis pandemic much worse. But it also showed how to fight back

EARLIER THIS year, Antônio Carlos Lombardi Peixoto went to his doctor complaining of fever and an endless cough. He thought it was something to do with his diabetes. Instead, he was told he had a disease he had never heard of: tuberculosis.

In fact, in the slums of Rio de Janeiro where Mr Peixoto lives, TB is common. The treatment was almost as bad as the disease. Mr Peixoto's tablets gave him crippling pain in his joints and made him dizzy and anxious. "I couldn't get up. I was scared of everything, scared to even look out of the window." His thrice-weekly visits to the clinic meant taking time off from his job at the local bakery, pushing him into poverty. Worst of all, his friends and family avoided him for fear of catching the disease.

He thought about quitting the drugs. But the sight of another patient who had done that, had relapsed, and was now untreatable, persuaded him to keep going. At his three-month check-up, he could barely produce enough phlegm for testing. After six months of gruelling treatment, he was able to go back to his previous life.

Not everyone is as lucky. Before covid-19, TB was the deadliest pathogen in the world, killing around 1.4m people a year. The official covid death toll so far is around 6.6m (though *The Economist's* own modelling, based on excess-death figures, suggests the true figure is between 17m and 28m). And the new pandemic has made the old one worse. After many years of slow but steady decline, the number of deaths from TB is rising again. According to figures published on October 27th by the World Health Organisation's Global TB Programme, the death toll from tuberculosis was 1.6m in 2021, a rise of 14% since 2019. A paper published last year predicts that number will increase by another 5% to 15% over the coming half decade. The WHO

Go deeper

Listen to our Babbage podcast for more on covid and TB, including the promise of gene sequencing and the risks of drug resistance, at economist.com/tb-pod

reckons that covid has set back progress against TB by many years.

Tuberculosis is an ancient affliction. Traces of *Mycobacterium tuberculosis*, the bug that causes it, have been found in Egyptian mummies more than 2,500 years old. These days around 1.8bn people are thought to be infected. But 90% of them will never develop symptoms. In the rich world, with clean, well-ventilated homes and abundant food, most infections remain latent and unthreatening.

Those who get sick are mostly people with weak immune systems. Diabetics, smokers and alcoholics are at higher risk. Almost 15% of people who die of TB every year are HIV-positive. Poverty and its associated ills, such as malnutrition and overcrowding, raise the risk considerably. Just eight countries, including China, India, Indonesia and Nigeria, account for two-thirds of the world's symptomatic cases.

Unintended consequences

Covid caused a cascade of problems for anti-TB efforts, especially in poorer countries with less robust health systems. Initially, the hope was that lockdowns and mask mandates might help keep the disease in check. Like covid, TB is transmitted by airborne particles emitted by the sick when they cough, sneeze or even speak. But the overall effect seems to have been negative. As poor families spent more time in small, badly ventilated homes, the bacterium spread more quickly. Economic disruption ►►

meant that poverty and hunger rose. The WHO reckons that the number of people given preventative treatment fell by around 10% at the height of the pandemic, between 2019 and 2020.

Diagnoses fell more sharply, from 7.1m in 2019 to 5.8m in 2020, especially in poorer countries where the disease is most common (see chart). That was not because fewer people were falling sick, but because fewer could get to a doctor or a clinic. Some who fell ill were nervous about violating lockdown rules by leaving home. Many confused the signs of TB—which generally attacks the lungs, leaving patients exhausted, breathless and coughing—with the symptoms of covid.

Those who did manage to obtain a diagnosis often struggled to get treatment. Health systems were clogged with covid patients, leaving little room for others. TB patients suffered more than most, since doctors and medical facilities with expertise in respiratory diseases were among the first to be diverted to treat coronavirus patients. Worldwide spending on TB, which was already less than half the global target, fell further, from \$6bn in 2019 to \$5.4bn in 2021. Tereza Kasaeva, the director of the WHO's Global TB Programme, is blunt: "we are badly off track."

The effects of all this are now being felt. As lockdowns have lifted, patients are at last able to reach doctors and clinics. Diagnoses are beginning to rise again, reaching 6.4m in 2021. But months or years of delays have left some too sick to be treated. Efforts to ensure that patients complete treatment—home check-ups, for instance, or having health-workers watch as patients swallow their pills—had to be suspended during lockdowns. That will have stored up problems of its own, for abandoning treatment mid-way, as Mr Peixoto almost did, encourages the bacterium to evolve resistance to the antibiotics used to treat it.

At best, such resistance means an even longer course of treatment with even less pleasant drugs. Between 3% and 4% of people who are diagnosed with tuberculosis for the first time suffer from a drug-resistant form of the disease. That rises to between 18% and 21% among those who have previously been treated.

But while covid has been bad for tuberculosis sufferers, some doctors and officials argue that the world's response to the newer pandemic shows how it could tackle the older one too. Perhaps covid's biggest impact, says Lucica Ditiu, head of the Stop TB Partnership, a UN body, was to show just what can be accomplished. Huge quantities of money and effort were poured into developing and assessing treatments. Quick and convenient diagnostic tests were invented, refined, mass-produced and shipped worldwide within months. "It became very clear," says Ms Ditiu, "that



money is not an issue if there is the will."

A similar effort is not on the cards for TB, which frightens few people in rich countries. However, even a much smaller one would make a big difference. In a paper published in April in the *New England Journal of Medicine*, researchers calculated that more than \$100bn was spent developing covid vaccines during the first year of the pandemic, producing more than a dozen candidates. At around \$0.1bn per year, investment in new TB vaccines has been a thousand times lower. The only existing vaccine, the Bacillus Calmette-Guérin, or BCG, is more than 100 years old. Although it is mostly effective in preventing severe disease in children, in adults the protection it offers varies greatly, for reasons that are not well understood.

Diagnosis is just as primitive. The most widely used method is the rough-and-ready one used in the 1880s, when *M. tuberculosis* was first identified: putting sputum under a microscope and looking for the bacteria by eye. When it comes to treatment, just three new drugs have been approved by American regulators over the past four decades. Existing treatments are slow, lasting between six and 30 months,



Waiting for a revolution

and have severe side-effects, including all the ailments Mr Peixoto suffered, as well as kidney failure and hearing loss.

Even before covid, new tests for TB were being developed, as were a clutch of new vaccines. One, first developed by GSK, a British drug firm, and then by the Bill & Melinda Gates Foundation, a charity, is in advanced clinical trials. Now, some of the technology that was used to combat covid is starting to be applied to TB too. mRNA vaccines are a new and powerful technology that forms the basis of several successful covid jabs. BioNTech, a German firm that, along with Pfizer, an American one, introduced one of the first mRNA vaccines against covid, plans to start trials of a TB mRNA vaccine later this year.

In a paper published in the *Lancet* earlier this year, a group of prominent TB researchers from all around the world called for the establishment of real-time data dashboards for TB, inspired by those developed to track covid. Apps designed to screen and track those infected with covid are already being adapted for those with TB. In South Africa, for instance, the government has developed a service that uses text and WhatsApp messages to ask users a handful of questions, evaluate whether they could have tuberculosis and refer them to local testing services.

The genetic-surveillance apparatus established to track new variants of covid, such as Alpha, Delta and Omicron, could also be turned towards monitoring TB, says Josefina Campos, the director of Argentina's national genomics laboratory. Her team had been doing something similar before the coronavirus came along. But during the covid pandemic, investment in gene-sequencing capacity ramped up suddenly, she says. That extra capacity is proving useful in tracking TB too.

The experience of covid has changed patient behaviour as well. Back in the slums of Rio, Selma Geraldo da Silva, a health worker, says more patients come to see her when they develop a cough or a fever now, rather than waiting for it to pass and hoping for the best. Since the pandemic, they have realised it might be cause for worry. For those who have contracted TB rather than covid, that will help ensure they get treated early.

The world's unprecedented response to the covid pandemic has done its job. Vaccines, experience and better drugs to treat the sick have brought the death rate sharply down. *The Economist's* tracker estimates worldwide deaths so far in 2022 at around 4.5m. If that fall continues, TB could soon regain its baleful crown as the world's most lethal infectious disease. For now, the lessons of covid remain fresh in policymakers' minds. The aftermath of one pandemic seems the best time in decades for a renewed effort to tackle another. ■

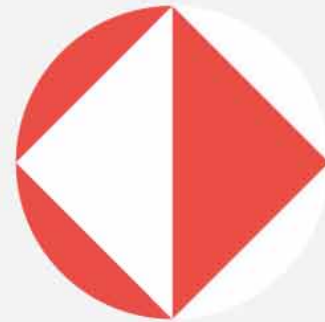
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Business and geopolitics (1)

The end of the China affair

CHENNAI AND CUPERTINO

Covid-19, costs and geopolitics are driving Apple to make and sell its gadgets elsewhere

BY A DUSTY stretch of the deafening road from Chennai to Bengaluru lie three colossal, anonymous buildings. Inside, away from the din of traffic, is a high-tech facility operated by Foxconn, a Taiwanese manufacturer. A short drive away Pegatron, another Taiwanese tech firm, has erected a vast new factory of its own. Salcomp, a Finnish gadget-maker, has set one up not far away. Farther west is a 500-acre campus run by Tata, an Indian conglomerate. What these closely guarded facilities have in common is their client: a demanding and secretive American firm known locally as “the fruit company”.

The mushrooming of factories in southern India marks a new chapter for the world’s biggest technology company. Apple’s extraordinarily successful past two decades—revenue up 70-fold, share price up 600-fold, a market value of \$2.4trn—is partly the result of a big bet on China. Apple banked on China-based factories,

which now churn out more than 90% of its products, and wooed Chinese consumers, who in some years contributed up to a quarter of its revenue. Yet economic and geopolitical shifts are forcing the company to begin a hurried decoupling. Its turn away from China marks a big shift for Apple, and is emblematic of an even bigger one for the world economy.

Apple’s packaging proclaims “Designed by Apple in California”, but its gadgets are assembled along a supply chain that stretches from Amazonas to Zhejiang. At the centre is China, where 150 of Apple’s biggest suppliers operate production facil-

ities. Tim Cook, who was Apple’s head of operations before he became chief executive in 2011, pioneered the firm’s approach to contract manufacturing. A regular visitor to China, Mr Cook has maintained good relations with the Chinese government, obeying its requirements to remove apps and to hold Chinese users’ data locally, where it is available to the authorities.

Now a change is under way. Big tech is showing strains. On October 25th Alphabet and Microsoft presented disappointing quarterly results. Meta, which lost another fifth of its value after reporting the second straight quarter of declining sales, is a shadow of its former self. Apple’s latest earnings, due out after *The Economist* went to press on October 27th, may be dented by creaky Chinese supply chains and softening demand from Chinese consumers. So Mr Cook, who has not been seen in China since 2019, is wooing new partners. In May he entertained Vietnam’s prime minister, Pham Minh Chinh, at Apple’s futuristic headquarters. Next year Apple is expected to open its first physical store in India (whose prime minister, Narendra Modi, is a fan of gold iPhones).

The two countries are the main beneficiaries of Apple’s strategic shift. In 2017 Apple listed 18 large suppliers in India and Vietnam; last year it had 37. In September, to much local fanfare, Apple started mak- ➤

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ing its new iPhone 14 in India, where it had previously made only older models. The previous month it was reported that Apple would soon start making its MacBook laptops in Vietnam. Some of Apple's newer gadgets show the way things are going. Almost half its AirPods earphones are made in Vietnam and by 2025 two-thirds will be, forecasts JPMorgan Chase. The bank reckons that, whereas today less than 5% of Apple's products are made outside China, by 2025 the figure will be 25% (see chart 1).

As Apple's production system is shifting, its suppliers are diversifying away from China, too. One crude measure of this is the share of long-term assets that Taiwanese tech-hardware and electronics firms have located in China. In 2017 the average figure was 43%. Last year that had fallen to 31%, according to our estimates using company and Bloomberg data.

The most urgent reason for the scramble is the need to spread operational risk. Two decades ago the garment industry beefed up its operations outside China after the SARS epidemic paralysed supply chains. "SARS made it very clear to everyone operating in China that you needed a 'China+1' strategy," observes Dominic Scriven of Dragon Capital, an investment firm in Vietnam. Covid taught tech firms the same lesson. Lockdowns in Shanghai in the spring temporarily shut a factory run by Quanta, a Taiwanese firm, believed to be making most of Apple's MacBooks. Avoiding this kind of chaos is the "primary driving force" for Apple's supply-chain moves, says Gokul Hariharan of JPMorgan Chase.

Another motive is containing costs. Average wages in China have doubled in the past decade. By 2020 a Chinese manufacturing worker typically earned \$530 a month, about twice as much as one in India or Vietnam, according to a survey by JETRO, a Japanese industry body. India's ropery infrastructure, with bad roads and an unreliable electrical grid, held the country back. But it has improved, and the Indian government has sweetened the deal with subsidies. Vietnam offers tax rebates

and holidays, too, as well as free-trade deals, including one recently signed with the EU. Bureaucracy around visas and customs remains a pain. But the work ethic is similar to that in China: "Confucius still gets them out of bed in the morning," says one foreign executive in Vietnam.

Apple also increasingly sees locals as potential customers, particularly in India, the world's second-largest smartphone market. Though iGadgets are too pricey for most Indians, that is changing. Apple said in July that its revenues in India had nearly doubled in the past quarter, year on year, driven by the "engine" of iPhone sales.

This is diminishing China's relative importance as a consumer market. At its high point in 2015, China accounted for 25% of Apple's annual sales, more than Europe. Since then its share has steadily shrunk, to 19% so far this financial year (see chart 2). By the sounds of it Xi Jinping, China's president, would like it to fall further. At a Communist Party shindig on October 16th he urged "self-reliance and strength in science and technology", suggesting that foreign importers may face stiffer competition from Chinese national champions. He repeated the phrase five times.

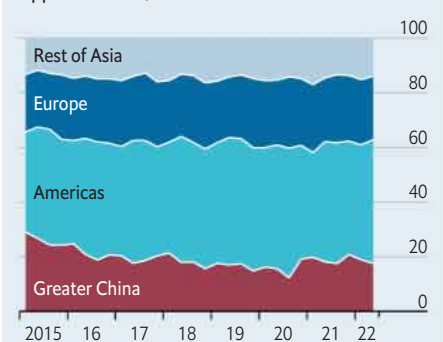
An iWire act

This points to perhaps the biggest reason for Apple's shift: geopolitics. Rising Sino-American tensions are making China an awkward place to do business. Heightened Chinese sensitivity is adding friction. This summer Apple reportedly had to ask Taiwanese manufacturers to label their products "Made in Chinese Taipei" to appease newly finicky Chinese customs officials (at the risk of angering Taiwanese ones).

America, for its part, has become more aggressive in its competition with China's domestic tech industry. On October 7th America announced a ban on "US persons" working for some Chinese chipmakers. On the same day it added 30 Chinese companies to a list of "unverified" firms its officials had been unable to inspect. Apple had reportedly been about to sign a deal to buy

Looking for greener orchards

Apple revenues, % of total



Source: Refinitiv Datastream

iPhone memory chips from one such company, YMTC, which can offer low prices thanks in part to Chinese government subsidies. Following America's export controls that deal was put on ice, according to *Nikkei*, a Japanese newspaper.

The question is whether shifting production out of China will be enough to avoid future crackdowns. Even as Apple makes more of its gadgets outside China, it is no less reliant on Chinese-owned companies to build them. Chinese manufacturers such as Luxshare, Goertek and Wingtech are taking an increasing share of Apple's business beyond China's borders.

Luxshare and Goertek are reported to be making AirPods in Vietnam, helped by the fact that some Taiwanese rivals, like Inventec, have scaled back their work for Apple in recent years. In September press reports hinted that the Indian government might let some Chinese companies set up production facilities in India. Chinese companies' share of iPhone electronics production will rise from 7% this year to 24% by 2025, believes JPMorgan Chase, which predicts that in the next three years Chinese companies will increase their share of production across Apple's range of products.

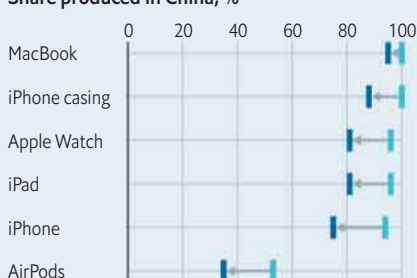
Could Chinese manufacturers outside China be targeted by American sanctions? For now this is unlikely, believes Nana Li of Impax, an asset manager. "There are no handy alternative [suppliers] available with the same level of experience, efficiency and cost-effectiveness," so cutting them off would hurt American firms, she notes. In time, that may change. Countries like India and Vietnam are keen to cultivate their own suppliers. Tata is reportedly in talks with Wistron, a Taiwanese manufacturer, about making iPhones in India. Indian firms report that "the fruit company" is discreetly on the hunt for local suppliers.

Given the growing rift between America and China, it is sensible for Apple to place some side-bets, before restrictions go any further. Chinese firms outside China are safe for now, says one Western investor in Asia. But "the noose is tightening". ■

Less is more

Apple products

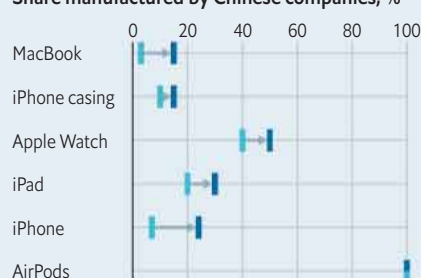
Share produced in China, %



Source: JPMorgan Chase

Forecast: 2022 2025

Share manufactured by Chinese companies, %



Business and geopolitics (2)

Ren-naissance

SHANGHAI

The boss of Huawei thinks China's tech champion can thrive in spite of American sanctions. Will it?

HUAWEI ONCE looked unstoppable. Having begun life in 1987 selling phone switches from a flat in the southern city of Shenzhen, in 2012 the Chinese technology firm overtook Sweden's Ericsson to become the world's biggest maker of telecoms gear. By 2020 its market share topped 30%, roughly as much as Ericsson and Nokia of Finland, its two main rivals, combined. The same year it surpassed Samsung as the largest maker of smartphones. Its fast-growing software and cloud-computing businesses were beginning to compete with America's IBM and Oracle.

The American government had other plans. Successive administrations have regarded Huawei as a national-security risk, claiming that it has deep links with the People's Liberation Army and that its gear could be used for spying (allegations that have not been proven and that Huawei denies). The American government has banned Huawei's wares at home and urged allies to ditch them from their 5G mobile networks. Most crippling, it used export controls to starve the company of American technology and products, including computer chips, on which many manufacturers rely. In the latest blow, on October 24th the Department of Justice said it had indicted two Chinese spies for attempting to obtain inside information about a federal investigation into Huawei.

All this has turned a company on track to be one of the world's biggest into its most controversial. The results have been devastating. After years of uninterrupted growth Huawei's sales collapsed by nearly 30% in 2021, from a peak of almost \$140bn the year before (see chart 1 on next page). Huawei said on October 27th that the decline in the revenue of its devices business had slowed in the first nine months of 2022. Total revenue grew by about 6.5% in the third quarter, year on year. As countries across the globe roll out 5G, Huawei's market share for telecoms networks—its main business—looks set to decline. Its international mobile-phone business is dead, insiders say. The company's 78-year-old founder and boss, Ren Zhengfei, recently told employees in a leaked memo that the company was in a fight for survival.

To prevail in that fight, Mr Ren is transforming the company from one laser-focused on a few core telecoms products to a provider of tech and services to a variety of industries, from carmaking to agribusi-

ness. Whether this transformation can succeed matters not just for Huawei. America's campaign to forestall China's rise as a technological superpower is intensifying. This month Joe Biden's administration announced new restrictions, covering more Chinese firms and more areas where Washington and Beijing are vying for dominance, such as artificial intelligence and supercomputing. Huawei is thus a case study in how effective American sanctions really are, how Chinese firms can adapt to the new world order and, ultimately, whether China has a shot at winning the tech race.

Immobile network

America's first anti-Huawei weapon has been to block its global 5G roll-out. Geographically, the results have been mixed. America's strategy is working in the rich Western markets of its allies. Australia, Canada, New Zealand and Sweden have followed America in banning Huawei gear outright. New rules in Britain force carriers to remove all Huawei technology from public 5G systems by 2027. France has asked operators to rip out Huawei gear from many parts of their networks. Other countries, such as Japan, have not barred Huawei but signalled that it is unwelcome. The constant risk of fresh restrictions has led many customers in places without

bans to steer clear of Huawei. This has already happened in Italy and Portugal.

The developing world still seems open to Huawei's cheap equipment. The company is furnishing 5G networks in Indonesia, Saudi Arabia, South Africa and Turkey. Brazil, another potentially large market, has flip-flopped but does not appear poised to issue a ban. Huawei executives boast of more than 5,000 commercial 5G contracts globally, ranging from full deployment of 5G networks for national carriers to upgrading networks at ports.

How many more such agreements it can sign depends in part on the effectiveness of American export controls, the second weapon deployed against Huawei. These restrictions, which since 2019 have limited the sale to the company of high-end chips and Google's Android mobile operating system, have already obliterated the firm's once-thriving smartphone business. Huawei's own operating system, Harmony, is unattractive to consumers since it offers few apps, and it offers few apps because it lacks the consumer numbers that would make it worth developers' while. The chip ban, meanwhile, means that even though it has built much of China's 5G infrastructure, its phones lack 5G because the required radio chips rely on American tech. This forced Huawei to spin off its Honor smartphone brand in 2020. Revenues from Huawei's remaining devices business fell by 25% in the first half of 2022, compared with a year earlier.

The impact of the chip ban on the carrier business is a closely guarded secret. The processors used in network gear are less advanced than those used in smartphones, and some of them could be produced locally by chipmakers such as SMIC, a state-controlled firm. But probably not all, at least in



Making a different kind of mobile

▶ the near future. The Tiangang processor, designed by Huawei's HiSilicon chip division for use in 5G networks, was fabricated by TSMC, a giant Taiwanese contract manufacturer that can no longer supply Huawei as a result of the American rules. Publicly, Huawei claims to be shipping units as normal, thanks to a stockpile. But that "will start to run out very shortly", predicts Bill Ray of Gartner, a consultancy.

The company's behaviour in tenders for carrier contracts suggests as much. In the past 18 months Huawei has routinely bid the highest allowed price. This implies that it is trying to maximise profits while conserving its component inventories rather than seeking market share, says Edison Lee of Jefferies, an investment bank. According to disclosures on a large tender for China Mobile analysed by Jefferies, Huawei equipment accounts for 47% of China Mobile's locally manufactured servers, down from 61% last year.

Globally, the company's share of telecoms-gear revenues has so far declined by less than two percentage points from its peak of more than 30% in 2020, according to Dell'Oro, a research firm (see chart 2). But Huawei's global sales of such equipment still fell by 7% last year. Much of its remaining revenue comes from China and, abroad, from less lucrative 4G networks, which are still being built in poorer countries. As investment in China's 5G roll-out winds down, moreover, Huawei's global market share may be eroded further, points out Stefan Pongratz of Dell'Oro. The idea of saving the foreign 5G business by selling its intellectual property to a Western owner, which Mr Ren entertained in an interview with *The Economist* in 2019, appears to have been shelved.

Mr Ren nevertheless remains undaunted. His leaked memo in late August, in which he asks staff to "feel the chill" brought on by gloomy economic conditions in China and abroad, should be read not as an act of despair but as his way of rallying the troops, insist some executives. And there is plenty for Mr Ren's troops to rally round. He wants Huawei to become a purveyor of technology to a wide spectrum of industries. It has already sold 300m devices running on Harmony, including laptops, wearables such as smart watches and app-controlled home appliances. This month the *Financial Times* reported that it may attempt to relaunch the production of 5G phones using less advanced chips.

And it is venturing beyond gadgets and telecoms. It is making sensors to monitor soil conditions to help farmers fine-tune irrigation systems and cut back on fertiliser. It is building a business in systems for clean-power generation. It has also become a big supplier of software and electronics for carmakers, with which it has teamed up to develop various bespoke sys-



tems, such as energy management for electric vehicles. Huawei says that in July alone it had sold more than 7,200 AITO M5S, a model of car jointly developed with Seres, a Chinese-owned electric-vehicle maker based in California.

It is also expanding its enterprise division. The unit is building data centres and cloud-computing businesses around the world. Its prospects look strong in China, where the chief source of demand over the next decade will be the government (as provincial and city authorities upgrade their systems to offer more public services online) and state-owned firms (which are frantically digitising and installing the industrial "internet of things").

The rise of IaaS men

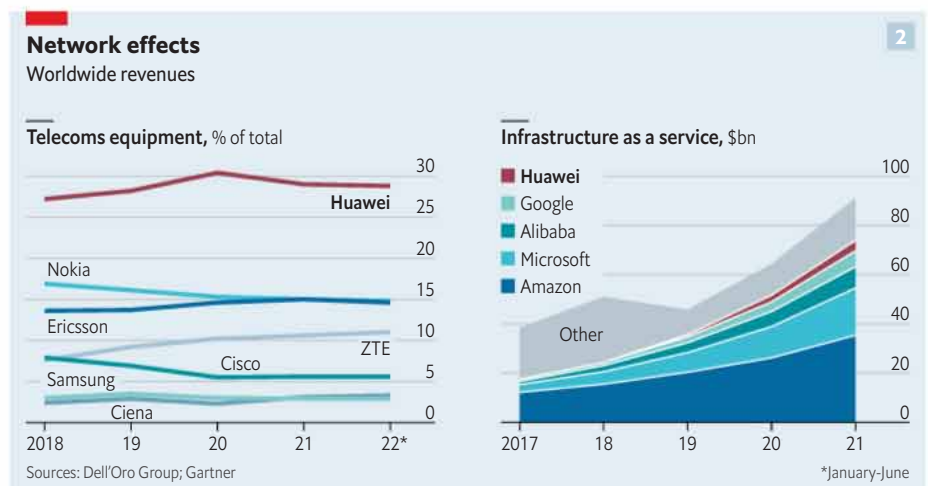
Huawei does not enjoy a technical advantage in such "infrastructure as a service" (IaaS) over giant local rivals like Alibaba and Tencent. But it has the government connections needed to win the juiciest contracts, says Yi Zhang of Canalys, a research firm. In just a few years this has helped Huawei become the second-largest cloud provider in China, behind Alibaba. Many Chinese firms are tossing out Oracle databases and asking Chinese companies to build local ones. Huawei is scooping up

this business. As revenues from devices tumbled in the first half of 2022, its overall sales from the enterprise division surged by 28% to 55bn yuan (\$7.6bn), or about 18% of total revenues. Gartner reckons that Huawei has become the world's fifth-largest IaaS provider.

Maintaining a presence in foreign markets poses a bigger challenge. Mr Ren has long understood the importance of grabbing global market share. In the late 1990s he began deploying staff to far-flung places in Africa and South America to forge local connections. The strategy helped make Huawei China's first genuinely multinational corporation. Huawei's new businesses are not expected to make headway in America. But the company thinks much of the rest of the world is fair game. Its energy-management products are growing fast in Europe. One insider points out that over the past three years Huawei has been building up its foreign IaaS engineering capabilities in Africa, Latin America, the Middle East and South-East Asia.

However, barriers to entry in such businesses are high even in places that welcome Huawei. Much of the world's information technology runs on software from Microsoft, an American giant. Huawei's databases use Linux, an open-source operating system. The technical difficulty of installing Huawei to replace American systems that run on Oracle's and IBM's products, which are much more compatible with Microsoft's, is high, says Boris Van of Bernstein, a broker. Edging out the American firms in China is one thing; doing so abroad is quite another. And although Mr Ren has amassed heaps of chips needed for its enterprise products, the new American rules will make these harder to replenish.

Taken together the changes amount to a revolution in how Huawei functions as a business. In the past its sprawling research-and-development (R&D) operation dreamed up new technologies, its engineers developed them into a limited range of core products and its sales team sold



those to customers in two main sectors: telecoms and consumer electronics. This one-way end-to-end system is being replaced by a more open, two-way model, where Huawei develops products in partnership with its growing array of client industries. People close to the group say it now resembles a vast web of startups with deep R&D coffers. The company often spends 20% of annual revenues on R&D, the same share as Meta and nearly twice as much as Alphabet. That amounts to about \$122bn over the past decade.

Mr Ren could yet pull off the transfor-

mation. His company's 100,000 engineers have an enviable record of inventiveness. Yet it is hard to imagine Huawei regaining its global clout, especially as President Xi Jinping consolidates his power and ratchets up tensions with the West.

On October 24th, after Mr Xi named a team of loyalists to run the country for the next five years, investors fled Chinese stocks. Hong Kong's Hang Seng index fell by more than 6%. Many big tech companies lost 10-20% of their value (see Finance & economics section). Alibaba's shares were trading at below the price at the e-em-

porium's initial public offering in 2014.

As a private company, part-owned by its employees, Huawei is not directly affected by the stockmarket turmoil. But it is not immune to the geopolitical gales buffeting public markets. Rather than the next Apple or Microsoft, Huawei's new ventures may eventually look a bit more like Accenture, an American-listed firm that advises companies on technology transitions, says Mr Van. That would not be all bad: Accenture has a market capitalisation of \$185bn. But it is far more modest than Huawei's multi-trillion-dollar global promise of yore. ■

Bartleby The archaeology of the office

A walk around the workplace is also a trip back in time

THE OFFICE is where colleagues meet, work and bond. But it is also a time capsule, a place where the imprint of historic patterns of working are visible everywhere. The pandemic has heightened this sense of the office as a dig site for corporate archaeologists. It isn't just that covid-19 has left its own trace in the fossil record, from hand sanitisers to social-distancing stickers. It is also that items which were useful in the pre-covid world make less sense now; and that things which were already looking quaint seem positively antiquated.

The most obvious artefact is the landline phone, a reminder of the days when mobility meant being able to stand up and keep talking. Long after people have junked them in their personal lives—less than 15% of Americans aged between 25 and 34 had one at home in the second half of 2021, according to the Centres for Disease Control and Prevention—landline phones survive in offices.

There might be good theoretical reasons for this persistence: they offer a more secure and stable connection than mobile phones, and no one frets that they are about to run out of battery. In practice the habit of using them was definitely lost during the pandemic. Now they sit on desk after desk, rows of buttons unpressed, ringtones unheard, cords tellingly unknotted.

Landlines were already well on their way out before covid-19 struck. Flipboard charts have suffered a swifter reverse. These objects signal a particular type of torture—people physically crowded together into a room while an idiot sketches a quadrant with a marker pen and points meaningfully to the top-right-hand corner. The idiot is still making quadrants but is now much more likely to use a slide deck. The crowd is

still being tortured but is now much more likely to be watching on a screen. The office still has flipboards, but they are stowed in corners and their topmost pages are slowly yellowing.

If your office still uses internal mail, with those special envelopes that have people's names crossed out as they wend their way round an organisation, you are in a corporate period drama. But most offices still retain clues to the historical importance of paper. Photocopiers, scanners, shredders, guillotines and unfeasibly large staplers are echoes of a not-too-distant time when physical documents were a vital currency, when people assembled in a single room and shared ideas on pieces of paper.

In-trays and out-trays are visible reminders of how information used to flow within organisations. Noticeboards and business cards were once the best ways to convey news and contact details. Forecasts of the paperless office have been around for decades; they are not about to come true now. But the stationery cupboard will be less well stocked in future.



Meetings between people in the office and those working remotely rely today on platforms like Zoom or Microsoft Teams. Hunt around, though, and you may find an object that was seen as useful back in those dim and distant days of 2019: the conference-call speakerphone. Looking a bit like a small spacecraft, this phone had to be plugged into a socket to work. Lights would suddenly blink, and people would murmur in awe. Someone would dial in, each button-press a loud beep. They would inevitably hit the wrong one at some point and have to start again. These rituals and others are now rarely performed; the phones themselves are gathering dust on shelves, left behind by better technology and the abrupt rise of remote working.

The very layout of many offices is a throwback to a pre-pandemic age. If you work in a place filled with identikit cubicles, still have your own nameplate or sit at a desk tethered to the floor by a digestive system's worth of cabling, you are in an environment that made sense when the whole workforce came to the office every day, even if they just got on with their own work in silence. Now that the office's comparative advantage is as a place to collaborate with other people, socialising, sofas and hot-desking are seen as the future.

Real archaeologists need tools and time to do their painstaking work: paint brushes, trowels, sieves and picks. Corporate archaeology is easier: you just need eyes and a memory of how things used to be. But you also need to be quick. As more and more workplaces are revamped for the hybrid era, now is the time to take a careful look around the office. You may see something that will soon seem as dated as pneumatic tubes, typewriters and fax machines.



Schumpeter | The diplomat CEO

Elon Musk wants to be a statesman. Most bosses would rather not



THE CORPORATE jets descended on Riyadh this week, ferrying chief executives to the Future Investment Initiative, a talkfest nicknamed “Davos in the Desert”. A feud between the American and Saudi governments over an oil-production cut by the OPEC+ cartel, a move which benefits fellow member Russia, was not enough to keep away the bosses of giant American banks like JPMorgan Chase and Goldman Sachs. Nor was the kingdom’s record of human-rights abuses.

Like diplomats, chief executives often deal with unsavoury regimes. The two groups have other things in common. For one thing, both are invited to talk on panels with titles like “The New Global Order” (an example from this week’s junket). Both also spend lots of time jetting around the world. Some CEOs even end up becoming statesmen. Rex Tillerson, the former boss of Exxon-Mobil, an oil giant, served as America’s secretary of state under Donald Trump. Others fancy themselves as latter-day Kissingers. Elon Musk, the world’s richest man, recently put forward a peace proposal for Ukraine and recommended that Taiwan become a “special administrative zone” of China. Jamie Dimon, boss of JPMorgan Chase, opined this week that America should stop pursuing an “everything our way” attitude towards Saudi Arabia.

While bosses are busy encroaching on foreign affairs, foreign affairs are gradually encroaching on them. The result is a tangle. Western politicians—along with consumers and employees—now want companies to speak out against issues like China’s treatment of its Uyghur minority in Xinjiang. Increasingly boycott-prone consumers in China, meanwhile, have become highly sensitive towards any perceived criticism of their government. A muted statement by Nike, a sportswear brand, noting that it was “concerned about reports of forced labour” in Xinjiang was enough to cause a social-media outcry in China and a temporary slump in sales. For H&M, a fashion retailer that also stated concern and cut supply ties with the region, retaliation was even harsher. The business was purged from Chinese online retailers and its store locations removed from various map services, a blow from which its China business has still not recovered.

In the years after the Soviet Union’s collapse, the consensus in the West was that greater economic integration would bring pros-

perity and political liberalisation to countries with oppressive governments. In such a world, global expansion would not just be good for business; it would be good for peace and democracy, too. But reality has turned out differently. The share of global GDP accounted for by autocracies has gone the wrong way, up from around 10% in 2000 to 30% today, with China accounting for about half that increase. This has left bosses in the unenviable position of weighing the value to be gained from cosying up to oppressive regimes against the losses associated with the reputational risk and cost to their consciences.

Sometimes standing on principle is easy. Russia represents less than 2% of global GDP, a smaller share than Canada, and has grown sluggishly in recent decades. Few multinationals are reliant on it either as an end market or a production location, which explains the decisiveness with which many abandoned the country after its invasion of Ukraine. Jeffrey Sonnenfeld and colleagues at Yale University have identified over 1,000 companies that have curtailed their Russian operations beyond the minimum required by international sanctions. Saudi Arabia is faster-growing but an even smaller market. Some multinationals are present there, often because of its importance in global oil markets. But if Saudi-American relations were to sour further, more might leave.

Things get considerably more difficult when it comes to the planet’s second-biggest economy. China is not only the world’s manufacturer, but also an important consumer market. The fact that it represents nearly 40% of global car sales and is Volkswagen’s largest market helps explain why Oliver Blume, the German carmaker’s new boss, recently dismissed calls to close its factory in Xinjiang, a decision he described as “taking our values to the world”. In response, the *Global Times*, a Communist Party mouthpiece, praised Volkswagen’s “pragmatic spirit of win-win co-operation”. Jamie Dimon had to apologise (twice) for an off-the-cuff comment last year that JPMorgan Chase would outlive the Chinese Communist Party.

The problem with easy cases like Russia is that they make the knotty Chinese case knottier still. CEOs who play moralists with respect to Vladimir Putin are hard-pressed to justify—in ethical terms, if not financial ones—why they embrace realpolitik when it comes to Xi Jinping. Mr Putin’s war crimes are atrocious, but are they different in kind from the mistreatment of Uyghurs, which the Biden administration has called “genocide”?

Sitting out the great game

This is the sort of diplomatic conundrum that most CEOs (possibly with the exception of Mr Musk) would rather leave to real Kissingers. Helpfully, the professionals are increasingly obliging. As Western governments re-evaluate their relations with autocracies like Russia and China, they are making more of the hard choices on bosses’ behalf, by enticing producers to their shores and prohibiting some activities abroad. On October 24th Pat Gelsinger, who runs Intel, described himself as an “advocate” of restrictions just placed by the American government on his industry to limit sales of advanced computing chips and chipmaking tools to China (the chipmaker also gets subsidies to shift production to America). The Uyghur Forced Labour Prevention Act, which empowers American border authorities to seize products made in Xinjiang, gives bosses an excuse for severing supply links to the region. Whatever their ethical or geopolitical merits, such policies are not necessarily the best outcome for bottom lines and shareholders. But for the harried diplomat CEO, they are a blessing. ■



Consumer prices

Trouble in Hikelandia

SANTIAGO

Even the most determined central banks are struggling to rein in inflation

IT FEELS A little unfair. In July 2021, as rate-setters in America and Europe dismissed the risk of entrenched inflation, the Central Bank of Chile got its act together. Worried that inflation would rise and stay high, its policymakers voted to lift rates from 0.5% to 0.75%. The bank has since raised rates again and again, outpacing investors' expectations and taking the policy rate all the way up to 11.25%. Perhaps no other central bank has pursued price stability with such dedication.

Has the star pupil been rewarded? Hardly. In September Chile's prices rose by 14% year on year. The central bank's preferred measure of "core" inflation, which excludes volatile components like energy and food, jumped to 11%.

Chile's example speaks to a wider problem. Many pundits say that if only the Federal Reserve, the European Central Bank and others had "got ahead of the curve" by quickly raising rates last year, the world would not be struggling with high inflation today. The experience of Chile, and other places that tightened early and

aggressively, casts doubt on that argument. All over the world, it is proving extraordinarily difficult to crush price rises.

The Economist has gathered data on Chile and seven other countries in which the central bank started a tightening cycle at least a year ago, and did so after having slashed interest rates to an all-time low early in the covid-19 pandemic (see chart 1 on next page). The group includes Brazil, Hungary, New Zealand, Norway, South Korea, Peru and Poland. Although Russia would have qualified, we have excluded it because its circumstances are unique.

Call the unlikely gang "Hikelandia". In

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the year to October the median economy in Hikelandia raised rates by six percentage points. If as expected the Fed raises rates by 0.75 percentage points on November 2nd, America's cumulative increase over the past year will still be nowhere near as big.

Unsurprisingly, turning the monetary screws has slowed Hikelandia's economy. The property market has come off the boil as mortgage rates have risen. House prices are drifting down in New Zealand. South Korea's pandemic housing boom has ended. Goldman Sachs, a bank, produces a "current-activity indicator", a real-time measure of economic strength. Using its data, we find that Hikelandia's economy is weakening relative to the global average. And there is worse to come. Chile's central bank expects GDP to shrink next year.

Inflation, however, remains stubborn (see chart 2 on next page). Central banks often focus on the rate of core inflation, which better reflects domestic inflationary pressures. In September core inflation in Hikelandia hit 9.5%, year on year, up 3.5 percentage points from March. Worse still, the gap between global core inflation and Hikelandia's reading seems to be widening, not shrinking.

Dig into the national statistics of Hikelandia, and the trends become even more concerning. Chile's wage growth continues to accelerate. In September South Korea's inflation rate in the labour-intensive service sector was 4.2% year on year, its highest since the early 2000s. In the past six

months Hungary's service-sector inflation has climbed from 7.2% to 11.5%. Across the club, inflation is becoming more dispersed, affecting a wider range of goods and services. In September the price of 89% of the components in Norway's inflation basket rose by more than 2% year on year, up from 53% six months before. In research on Poland, published in late September, economists at Goldman Sachs found evidence that "underlying inflation momentum has picked up again".

Hikelandia's struggles raise three possibilities. The first is that it is currently unrealistic to expect inflation to fall. Research suggests that there are lags, sometimes long ones, between tighter monetary policy and lower inflation. It is also tricky to control inflation when almost every currency is depreciating against the dollar, making imports more expensive. All this may be true. But after being surprised again and again by inflation, you would be brave to bet that Hikelandia's inflation will soon be anywhere near central banks' targets, even if conditions begin to improve.

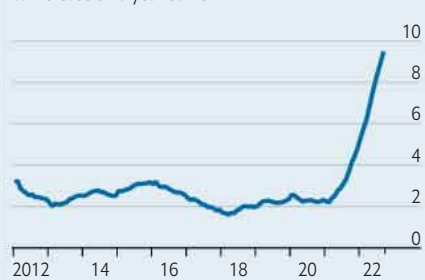
The second possibility is that policymakers, including those in Hikelandia, have not been sufficiently courageous. Perhaps central banks should have raised interest rates more aggressively. This is an argument stridently made by Chile's remaining "Chicago Boys", libertarian economists who spearheaded the country's free-market reforms in the 1970s.

Governments might also do more to help out. After ramping up spending when the pandemic struck, the median budget deficit in Hikelandia has fallen, but is still wide at 3% of GDP. Further increases to taxes or cuts to public spending would help reduce demand. Yet this strategy carries risks, too. Implementing austerity during a cost-of-living crisis would be deeply unpopular. And Chile, which has nonetheless taken the plunge and is forecast to run a budget surplus this year, is still seeing little payoff in terms of lower inflation.

That leads to a third possibility—and the most worrying one. Perhaps inflation

Further to climb

Hikelandia*, core consumer prices[†]
% increase on a year earlier



*Average of Brazil, Chile, Hungary, New Zealand (to Aug 2022), Norway, Peru, Poland and South Korea †Excl. energy and food
Sources: Haver Analytics; Refinitiv Datastream; The Economist

is simply harder to stop than anyone could have predicted a year ago. A report published in the summer by the Bank for International Settlements, a club for central banks, hinted at this possibility. In a "low-inflation regime", the norm before the pandemic, no one paid much attention to prices, ensuring they did not rise quickly. But in a "high-inflation regime", such as in the 1970s, households and firms start to track inflation closely, leading in time to "behavioural changes that could entrench it". If the world has shifted from one norm to another, then different tools may be needed to cool prices. ■

China's economy

The fleeing committee

HONG KONG

The markets vote against Xi's new team

ON OCTOBER 23RD China's ruler, Xi Jinping, asked the Central Committee of the Communist Party to endorse him and his team of loyalists to run the country for the next five years. He had no trouble in securing their support. But the next day, he had a lot more difficulty with the highly decentralised committee that is the global financial market.

Foreign investors dumped China's shares and its currency in spectacular fashion. Hong Kong's Hang Seng stock-market index, dominated by mainland firms, fell by over 6%. The sell-off was even worse in New York. The Golden Dragon index of Chinese companies listed on the tech-heavy Nasdaq, which includes giants like Alibaba and Baidu, fell at one point by 20%, reaching levels last seen before Mr Xi took power ten years ago. The offshore yuan, which fluctuates more freely than its onshore counterpart, weakened to its lowest value against the dollar since the mar-

ket began in 2010, before recovering a little in subsequent days.

Mr Xi's third term as leader was no surprise. But he disappointed investors with his picks for the party's new Politburo and its powerful seven-member Standing Committee. Investors had hoped these bodies would include market-friendly officials, recognised for their ability as well as their loyalty. When China's financial markets plunged in March, investors were reassured by soothing words from Liu He, a Politburo member and respected economic authority. No one of his stature could voice the same lines today. The upper echelons of China's communist party now lack policymakers whose expertise and experience might provide a check on Mr Xi's economic instincts.

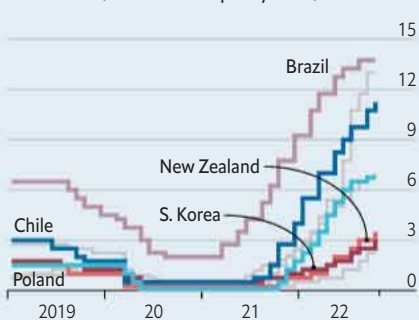
These instincts have become clearer over time. The word "security", for example, appeared 91 times in Mr Xi's report to the party congress on October 16th. Mr Xi is determined to fortify China against America's strategy of economic containment. He seems less interested in keeping foreign companies happy so that they will speak up against this strategy at home. Faced with "external attempts to blackmail, contain, blockade, and exert maximum pressure on China", he said, "we have shown a fighting spirit and a firm determination to never yield to coercive power."

Mr Xi's calls for "common prosperity" also worry foreign investors. His goal of broadening wealth and narrowing inequality has some economic, as well as social, justification. Increasing the share of national income paid to workers could help rebalance China's economy away from investment towards consumption. Indeed, increasing labour's slice of the cake is one of the indicators tracked by the IMF on its "rebalancing scorecard" for China. But investors fear new taxes on wealth or capital gains. And "common prosperity" has become associated with a clumsy crackdown on some of China's most successful tech firms.

Mr Xi has shown little interest in reduc- ➔

The precipice

Hikelandia*, central-bank policy rates, %



*Brazil, Chile, Hungary, New Zealand, Norway, Peru, Poland and South Korea
Source: Haver Analytics

New depths

Offshore* Chinese yuan per \$
Inverted scale



*Traded freely in international markets
Source: Refinitiv Datastream



Red scare

ing the role of state-owned enterprises to give private firms more room to prosper. Instead of urging the state to retreat, he wants the party to advance. “Party-building” will be stepped up in private firms, he said in his report to the congress. Colin Hawes of the University of Technology Sydney has argued that private firms have, for the most part, successfully co-opted the party organisations within them. These organisations are often led by the firm’s boss. Their members know that it is the firm not the party that pays their salaries. There is, though, no guarantee this *modus vivendi* will last, especially in some of the bigger companies favoured by foreign investors.

China’s faltering markets have become “disconnected” from improving fundamentals, according to investment strategists at JPMorgan Chase. Economic data released on October 24th showed that China’s GDP grew by 3.9% in the third quarter, compared with a year earlier. The figure, which appeared later than scheduled, was also faster than expected. Like all Chinese data, it was met with scepticism. But it was not obviously out of line with several lower-profile indicators, like electricity production, which grew by more than 6% over the same period. UBS, a bank, raised its forecast for China’s growth this year from 2.7% to 3.2%. Chinese shares also regained some ground.

Nevertheless, the reshuffle of China’s leadership may be provoking a reshuffle of China’s investor base. Given Mr Xi’s growing power and declining pragmatism, investors must ask whether or not they can stomach his philosophy. For investors who can’t, getting out is the only course of action. For those who can, Chinese companies now look cheap relative to their earnings prospects. The future of China’s markets will thus be determined by the tug-of-war between value and values. ■

Foreign-exchange markets

Currency colossi

SINGAPORE

Asia’s vast financial institutions are being enlisted to defend currencies

TAIWAN’S LIFE insurers and Japan’s Government Pension Investment Fund (GPIF) sound like sleepy organisations—hardly the sort to play a role in international markets. But over the past decade they have become vast institutions. They now look after hoards of foreign assets as big as national foreign-exchange reserves (see chart). In the middle of this year, the GPIF alone held more than \$700bn in foreign bonds and stocks.

As the dollar strengthens, policymakers are looking covetously at these foreign assets. The greenback is up by 16% in 2022 against a basket of currencies. Outside America, depreciation is raising import costs. Japan and South Korea have followed the conventional path of selling their own foreign-exchange reserves to shore up their currencies. Japanese officials do not say when they do so, but a sudden strengthening of the yen on October 21st bore telltale signs of intervention. Analysts reckon 5.5trn yen (\$37bn) has been spent on such manoeuvres this month.

Will domestic financial institutions be enlisted to the fight? China is not shy of doing so. It tweaks foreign-reserve requirements on commercial banks to manage the yuan, and majority state-owned lenders sometimes intervene on the central bank’s behalf. Things are not so easy in countries with more open capital accounts and less high-handed governments.

In the early 2000s, the last time the dol-



Meet the new forex kings



lar was as strong, the question of intervention by financial institutions did not arise, simply because the funds were much smaller. As recently as 2010, South Korea’s pension fund was a third of its current size. Since then, populations have aged and sought higher returns—and portfolios have ballooned. The firms’ sales of domestic currencies to buy foreign assets has kept the yen, won and Taiwanese dollar weak, which was welcome until recently.

The level of influence that officials can exert over institutions varies. The Bank of Korea and the country’s pension fund entered a \$10bn currency-swap deal last month. The fund agreed to borrow dollars from the central bank in exchange for won, rather than selling the currency on the open market, relieving a potential source of pressure on its market value.

Taiwanese life insurers, unlike South Korea’s pension fund, are private firms. Even so, they can be prodded in the right direction. Taiwan’s central bank now allows life insurers to remit \$100m-150m a day to the country, according to Reuters, a news agency. When the local currency was stronger, the central bank had been reluctant to allow such transfers.

Japan’s GPIF has not been recruited to combat the weakening yen, but that has not stopped speculation that it might be eventually. The fund could hedge more of its assets in yen, which could have the effect of strengthening the currency, says Brad Setser of the Council on Foreign Relations, a think-tank. “On pure financial-management grounds, there’s a question of whether the GPIF should have such a large share of its foreign-currency holdings held on an unhedged basis,” he adds.

Although the dollar has slipped a little in recent days, that does not change the picture for Asian officials, who are still dealing with far weaker currencies than they would like. They will probably continue intervening. And they may be tempted to bring outside assets into play. ■

Policing Wall Street

Super-regulator

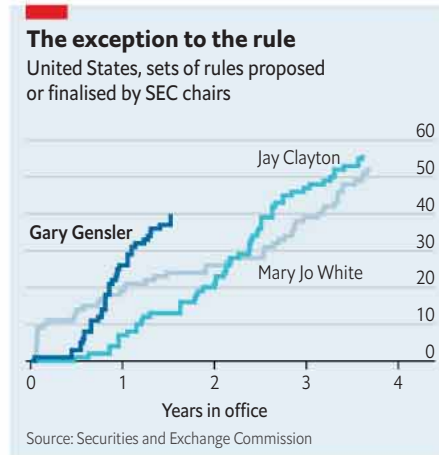
WASHINGTON, DC

Can Gary Gensler solve every problem in American finance? That is his aim

EVERYONE IN FINANCE has an opinion of Gary Gensler. To many, the chairman of the Securities and Exchange Commission (SEC), America's main financial regulator, is meddlesome and overreaching. Mention him in crypto circles and you invite a convoluted description of a token or project, followed by the speaker hissing: "How can that be a security?!" His plans have raised the eyebrows of other policymakers, alarmed lobbyists in Washington and panicked much of Wall Street. One bank boss sneers that his agenda is ridiculous. So broad are his aims, "he must think he is an Avenger," assuming he can "swoop in and fix every problem in finance."

It is impressive to have made such an impression after 18 months at the helm. In Mr Gensler's brief time in office he has made filings to propose or finalise 40 sets of rules. At this point Jay Clayton, his Republican predecessor, had made just a third as many, and Mary Jo White, the Democrat who preceded Mr Clayton, around two-thirds (see chart). Mr Gensler is keeping his speechwriter busy, too. Since assuming office he has given 60 speeches, twice as many as Mr Clayton in his whole tenure. Mr Gensler has even found the time to charge Kim Kardashian for unlawfully touting a crypto security.

Yet Mr Gensler does not seem the type to court controversy. He speaks with the precision of a central banker and avoids



talking about specific firms or rules his agency has not opined on. When discussing thorny problems in an interview with *The Economist*, he frequently appeals to first principles—such as fairness for investors, level playing fields between market institutions, and safe investing—which he wants to be the legacy of his time in office.

Perhaps Mr Gensler's critics are driven to ad hominem attacks because it is hard otherwise to undermine his authority. No one can accuse him of being underqualified in finance or regulation. Mr Gensler cut his teeth on Wall Street, joining Goldman Sachs at 22. By 30 he was one of the bank's youngest-ever partners. He then

worked at the Treasury during Bill Clinton's presidency, and ran the Commodities and Futures Trading Commission under Barack Obama. "He wrote a lot of Dodd-Frank. He is a very smart man," says the boss of a big firm, referring to America's post-financial-crisis legislation. "He is not someone I would want to go up against."

He even understands crypto, much to the chagrin of those who wish to paint him as someone who does not "get it". In 2018 he taught a course on blockchains for the Massachusetts Institute of Technology's business school, which is available in its entirety on YouTube. It reveals both a deep knowledge of the tech and the fact that years in regulation have not dulled Mr Gensler's capitalist instincts. In his first lecture he quizzed students on what they wanted from the class. When reviewing the results the next week, he revealed that five people had admitted their aim was to make money: "And I applaud those who said that because: Own it. You're in a business school. Why not?" he grinned.

Mr Gensler's frenetic activity partly reflects the chaotic time he started the job. He was appointed in April 2021, a year after the Treasury market—the world's most important financial market—seized up during a pandemic-induced dash for cash. A financial boom was roaring. Bepple, an artist, had just sold a non-fungible token for \$69m, kicking off a frenzy for crypto assets. Special-purpose acquisition vehicles (SPACs) were raising billions of dollars a week. And retail traders, enabled by new apps, were kicking off a 50-fold increase in shares of GameStop, an electronics-retail firm, pushing short-sellers, brokers and the stock-settlement system to the brink.

Little surprise, then, that Mr Gensler has grand plans. He wants to change the settlement system to reduce the risk facing retail brokers. He also thinks the Treasury market should be centrally cleared, so that a single institution stands between buyers and sellers, taking counterparty risk. This, he explains, is because central clearing promotes competition. In doing so, it also "enhances and expands access, lowers counterparty risk, helps broaden the market...and on the margin, results in a bit more liquidity."

His ideas do not stop there. Mr Gensler has proposed rules to force SPACs to match the disclosure requirements of initial public offerings, the mere suggestion of which was enough to quell fundraising. His suggestions for climate disclosure would force firms to measure and report on emissions in regulatory filings. New rules are ▶▶



Gary in a hurry

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imminent on the structure of stockmarkets and the process by which retail brokers direct stock orders to intermediaries (known as payment by order flow). The SEC seems fixated on levelling the playing field between the exchanges, which are limited in how they make and quote prices, and the wholesalers, which are not. “I can’t pre-judge where we’ll come out,” says Mr Gensler. “But our goal is about enhancing the competition and lowering the costs.”

Many of these suggestions, such as reducing settlement times or centrally clearing Treasuries, are sensible and have sup-

port from market participants. But Mr Gensler has not shied away from topics, such as environmental rules or stockmarket structure, that are controversial and surely will attract legal challenges. Nor is he inclined to let accusations of overreach impede him. Congress has proposed several bills to clarify the authority the SEC has over the crypto industry. Mr Gensler does not appear to believe they are necessary. “I think it’s pretty clear. I think that nearly 90 years ago Congress painted with a broad brush”, when defining the powers of regulators, he says. “And I’m quoting Thurgood

Marshall there, the famous Supreme Court Justice, who wrote that in the 1970s.”

Cynics think this sweeping agenda is a ploy to draw attention. “Clearly he has got his eye on higher office,” says one, referring to gossip he wants a top government job. But Mr Gensler’s more controversial plans—in crypto, say, or the structure of stockmarkets—do hew to the principles by which he is most animated, such as fairness and consumer protection. Perhaps the idea that Mr Gensler will soon move on is nothing more than wishful thinking. He has plenty of power where he is. ■

Buttonwood Notes from a party

The surprising maturity of the crypto-rave crowd

WHAT SPRINGS to mind when you hear the words “crypto rave in Colombia”? Perhaps an image of sweaty programmers swaying out of sync to thumping house music, some boorishly shouting over it to discuss the latest crypto-token they are flogging, their enthusiasm amplified by illicit substances. Given the crypto community’s penchant for spectacular hacks, rug-pulls and general calamity, something, somewhere is surely going dangerously awry. However the reality, as your columnist discovered on October 12th, is a little different.

The rave—or “AAVE” as it was marketed to partygoers—she attended was thrown by Stani Kulechov, the founder of Aave, an open-source protocol through which people are able to lend or borrow various cryptocurrencies. The protocol is one of the more successful decentralised-finance (DeFi) applications. Mr Kulechov hails from Finland and the word “aave” is Finnish for “ghost”, which is the protocol’s logo.

He throws a chic party. The AAVE was held on the sidelines of Devcon, an annual conference hosted by the Ethereum Foundation, a non-profit organisation that brings together developers working on Ethereum, the second-most valuable blockchain. This year the conference was in Bogotá, the capital of Colombia. The party took place in a converted warehouse filled with plants to evoke a jungle theme. The bar served spicy mezcalitas. Veronika Fleyta, a British DJ, manned the decks. The toilets worked. There were even taxis waiting outside to take tired AAVEERS to bed.

Far from being rammed with nerds, the crowd was a mixed bunch. Attendees included a Colombian girl who had participated in a hackathon before the

conference kicked off, a French programmer who was working on a method to distribute aid via Ethereum and a cheerful Mexican guy waiting in line for a AAVE T-shirt, emblazoned with a “friendly ghost” logo in headphones. None of them tried to shill tokens.

It was a grown-up event—one which reflects a newfound maturity among a community more commonly known as anything but. Aave is a five-year-old company with a successful project it has spun off to be run by the community, through what is known as a “decentralised autonomous organisation” (or “DAO”). Its founder is working on his next venture, a social-media protocol called “lens”, which will allow users to “own” their followers, taking them from one social-media application to the next, and thus switch apps without losing clout.

The party is not the only evidence crypto is a more mature industry now. Despite prices plunging into another so-called “crypto winter”, the market capitalisation of all tokens is still around \$1trn, the same as in early 2020. Slumps

no longer lead to questions about whether the end is nigh. At Devcon several firms announced that, despite the crash, they had raised capital from venture firms. UniSwap Labs, founded by the creator of UniSwap, another successful DeFi protocol, raised \$165m at a \$1.7bn valuation. Established venture-capital firms, like Andreessen Horowitz, which participated in the fundraising round, are sticking with crypto.

Perhaps this is a reflection of the fact that the tech is getting better, too. Devcon came on the heels of “the merge”, when Ethereum switched the mechanism by which it adds data to its blockchain. The change essentially eliminated Ethereum’s carbon footprint overnight. The next technological improvements are likely to increase the scale and reduce the cost of transactions, which should make Ethereum useful for more than just financial applications.

Still, it would be unwise to assume that a pocket of maturity reflects the entire crypto community. A few days before Devcon, during a visit to Miami, your columnist considered attending another crypto party—this one favoured by bitcoin bros. It would have been in a nightclub in Wynwood, a neighbourhood filled with pastel-coloured buildings and crypto firms. The area is home to the headquarters of Blockchain.com, a crypto-trading platform, and will soon host the American base of FTX, an exchange run by Sam Bankman-Fried, a well-known crypto billionaire. First, though, she checked it was a good idea with the crowd who had gathered for a weekly bitcoin brunch at a Haitian restaurant. “Erm...that is actually a strip club,” one of them sheepishly replied—a step too far, even for a journalist willing to brave a crypto rave.



Free exchange | In search of a bright light

Billion-dollar experiments aim to end a period of scientific stagnation



IN 2008 BEN JONES of Northwestern University formalised a simple yet powerful observation. The more knowledge humans have, the longer it takes a budding researcher to get to the frontier, and thus to push things forward. In a paper provocatively titled, “The burden of knowledge and the death of the Renaissance man”, Mr Jones argued humanity’s growing knowledge would slow scientific progress and thus economic growth. More recent research has solidified this view. In 2020 economists at Stanford University and the Massachusetts Institute of Technology (MIT) published another provocatively titled paper, “Are ideas getting harder to find?” which concluded that in areas from crop yields to microchip density, new ideas were indeed getting harder to find.

The slowdown has spurred academics and policymakers looking to bolster scientific enterprise. Many are turning to DARPA, a cold war outfit which funds high-risk “moonshot” research, for inspiration. Last year the National Institutes of Health (NIH), America’s largest science funder, launched a new arm with an annual budget of \$1bn called ARPA-H. Other countries, including Britain and Germany, have set up their own versions. In July America’s Congress authorised nearly \$200bn in new scientific funding over the next decade (although it is yet to stump up the cash), in the process creating a branch of the National Science Foundation (NSF) for applied science and tech. Philanthropists are joining the action, too: their funding of basic research has nearly doubled in the past decade. All these efforts aim to help science get back its risk-loving mojo.

In a working paper published last year, Chiara Franzoni of the POLIMI Graduate School of Management and Paula Stephan of Georgia State University look at a number of measures of risk, based on analyses of text and the variability of citations. These suggest science’s reward structure discourages academics from taking chances. The most common way research is funded, through peer review—in which academics in similar fields score proposals—deserves some blame. In 2017, using a data set of almost 100,000 NIH grant applications, Danielle Li, then of Harvard University, found that reviewers seem to favour ideas similar to their own expertise. If a project must satisfy a committee, it is not surprising that unorthodox ideas struggle to make it through.

This suggests that breaking bad funding habits should make a difference. The DARPA model, which has more in common with venture capital than traditional funding structures, is an attempt to do just that. It empowers programme directors to finance high-risk, high-reward projects with a bent towards real-world use. But though it has proved successful in the defence industry—funding groundbreaking technologies from the early internet to GPS—it may not be quite as successful elsewhere. A book chapter published in February by Ms Li and Pierre Azoulay at MIT notes that the DARPA model does best when its programme directors have a clear understanding of the sort of breakthroughs that are needed. This is often the case at DARPA itself, where both the funder and user of new tech is the defence department. In areas like energy or health care, things are rather less straightforward. The end users are many and dispersed rather than a single government department. Indeed, other work by Mr Azoulay and colleagues notes that although ARPA-E, an energy-focused outfit launched in 2009, is still in its relatively early days, it is yet to produce advances on a par with its defence-orientated predecessor.

Another approach in vogue is to fund “people not projects”. Most conventional grants fund specific projects for a specific amount of time, usually a few years, which researchers worry prevents them from pivoting to new ideas when old ones do not work out and fails to allot enough time for risky ones to come to fruition. A study in 2011 compared researchers at the Howard Hughes Medical Institute, where they are granted considerable flexibility over their research agendas and lots of time to carry out investigations, with similarly accomplished ones funded by a standard NIH programme. The study found that researchers at the institute took more risks. As a result, they produced nearly twice as much highly cited work, as well as a third more “flops” (articles with fewer citations than their previously least-cited work). These results may be hard to replicate elsewhere. Researchers at the Howard Hughes institute are selected for attributes that suggest they will thrive in such a flexible environment. But the gap is big enough to indicate that others may also benefit from more freedom.

The science of science

Despite the uncertainty about exactly how best to fund scientific research, economists are confident of two things. The first is that a one-size-fits-all approach is not the right answer, says Heidi Williams of Stanford University. DARPA models, the Howard Hughes Medical Institute’s curiosity-driven method, and even handing out grants by lottery, as the New Zealand Health Research Council has tried, all have their uses. Evaluation of them can then build knowledge of what works, says Matt Clancy, an economist who curates a continuously updated online literature survey on innovation, itself an experiment in how to improve science.

The second is that this burst of experimentation must continue. The boss of the NSF, Sethuraman Panchanathan, agrees. He is looking to reassess projects whose reviews are highly variable—a possible indication of unorthodoxy. He is also interested in a Willy Wonka-style funding mechanism called the “Golden Ticket”, which would allow a single reviewer to champion a project even if his or her peers do not agree. Mr Clancy notes that many venture-capital partnerships employ similar policies, because they prioritise the upside of long-shot projects rather than seeking to minimise failure. Thus far, there is little quantitative evidence on whether Golden Tickets produce Golden Outcomes. All the more reason to try them. ■

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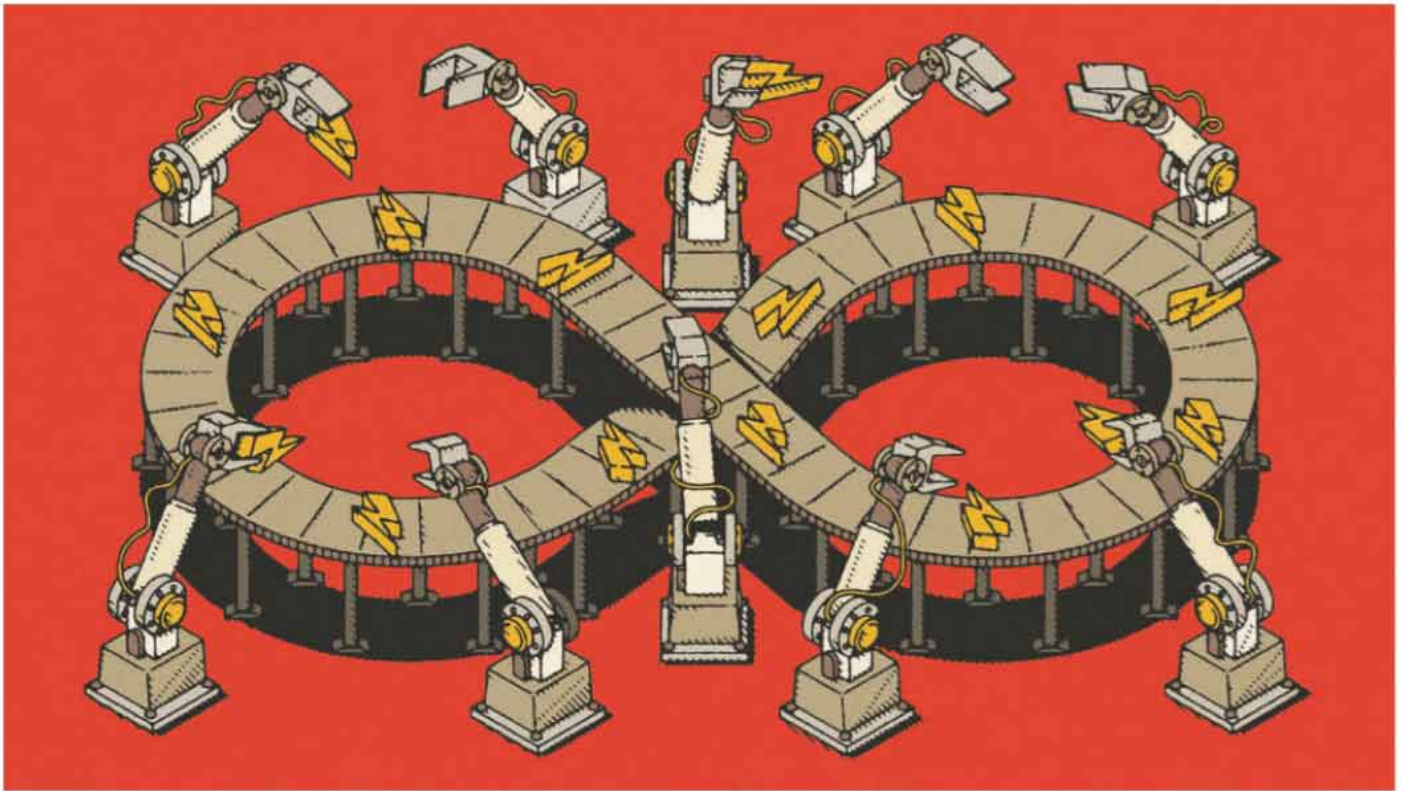


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Battery-making

Inside the gigafactory

VASTERAS, SWEDEN

Batteries for electric vehicles are being produced in a new type of factory—one that ushers in an era of circular manufacturing

THOUGH DARK satanic mills are long gone from industry, the start of the lithium-ion-battery production line in a factory in Vasteras, west of Stockholm, is particularly squeaky clean. Air-lock doors, a filtered atmosphere and workers dressed head-to-toe in sterile white suits make it look more like a pharma lab than a plant for assembling the single most-expensive component in an electric vehicle (EV).

So important are batteries to the future of carmaking that every country with an auto industry is rushing to attract plants to make them—“gigafactories”, as they are known in the business. The term was originally coined by Tesla, an American producer of EVs, for a battery factory in Nevada, which it began building in 2014 in collaboration with Panasonic, a Japanese firm. The name relates to an annual production measured in gigawatt-hours (GWh) of storage capacity.

The factory in Vasteras belongs to Northvolt, a Swedish battery-maker set up by a pair of ex-Tesla executives. It is described as an “industrialisation” plant—in effect, a model gigafactory. It is capable of

making every part of an EV battery, unlike some others, which buy in components such as electrodes. The factory develops battery cells for new vehicles that are being developed, in turn, by its customers. These include Volvo Cars, BMW and the Volkswagen Group. It then makes the batteries for fleets of prototype vehicles which those producers use for testing. Once the cell designs are fixed, mass production of the batteries is transferred to bigger gigafactories.

Round and round

Northvolt has one of these, too, in northern Sweden. That has two production lines, each 300 metres long, and the firm is adding three more lines to it. It is also building a second Swedish gigafactory, in Gothenburg, in a joint venture with Volvo,

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and one in Germany. It is aiming for a combined annual output of 150GWh by 2030. That is enough battery power to make more than 2m EVs. What is even more striking, though, is that by then these factories should be obtaining half their raw materials, including valuable substances such as lithium, cobalt, nickel and manganese, from recycled batteries. If Northvolt succeeds in meeting this ambitious target, that will be a big step towards circular manufacturing, a long-held dream in which firms make new products by recycling their old ones, thus greatly reducing their environmental footprints.

The obsession with cleanliness at the start of the line comes because this is where the chemicals that enable a battery to store energy are mixed into so-called “active” materials. In a lithium-ion battery the slightest impurity can interfere with the flow of the eponymous ions.

These ions are created at one electrode, the anode, by stripping electrons from lithium atoms. They then shuttle through a liquid electrolyte to a second electrode, the cathode. The electrons, meanwhile, travel towards the cathode along an external circuit, which, in the case of an EV, powers its motor. Ions and electrons are reunited at the cathode and remain there until the battery is plugged into a recharger and the process is reversed.

Cathodes, which represent around 40% of the cost of an EV battery, are made from various combinations of chemicals. Cathode chemistry is an important point of dif- ➤

► differentiation in battery technology. It is therefore tweaked, not just for individual manufacturers, but also to suit specific EV models, ranging from sports cars via family saloons to large SUVs. Popular cathode blends use combinations of nickel, manganese and cobalt. Anodes are usually made from ultra-pure graphite, a form of carbon. Other substances are also added to both sorts of electrode, to stabilise the active materials and to tweak performance.

Once the ingredients have been mixed, the next stage works like a papermaking plant (see diagram). The active materials are blended into a slurry. The cathode mixture is coated onto a roll of aluminium foil. And the graphite is likewise spread onto a roll of copper. The foils are then oven-dried, pressed and rolled up again.

Robotic hands

Assembly of the battery cells brings a third dimension to the gigafactory, as it is done by robotised machines that look much like those found on an electronics production line. It involves unwinding the electrode foils and cutting them into thin strips. The anodes and cathodes are then made into cells by interleaving them, sandwich-like, with fillings composed of lithium-laced electrolyte and membranes known as separators. These membranes permit lithium ions to pass, but stop the electrodes touching each other and shorting out.

Such cells are the basic units of which lithium-ion batteries are composed. The next step is packaging them, which can be done in different ways. A widely used format is the “prismatic” cell module. This is made up of a number of battery cells, perhaps a dozen or so depending on the power requirements of the vehicle, assembled inside an aluminium housing. The resulting modules are about the size of a hardback book, with electrical connectors attached.

The modules then need to be tested by charging and discharging them. This is done cautiously, because the way a battery is “cycled” for the first time can affect its future performance and the length of its working life. Modules deemed good are either dispatched to vehicle manufacturers directly, where they are assembled into the battery packs which are fitted to EVs, or to a Northvolt plant in Gdansk, Poland, which also assembles battery packs, including those used in other industrial applications, such as grid balancing.

Modules that fail their checks go to recycling, where they join what will become an increasing flow of used EV batteries, at first from prototype vehicles and from cars which have been written off in accidents, but eventually, it is assumed and hoped, from the growing number of worn-out batteries that the ageing of the world’s EV fleet will generate—although that could take a decade or so.

Materials recovered from these batteries are purified and returned to the first stage of production. Ways of doing this are improving all the time, says Emma Nehrenheim, Northvolt’s chief environmental officer, as robots are taught better how to dismantle the batteries and then crush the cells into a crumbled material called “black mass”. That done, useful materials can be leached chemically out of the black mass.

A combination of recycling and the use of renewable power—in Sweden, Northvolt has access to plentiful hydro and wind energy—means that as batteries themselves get greener, any raw materials still required to make them, along with the associated mining and shipping of those materials, will come to represent a bigger proportion of a battery’s overall carbon footprint, explains Dr Nehrenheim. So companies also have to tackle the volume of emissions in their supply chains.

Not everything recovered is of sufficient quality to produce new batteries, hence there is a search for mining and processing operations with low environmental impact. Recycled graphite, for instance, is not good enough to make new anodes—though it can be used for water filters. Northvolt is therefore exploring an environmentally friendly alternative, in collaboration with Stora Enso, a Finnish wood-products company. The plan is to develop ways of making anode carbon from lignin, a natural polymer found in the cell walls of plants.

A knottier problem is the questionable nature of the sources of some raw materi-

als. A lot of cobalt, for example, comes from the Democratic Republic of the Congo, where many mining operations use child labour. Northvolt and other battery-makers try to avoid buying materials from these producers by dealing directly with mines rather than third-party suppliers, as this makes it easier to trace the origin of materials and check the standards with which they are produced.

Not so far

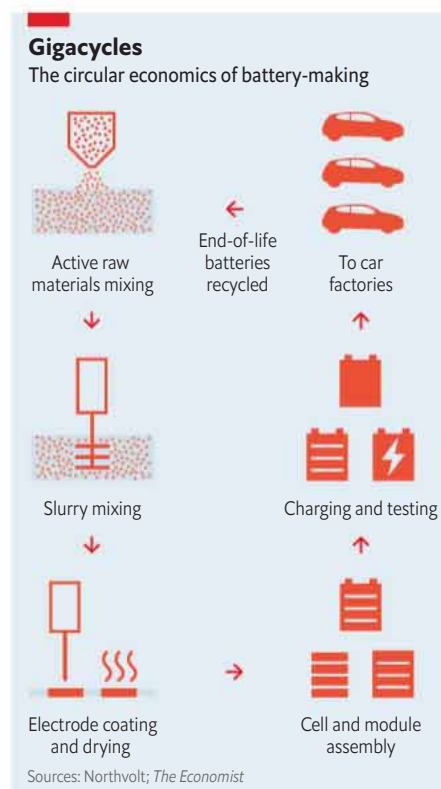
Reducing the distance travelled by materials and batteries will also help. Most lithium comes from Australia, Chile and China, although Northvolt has teamed up with Galp, a firm in Lisbon that plans to develop a lithium-production plant in Portugal, which is closer to hand.

Nor is Northvolt alone in seeing advantages in circular manufacturing. The world’s biggest producer of EV batteries is CATL, a firm based in Fujian province, China. Robin Zeng, its chairman, said recently that he believes it is possible to reduce most of the carbon footprint of a battery through the use of renewable power, large-scale recycling of battery materials, energy conservation and improved production processes. The company says its largely hydro-powered gigafactory in Sichuan province is working as a “lighthouse” factory to bring these things to its ten production sites around the world.

CATL is, moreover, seeking to add to that collection. It is building a gigafactory in Germany, has plans for another in Hungary, and is looking for a site for one in North America. And another Chinese firm, Envision, based in Shanghai, is expanding Britain’s only gigafactory, next door to Nissan’s car plant in Sunderland, which it supplies.

Meanwhile, the original gigafactory in Nevada is charting a similar course. Redwood Materials, founded by Jeffrey Straubel, once Tesla’s chief technology officer, is building a giant battery-recycling centre nearby. It is expected to start supplying anode and cathode materials to its neighbour soon. To provide it with a feedstock while the supply of old EV batteries builds up, Redwood has created a collection scheme to recycle batteries from defunct devices such as mobile phones and power tools.

Although there are clear financial and environmental benefits from “greening” batteries by circular manufacturing, it is a road that carmakers and their suppliers may well be forced to take anyway, as legislators are starting to take action. From July 2024 the carbon footprint of batteries in EVs sold in the European Union will need to be declared. And by 2030 those batteries will have to contain minimum levels of recycled material. All in all, then, EV drivers—already seen by many as a smug breed—will soon have reason to feel even smugger about saving the planet. ■



Climate change

Plus ça change...

The lead up to COP27 brings depressing reports of a lack of action

ON NOVEMBER 6TH the world's leaders will assemble once more to talk about the climate. This time last year all eyes were on Glasgow, in Britain, for the COP26 UN climate summit. Attention now turns to Egypt, host of COP27.

Progress since Glasgow has been disappointing, as the latest Emissions Gap Report from the UN Environment Programme laments. This considers all new national climate promises and policies since that summit and translates them into future reductions in greenhouse-gas emissions.

The report finds a mere 0.5bn tonnes have been shaved off last year's 17bn- to 20bn-tonne gap between where the annual rate of carbon dioxide emissions would need to be in 2030 in order to offer a decent chance of limiting warming to 1.5°C above pre-industrial temperatures, and what is implicit in the political promises on the table. Most of the shavings come from the new Australian government's more active climate policies. Of other members of the G20 group of countries with substantial economies, only Indonesia and South Korea have increased their climate ambition. Brazil has back-pedalled.

The modellers estimate that if every national climate goal for the end of this decade were met, including those conditional on money promised by rich countries actually turning up, then average global temperatures would rise by 2.4°C by 2100. If mid-century net-zero pledges are met, it could mean just 1.8°C of warming, but the

report's authors warn repeatedly that this is "currently not credible" (see chart). Existing climate policies—real action on the ground, not just promises—equates to 2.8°C of warming by 2100. These findings are consistent with a similar analysis by the UN Framework Convention on Climate Change, the main forum for international climate talks.

Climate models suggest that, to avoid more than 1.5°C of warming, greenhouse-gas emissions must peak before 2025 and then fall by 43% from 2019 levels by 2030. Systems Change Lab, a conglomerate of environmental organisations and think-tanks, has translated these reductions into 40 indicators, each with a 2030 target. In its report, the State of Climate Action 2022, it finds not a single one of them on track for 1.5°C. Five are heading in the wrong direction entirely. For example, the share of electricity generated by "unabated fossil

gas" (natural gas burned without capturing the resulting carbon dioxide) has actually risen in recent years. Similarly, the amount of CO₂ generated for each unit of steel produced has increased, and food production is emitting more than it did five years ago.

If there is a glimmer of hope in all this, it is the International Energy Agency's estimate that CO₂ emitted by burning fossil fuel will rise by only 1% in 2022, after a much larger post-pandemic surge in 2021. Paradoxically, Russia's invasion of Ukraine may have helped. "The encouraging news is that solar and wind are filling much of the gap" created when Russia switched off Western gas supplies, said Fatih Birol, the agency's executive director. The dash for coal, he added, appeared to be "relatively small and temporary". Even a 1% increase in emissions adds to the greenhouse effect, but were this trend to continue it would be good news indeed. ■

Animal behaviour

Bumblebees have a ball

Playfulness is not restricted to mammals and birds

ANIMALS LIKE to play. Well, some do. Lots of mammals and birds, particularly when young, engage in behaviour that, to use a common check-list: provides no obvious adaptive outcome such as access to food, shelter or a mate; is voluntary, spontaneous and rewarding in and of itself; is repeated, but not stereotypically; and appears to be pleasant and conducted when the animal is relaxed.

But bumblebees? Apparently they play too, according to work just published in *Animal Behaviour* by Hiruni Samadi Galpayage Dona and Lars Chittka of Queen Mary University, in London. Specifically, if given the opportunity, they will play a type of football. Admittedly, their version of this is not a team game. And the balls involved are pretty-much the same size as the insects. But, to a human observer armed with the check-list, they give every impression that they are enjoying the bumblebee equivalent of a kickabout.

The idea of asking whether bumblebees like to play came to Dr Chittka during a previous study in which he trained them to roll wooden balls around in order to gain access to food. He noticed that, during this experiment, they would often roll the balls for no apparent reason. They just seemed to enjoy it.

A perfect PhD project, then, for an aspiring student. And Ms Galpayage Dona stepped up to the mark. She created an arena, baited it with pollen and sugar solution to lure the bees in, and connect-

ed it via a plastic tunnel to a bumblebee nest in Dr Chittka's laboratory.

Her playpen contained 18 wooden balls coated with clear plastic, so that they could be cleaned every day of any scent picked up. In one part of the arena, nine of the balls were fixed to the floor. In another, the remainder could be rolled around. Ms Galpayage Dona tagged 45 bees, between one and 23 days old, so that they could be followed as individuals. She then opened the door to the arena for three hours a day for 18 days and recorded on video what happened.

The recordings suggested that the bees did indeed enjoy this experiment. They would start by touching a ball with their forelegs, then grab it with all six legs and rotate it towards themselves while moving across the floor backwards. Then they would dismount. All of the tagged bees rolled a ball at least once during the experiment. Most did so many times. One particular enthusiast managed 117 rolls. Overall, the camera recorded 910 incidents of ball-rolling by tagged insects, discounting those involving unmarked bees.

Re-enforcing the idea that the bees just wanted to play, they quickly learned to ignore the part of the arena where the balls were glued down. Also, as with birds and mammals, young bees played more often than old ones. All they need now, it seems, is some goalposts and a refer(bee), and bumblebee social behaviour will take off to the next level.

Hit and miss

Emissions trajectories, bn tonnes of CO₂-equivalent

— Trend 2015-30* ● Net-zero target
— Trend extrapolated to 2050*



*Implied by national climate pledges (NDCs)

Source: UNEP Emissions Gap Report 2022

The origins of covid-19

Thesis. Antithesis. Synthesis?

Scientists dispute a new suggestion that SARS-COV-2 was genetically engineered

A STRING OF about 30,000 genetic letters was all it took to start the nightmare of covid-19, the death toll from which is likely to be more than 20m. Exactly how the story began is hotly contested. Some think the infection was a zoonosis—a spillover from wild animals. Its cause, SARS-COV-2, resembles a group of coronaviruses found in bats. Others, though, have pointed to the enthusiastic coronavirus engineering going on in laboratories around the world, especially in Wuhan, the Chinese city where the virus was first identified.

Recent work has bolstered the case for it being a zoonosis connected with a particular “wet market” in Wuhan selling wild animals. However, uncertainties around this conclusion allow other theories to flourish. On October 20th an un-peer-reviewed “preprint” was published on a server called *bioRxiv*, claiming to show that SARS-COV-2 is the product of genetic engineering.

Seconds out...

This publication has caused much online debate. The authors were not previously known for this sort of work. Alex Washburne is a mathematical biologist who runs Selva, a microbiome-science startup in New York. Antonius VanDongen is an associate professor of pharmacology at Duke University, in North Carolina. And Valentin Bruttel is a molecular immunologist at the University of Würzburg, Germany. Dr Washburne and Dr VanDongen have argued in the past for an investigation into the lab-leak theory.

The basis of their preprint is that they identify features, called restriction sites, in the genome of SARS-COV-2. These, they suggest, are the product of viral engineering. Restriction sites are particular sequences of genetic letters recognised by proteins called restriction enzymes that, in nature, cut up viral genetic material in bacterial cells. Such enzymes are widely used for genetic manipulation.

The preprint shows that restriction sites for two popular restriction enzymes—*BsaI* and *BsmBI*—are strikingly evenly spaced in SARS-COV-2’s genome. In fact, the authors say, the spacing of these sites is so unusual that it suggests the work of human hands. In other words, they are claiming that SARS-COV-2 is a product of laboratory engineering.

This is a big assertion, and it is fair to say that after it appeared, a number of sci-

entists were intrigued by the preprint’s findings. Others, though, are now weighing in with serious criticisms.

Among those intrigued is Sylvestre Marillonnet, an expert in synthetic biology at the Leibniz Institute for Plant Biochemistry, in Germany. He agrees that the number and distribution of restriction sites for the enzymes in question does not look quite random, and also that the number of so-called silent mutations found in them suggests that SARS-COV-2 might have been engineered. Silent mutations are places where a change in a gene’s genetic letters does not change the resulting protein. This happens naturally, but can result, too, from engineers making alterations to genetic material to achieve that effect. However, Dr Marillonnet also says that there are arguments against the idea. One is the tiny length of one of the six fragments, something that “does not seem logical”.

Francois Balloux, a professor of computational systems biology at University College, London, also said he found the results intriguing, and that they needed to be assessed in good faith. “Contrary to many of my colleagues, I couldn’t identify any fatal flaw in the reasoning and methodology. The distribution of *BsaI*/*BsmBI* restriction sites in SARS-COV-2 is atypical.”

In the past few days, scrutiny has intensified, and doubts are starting to accumulate. Justin Kinney, a professor of quantitative biology at Cold Spring Harbor Laboratory, in New York, has taken a closer look at

the preprint and says the work is intriguing but some important questions need to be dealt with before it could be said to be convincing. One is the likelihood that researchers would decide to keep the restriction sites in the genome. Jesse Bloom, an evolutionary virologist at the Fred Hutchinson Cancer Centre in Seattle, says *BsmBI* is usually used in a way in which the restriction sites involved are eventually removed from the virus. There is also the question of the likelihood that these particular enzymes would have been chosen.

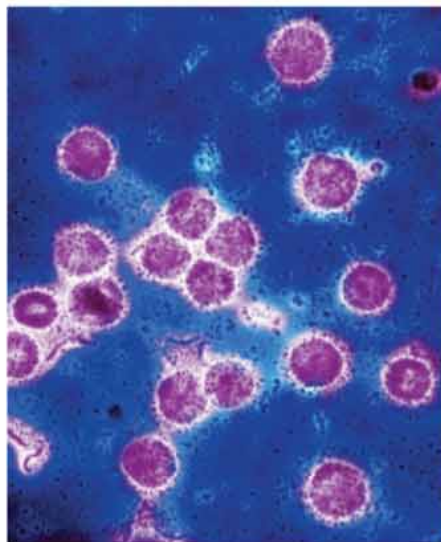
The toughest challenges of all, though, are observations by people such as Edward Holmes, an evolutionary biologist and virologist at the University of Sydney, that the restriction sites pointed out in the preprint are found naturally in bat coronaviruses closely related to SARS-COV-2. Dr Holmes added that if someone were engineering a virus they would undoubtedly introduce some new ones.

An alternative proposal is therefore that the sites evolved via natural recombination in the wild, and that their regular spacing really is just a matter of chance. Alex Crits-Christoph, who has just completed a postdoc in microbiology at Johns Hopkins School of Public Health, says there are clues which support a natural origin for these sites. He says the regions on either side of the restriction sites show similarities to some in other viruses—something that points to the natural swapping of chunks of genetic data between viruses. These patterns are “inconsistent with engineering”, he says, and concludes that the preprint is “false”. Dr Washburne concedes that natural recombination “isn’t an implausible scenario”.

Nullius in verba

It is not, therefore, possible to conclude, on the basis of this preprint, that SARS-COV-2 was engineered. China denies the virus came from a Chinese lab, and has asked for investigations into whether it may have originated in America. It is also worth remembering that most newly emerging viruses are, indeed, zoonoses. That is not to say that a lab origin is hard to imagine, only that this particular hypothesis has serious questions to answer.

Any widely supported conclusion that the virus was genetically engineered would have profound ramifications, both political and scientific. It would cast a new light on the behaviour of the Chinese government in the early days of the outbreak—particularly its reluctance to share epidemiological data from those days. It would also raise questions about what was known, when, and by whom about the presumably accidental escape of an engineered virus. But for now, this work on restriction sites is a contested study, and needs to be treated as such. ■



Engineered? Us?



Israeli politics

The populist's handbook

Binyamin Netanyahu's autobiography offers an intriguing study of power

Bibi: My Story. By Binyamin Netanyahu.
Simon & Schuster; 736 pages; \$32 and £25

IN THE EARLY 1970S a young Israeli special-forces officer was taking part in a diving exercise off the Mediterranean coast. As he floated in the sea, he looked to the shore and the ruins of Château Pèlerin, the last Crusader fortress in the Holy Land, abandoned in 1291. "Would we too suffer the fate of the Crusaders, who after two centuries yielded the Holy Land to the Muslims?" he wondered.

The officer's conclusion was that Jews' connection to their ancient homeland would prove more enduring, "yet the question of ensuring Israel's power and permanence lingered in my mind". Half a century later, that question is still troubling Binyamin "Bibi" Netanyahu, Israel's longest-serving prime minister, who is currently the leader of the opposition (at least until the election on November 1st). He has taken advantage of what he calls a "hiatus" from office to write a memoir, published simultaneously in English and Hebrew.

In "Bibi", he tells his fascinating story both as a polemic and an election pitch. He seeks to convince the world that Israel must remain strong in pursuing a relentless campaign against Iran's nuclear programme and unyielding over demands to compromise with the Palestinians. He also hopes to persuade Israelis to vote for him because he is the only man who can accomplish this mission and that, if they fail to restore him to power, they will be making a fatal mistake.

Mr Netanyahu is the archetype of the modern populist-nationalist politician. He describes challenging what he calls "The Palestine Centrality Theory"—where-

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by Westerners see Israel's treatment of Palestinians as the main issue in the Middle East—as early as 1974. As a student at the Massachusetts Institute of Technology, he became a public advocate for Israel's case. He prepared a list of all the conflicts in the region that were not related to Israel.

In retrospect, he can claim to have taken the Palestinian issue off the agenda, both in international diplomacy and in Israeli politics, where it has barely featured in election campaigns in recent years. He has done this while bringing off a rhetorical conjuring trick: arguing that Israel's conflict with the Palestinians is not that important and, at the same time, that any concessions to the stateless Palestinians would be an existential threat to Israel. Indeed the first rule of what might be called "The Netanyahu Guidebook for Successful Populists" is that you can never have enough existential threats to your country.

The second is that any leader, even one of a small nation, should not be scared of taking on the president of the United States. America offers many avenues to influence policy while bypassing the White House; Mr Netanyahu calls this "The Theory of Public Pressure". He glories in telling how he used every means—media appearances, lobbying Congress and currying favour with evangelical pastors—to spar with presidents, notably Bill Clinton and Barack Obama, who differed with him on both the Palestinian and Iranian issues.

The third rule is to adopt the latest political techniques for domestic campaigns. ▶▶

▶ Mr Netanyahu was one of the first non-American politicians to import the methods of Republican strategists. In 1996 he employed Arthur Finkelstein, who conducted surveys and focus groups to find the subjects that most aroused voters' fears and hatreds (he is credited with making "liberal" a dirty word in America). As a result, Mr Netanyahu appealed to voters' Jewish identities and accused his rivals of plotting to "divide Jerusalem".

A fourth rule is to reinvent yourself as the leader of the disenfranchised in opposition to a mythical elite. "To many in the ruling elites I had betrayed my social class. Educated and politically influential, I led the 'plebeians' to power," Mr Netanyahu writes. "Worse, I led them in the wrong direction." Mr Netanyahu, prime minister for a total of 15 years, can hardly be considered outside the ruling class.

A fifth dictum is to openly embrace power. After one bruising exchange with Mr Obama, who refused to launch a military strike on Iran, he muses that "soft power is good, but hard power is even better". He cautions against nuance. The key thing in leadership, he insists, is to boil everything down to one uncomplicated sentence: "Say something clear or say nothing at all."

Despite being an effective orator, his inability to take criticism has clouded his judgment. Over the years his attempt to suborn Israel's free press has become an obsession. It recently landed him in court on corruption charges, including illegal dealings with local media barons; he emphatically denies these allegations and blames the media for pressing a weak attorney-general into filing them.

"I've always been a staunch believer in liberal democracy," Mr Netanyahu avers. Yet throughout his book he names his favourite leaders: Silvio Berlusconi, Jair Bolsonaro, Xi Jinping, Narendra Modi, Hosni Mubarak, Viktor Orban, Donald Trump and Vladimir Putin. Mr Netanyahu never stops to wonder why he gets on best with decidedly illiberal counterparts. Neither does he ask himself why he was eventually removed from office in June 2021 by a diverse coalition of nationalists, centrists, left-wingers and Islamists, led by Naftali Bennett, his former chief of staff.

In Israel the polls remain static, as they have been for the past four elections in less than four years. Mr Netanyahu has polarised opinion. Half the electorate is resolutely against his return; the other half is clamouring for it. It is hard to see an autobiography changing anyone's views when Israelis feel they already know him all too well. His non-Israeli readers are also unlikely to budge from their entrenched positions. Yet for his admirers and critics alike, he has produced a compelling memoir and an intriguing study of power. ■

World in a Dish

Grave concerns

The joys of pan de muerto, a sweet tribute to departed loved ones

LET'S GET one thing straight from the start: *Día de los Muertos* (Day of the Dead) is not "Mexican Halloween". Yes, the two events fall at similar times: Halloween on October 31st, Day of the Dead on the subsequent two days. Their iconography overlaps, as both feature skulls, skeletons, graves and intimations of the dead returning. And eating sweet foods is an integral part of each holiday.

But Halloween's origins are Celtic, and its original rituals of costuming and bonfire-lighting were designed to ward off ghosts. Today it is an anodyne and wholly commercialised event. Early next week, hordes of little terrors will pound on strangers' doors to demand chocolates and other plastic-wrapped corn-syrup confections that keep dentists in Mercedeses.

Day of the Dead, meanwhile, grew out of an Aztec festival that the Spanish wove into the Christian calendar. Though observed in much of Latin America, it is most closely associated with the vibrant celebrations across Mexico. Its rituals are designed to honour the dead by fondly remembering departed friends and family. It is a more interesting occasion, and its food much better.

Some of it is not eaten. Families set up *ofrendas* (the word means "offering") for the deceased, which they decorate with marigolds—to guide the souls to the goods—as well as *calaveras*, decorated sugar skulls. The home altar will also bear late relatives' favourite foods, which the living do not touch.

Mexico's extraordinary culinary diver-

sity means that the dishes produced for the festivities vary from region to region. One item consumed nearly everywhere is *pan de muerto*, a bread enriched with butter and margarine, and flavoured either with orange zest and orange-blossom water, with aniseeds and sesame seeds, or with a mix. Fany Gerson, a Mexican chef and author now based in New York, says that it is "something that everyone has in one form or another...it's super important to the holiday". Usually it is baked in a *boule* shape, topped with decorative bones and a ball (representing a skull) made from the same dough. It may be dusted with sugar.

Bakeries sell *pan de muerto* but many people also make it at home, which is well worth the effort. Like most brioche-type doughs, it is supple and malleable, and when baking makes the kitchen smell wonderful, with the high, floral scent of orange blossoms complementing the rich yeastiness of fresh bread. Traditionally consumed with *champurrado*, a drink made from chocolate, spices and cornmeal, it also pairs well with coffee or strong black tea.

To some it may seem odd to commemorate the dead with sweet, rich foods—a far cry from sackcloth and ashes. But it is of a piece with the holiday itself, which is not sombre, but ebullient. "By remembering and celebrating" the deceased, explains Ms Gerson, "you keep them with us. People have whole parties on the tombstones. There's mariachis, and food. They sit around with their loved ones and remember them. That's a joyful thing." ■



The war in Yemen

No heroes, only victims

What Have You Left Behind? By Bushra al-Maqtari. Translated by Sawad Hussain. Fitzcarraldo Editions; 256 pages; £12.99

FOR A CONFLICT that has caused arguably the world's worst humanitarian crisis, the war in Yemen is often described in the most inhuman ways. It is another front in the long struggle between Saudi Arabia and Iran, or one of those bewildering civil wars that defies comprehension. It is a morality play for Americans frustrated with their country's relationship with Saudi Arabia. It is a full-employment programme for foreign diplomats fond of banal statements about peace talks.

In "What Have You Left Behind?" Bushra al-Maqtari, a journalist, adds a human element to the conflict. This is not the sort of book you take to the beach or skim before bed. Ms Maqtari started touring her country in 2015 to collect testimonies from ordinary Yemenis. What emerged is simply a string of those testimonies, each one more horrific than the last.

Here is Adel Rassam, recounting his family's flight from the port city of Aden as militias approached: "Panic filled the air like a restless spirit in the wind." There is Hafsa Munawis, whose sister was killed when their workplace, a potato-chip factory in Sana'a, was hit by an airstrike. "The missile had landed in the fryer with all that boiling hot oil." Tahani al-Qudsi's daughters and niece were killed by militia shelling in Taiz. "Pain is engraved on our faces," she says. "Just write what you see."

Each chapter ends with a list of the names and ages of those killed in the events just recounted. The names are too many, the ages often far too young. Some were killed by the Houthis, a Shia militant group that seized the capital in 2014 and still controls much of the country. Others were killed by a coalition of Arab countries, led by Saudi Arabia, that invaded the following year to dislodge the Houthis.

The identities of their killers do not matter: this is not a war story, as war stories are often told. There are no heroes. The antagonists are never glimpsed. No one delivers stirring paens to freedom or the glorious nation. There is only death, suffering and fear. "Only victims are real in this war, victims crushed by violence," Ms Maqtari writes in her introduction.

But even trying to humanise the war underscores its inhumanity. Some of Ms Maqtari's subjects reminisce about the



Above us, only sky

past. Rarely do they imagine the future. Neither the Houthis nor the coalition have grand plans for rebuilding a shattered country. The goal is simply to wield power. "What are they fighting over? What is worth all this death?" asks one interviewee, Munira al-Hamidi. She answers her own question: "Neither of them have a reason."

These words ring true elsewhere in the region as well. In Libya and Syria killing became a goal in and of itself. In places like Iraq and Iran, state violence plays a similar role, albeit on a lesser scale: it is a way for corrupt, useless factions to stay in office. Too much of the Middle East is a zero-sum competition for power.

The war in Yemen is now in its eighth year. That it has dragged on so long is partly thanks to the input of external actors. No one in Ms Maqtari's book mentions America or Iran directly. Even Saudi Arabia appears infrequently, and often as a footnote. Yet they loom large in every anecdote. The bombs dropped by coalition aeroplanes were probably made in America; the guns used by militiamen may have been supplied by Iran.

No one mentions the UN either. Since April, when it first brokered a two-month ceasefire, violence in Yemen has been ebbing. The truce was prolonged twice. Diplomats were optimistic that this might herald a lasting peace. Yemenis were not.

Sure enough, earlier this month, the truce lapsed: the Houthis would not agree to another extension. Many Yemenis worry that the lull will soon end. The UN has raised less than half the money it needs for humanitarian aid; a new eight-man presidential council meant to broker an end to the conflict is busy arguing among itself. The combatants may no longer know why they are at war. But for the victims, the fighting is all too real. ■

Biology

Facts of life

The Song of the Cell. By Siddhartha Mukherjee. Scribner; 496 pages; \$26.99. Bodley Head; £22

SOME PEOPLE have such a hectic existence they give the impression that, in order to fit it all in, they must be paying someone else to do their sleeping for them. One such is Siddhartha Mukherjee. His day job is as a clinical oncologist and professor of that subject at Columbia University. He also writes for the *New York Times* and the *New Yorker*. He has, so far, published three books. This is his fourth. And the vignettes in its pages make clear that he still manages to find time for family life. Annoying.

"The Song of the Cell", like two of its predecessors, "The Emperor of All Maladies" (cancer) and "The Gene" (self-explanatory), is a *tour d'horizon* of its subject. (Dr Mukherjee's other volume, "The Laws of Medicine", is a musing on his chosen profession.) "The Song of the Cell" is part history lesson, part biology lesson and part reminder of how science itself actually proceeds—the valleys of silence, as he calls them, where all is busy work with no strong theory to knit everything together, punctuated by moments of insight about what the connecting principles are.

For biology, the overarching connectors are evolutionary theory and cell theory. Evolution is a subject well served by popular literature. Cell theory, which asserts that organisms are made of cells which themselves derive from pre-existing cells, less so. Cells (or, strictly speaking, their walls in a slice of cork) were first identified in the 17th century by Robert Hooke, an early microscopist. He called them that because they reminded him of monks' dwellings. Cell theory itself did not come about until the 19th century. In this, biology developed the opposite way round from chemistry, where atomic theory guided practitioners for several decades before the physical existence of atoms was proved.

Dr Mukherjee ties the birth of cell theory to a dinner in Berlin in 1837, over which Theodore Schwann, a zoologist, and Matthias Schleiden, a botanist, compared notes about their studies and saw underlying similarities in how the cells of animals and plants were organised and grew. Since then, as he describes, much of biology has been about discovering either how cells work (for they are far more complicated than atoms), or, when they are parts of multicellular organisms rather than being ▶▶

▶ independent organisms in their own right, how they collaborate—or fail to do so in the case of illnesses such as cancer.

He is particularly good at excavating forgotten heroes. Schwann's name may be familiar to some who recognise it from the eponymous cells that insulate the wiring of the peripheral nervous system. Who, though, remembers George Palade, who pretty much invented cell biology's modern incarnation by breaking cells open and centrifuging them to separate their components? Or Walther Flemming, who discovered mitosis, the chromosomal ballet

that creates two nuclei out of one during cell division? Or even Karl Landsteiner, whose determination of blood groups laid the foundations for blood transfusion? Yet they were, in their time, the Monets, Turners and Picassos of their field.

Lest the usefulness of all this be forgotten, cases from the author's own career illustrate the consequences of both cellular understanding and the lack of it. The personal comes through in other ways, too. He began as a haematologist, and blood is the medium through which he chooses to teach many of his lessons; he devotes it al-

most 100 pages, a quarter of the book.

Neurons, meanwhile, have to make do with a couple of dozen pages. Plants do not get much of a look in, either, nor animals not on the list of those used for medical research. Even bacteria, admittedly possessed of cells very different from those of animals and plants, command less than a score of pages.

But that is to quibble. For anyone who wants to understand the building blocks of their own bodies—which everyone surely should—this is an informative and entertaining introduction. ■

Back Story Pinocchio, hero of our time

He cannot hide his lies. He wants to be a celebrity. But is he a "real boy"?

HE LIES (but is found out). He quits school to become a celebrity. A high-spec automaton powered by artificial intelligence (AI), he isn't quite human though it is hard to say why. Truly, Pinocchio is the hero of our time.

Imagine it: a leader denies going to a lockdown party, or that he lost an election when he did, or that he is about to invade Ukraine, and the fib is as plain as his lengthening nose. The fantasy of visible mendacity may help explain why "Pinocchio" is in vogue. Disney recently released a remake of its cartoon of 1940, which stars Tom Hanks alongside a CGI puppet and assorted cutesy animals (including the weirdly flirtatious goldfish from the original). Guillermo del Toro's stop-motion animated version had its premiere at the London Film Festival and is out on Netflix soon.

But it isn't only the climate of impunity for lies that makes "Pinocchio" a fable for today. So does the eerie central conceit of the talking, walking puppet, lively yet not wholly alive, and the attendant issue of what makes a "real boy". That question has never been more pressing, or more provocative.

Advances in AI are blurring the distinction between real people and latter-day puppets. Meanwhile a revolt against crude notions of masculinity—and against the orthodox binary of male and female—has complicated the "boy" part of the equation, too. "The Making of Pinocchio", a stage show currently on tour in Britain, imagines a trans Pinocchio in flight from rigid categories of gender and sexuality. It revels in the phallic symbolism of his tumescent appendage, which adaptations for children tend to skirt.

And the character is a case study in another syndrome that can seem ever-

more acute—the lure of fame and easy money. Temporarily, Pinocchio is seduced by the bright lights of the puppet theatre. "To be famous is to be real," declares a villain in the new Disney film, diverting him from the straight and narrow with the prospect of being "an influencer".

Fun versus duty, autonomy and submission, innocence and experience: Carlo Collodi's tale, first published in Italian in serial form in 1881, suggests many enduring themes and interpretations. In the schmaltzy Disney take, when Pinocchio goes to Pleasure Island, supposedly a carefree paradise, it looks a lot like Disney World—an odd sort of marketing, given all the visitors are turned into donkeys. As Geppetto, the puppet's old man, Mr Hanks sets sail in a small boat, a sequence that could be an out-take from "Cast Away", a desert-island movie he made with the same director, Robert Zemeckis. Geppetto brings the goldfish along in a bowl. You half-fear he might eat it.

Mr del Toro's spin is deeper and darker. Strange as it is to say of an animated film narrated by a cricket (voiced by Ewan



McGregor), there is little magic here. In a revamp set in Mussolini's Italy, Geppetto fashions the puppet in a drunken fit of grief for a child he lost in the first world war. Instead of cavorting on Pleasure Island, Pinocchio is conscripted into a Fascist boot-camp; in his mistreated purity he is likened to Jesus Christ. The distinguishing feature of a real boy, in this telling, is that he can die.

If that sounds bleak, try Collodi's original text. Even by the standards of children's classics, it is macabre. Almost the first thing Pinocchio does is kill the annoying cricket. He is stabbed, hanged, burned and enlisted as a farmer's guard-dog; bandit weasels offer him a kickback to let them steal chickens. His is a world of violence, random death, corruption, hunger and penury. "When poverty is truly poverty, everyone—even kids—understands it," says a zingy new translation by Anna Kraczyna and John Hooper (who also writes for *The Economist*).

This delinquent Pinocchio is "a lazy bum". Like many nagging offspring, he is both famished and a fussy eater. Selfish and rude, he makes Geppetto miserable. In a suitably modern revision, Mr del Toro's moral lies less in what children do to parents than what parental strictures and expectations do to children. Defiance, as much as devotion, becomes the goal of Pinocchio's odyssey.

Always, though, the crux of the drama is found in the belly of the beast—the sea monster which, after all their rows and misadventures, swallows both Pinocchio and Geppetto. Their reunion in its entrails blends biblical imagery with Freudian fever dream. It captures an eternal truth about troubled souls and their dearest, hardest relationships: sometimes you have to sink to the bottom before you can gasp your way back up.

Books in the ancient world

Paper trail

A new history of the written word is no plod through dusty libraries

Papyrus. By Irene Vallejo. Translated by Charlotte Whittle. *Knopf*; 464 pages; \$35. *Hodder & Stoughton*; £25

WHY DO READERS love books? For wisdom and wit, the lift of comedy and the noble pain of tragedy; for advice, comfort and entertainment. But content and sentiment apart, they are loved as objects. Most fit into the hand like friends, crisply tight and new, or warm, worn and well-loved. There is satisfaction, as well as anticipation, in the turning of their pages. Like the wheel, or scissors, the design of the book is so perfect that from the first bound-and-paged versions, the codices of the 4th century or so, it has never needed changing. Despite the advent of Kindles and e-books, the original design continues to cascade from presses all over the globe. Every 30 seconds, a new book appears.

Irene Vallejo, a Spanish journalist and scholar, has a writer's passion for books and a classicist's fascination with the way they came to be. She is also imaginative, lively and contemporary. In her hands written texts are not only a sensual pleasure, but living and frequently disruptive.

The first committing of words and spoken stories to papyrus scrolls was, she says, as unsettling as the coming of the internet, multiplying the communication of ideas and, at the same time, seeming to coarsen them and freeze their human spontaneity. Socrates thought written texts would increase forgetfulness, because human beings would cease to rely on memory to tell stories. Plato worried that they would rot the moral fibre of his Republic. On the contrary, they spread literary appreciation everywhere. More than 50 quotes from Virgil were scrawled on the walls of Pompeii.

Vesuvius immolated many texts. The Roman emperor Domitian burned far more; the Nazi "bibliocaust" in the 1930s saw the works of 5,500 authors go up in flames. Books were often dangerous. In the ancient world copies of great but contentious works were hidden to be copied again, or committed to memory, as friends in Stalinist Russia preserved in their minds the poems of Anna Akhmatova. Ms Vallejo's father once found, in a second-hand bookshop, a copy of "Don Quixote" that also contained, clandestinely, writings by Karl Marx that were forbidden in

Spain under Franco's dictatorship.

From the beginning, as scrolls, books were light, flexible and portable, certainly by comparison with the clay tablets of Babylon and Sumer that had carried information before. Compared with bound paper books, however, they were cumbersome. The average length of such scrolls was three metres or so; both hands were needed to cope with them.

Ancient writing, too, was like an impenetrable forest until, slowly, punctuation and spacing emerged. These were not needed at first because readers in the ancient world read aloud, feeling their way through by voice as well as eye. (St Augustine, in the 4th century, was astonished to meet a man who read silently.) For Ms Vallejo, much of the fascination of books lies in the fixing of puffs of air into visible letters and signs.

I bring thee word

Fragile as they were, such books bound the ancient world together. The most famous author by far was Homer, even though his true identity is unknown, and the most popular work was his "Iliad", which the great Alexander took on his campaigns and kept under his pillow. As ruler of Egypt, Ptolemy sent out book-hunters to every part of the known world to stock the great library at Alexandria, which was open to everyone and to every language. Mark An-

thony sealed his romance with Cleopatra by donating 200,000 scrolls to the library. Demand for papyrus became feverish, and the price soared.

From the "atlas" of writers and their works made by Callimachus, the father of librarians, in the 3rd century BC, it is clear how much was lost when Alexandria's library burned to the ground 400 or so years later. His catalogue lists 73 plays by Aeschylus; only seven of them survive. Charred lumps that once were books have been recovered from the bottom of the Mediterranean, but deciphering them has proved almost impossible. Scholars (and readers) still dream of discovering a lost play by Euripides or new poems by Horace. But when some of 1,000 carbonised scrolls from Herculaneum were painstakingly picked apart and scrutinised by infrared light, nothing emerged but obscure philosophical treatises.

The copying of scrolls and early books was an industry in itself. In the Roman world it was often done by slaves, carefully reproducing books their masters wished to possess. They might well end up wiser than their owners; the cunning slave was a stock character of Roman plays, and many slaves ran libraries. Ms Vallejo compares this tellingly with the situation of slaves in the American South, who were often whipped or maimed if they showed any interest in reading. Illiteracy remained so common in the southern states that, in the 1930s, the government sent young women out on horseback to bring reading, and books, to people who barely knew them.

This also fits Ms Vallejo's agenda. She strives mightily to excavate hidden women, who were not supposed to have any role in the earliest history of books—or, indeed, of speaking. As Telemachus bluntly told his mother Penelope in Homer's "Odyssey", "Speech is for men." But Ms Vallejo attributes to Sappho, the single substantial female voice from the Greek literary world, a revolution in thinking: open, written, personal defiance. ("Some say there is nothing finer on this dark earth than an army of horses, or an army of men...but I say that your lover is the most beautiful sight of all.") At school it was a woman, tall, thin and nervous, who taught Ms Vallejo to love Greek. And it was her mother—as it is so often mothers and aunts—who told her the old stories, lulling her asleep with them.

Readers will not snooze through this work. Ms Vallejo has a notable talent for evoking ancient scenes. Her description, for example, of the poet Martial returning to Spain from Rome, near the end of the book, is masterly. And her enthusiasm for classical texts quickly moves them to the top of any reading list. Who'd have thought that this reviewer's latest Amazon order would be for Herodotus's "Histories" and Hesiod's "Works and Days"? ■



A good reed

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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 \$	% change on year ago			
United States	1.8	Q2	-0.6	1.5	8.2	Sep	8.0	3.5	Sep	-3.7	-3.7	4.0	241	-	-	
China	3.9	Q3	16.5	3.3	2.8	Sep	2.1	5.5	Sep#	2.0	-7.1	2.5	\$\$	-34.0	7.19	-11.3
Japan	1.6	Q2	3.5	1.8	3.0	Sep	2.1	2.5	Aug	1.8	-6.1	nil	-8.0	147	-22.1	
Britain	4.4	Q2	0.9	4.4	10.1	Sep	8.4	3.5	Jul††	-6.2	-6.9	3.9	272	0.86	-15.1	
Canada	4.6	Q2	3.3	3.1	6.9	Sep	6.8	5.2	Sep	1.3	-3.3	3.3	165	1.36	-8.8	
Euro area	4.3	Q2	3.3	3.0	9.9	Sep	8.3	6.6	Aug	1.4	-4.4	2.1	225	1.00	-14.0	
Austria	6.0	Q2	11.5	4.6	10.5	Sep	8.9	5.2	Aug	-0.5	-4.7	2.9	275	1.00	-14.0	
Belgium	4.1	Q2	2.2	2.2	11.3	Sep	9.6	5.8	Aug	-1.3	-5.1	2.8	266	1.00	-14.0	
France	4.2	Q2	2.2	2.4	5.6	Sep	5.7	7.3	Aug	-1.9	-5.4	2.9	263	1.00	-14.0	
Germany	1.7	Q2	0.6	1.4	10.0	Sep	8.3	3.0	Aug	3.9	-4.4	2.1	225	1.00	-14.0	
Greece	7.8	Q2	5.0	5.5	12.0	Sep	9.9	12.2	Aug	-6.4	-4.4	4.7	364	1.00	-14.0	
Italy	5.0	Q2	4.4	3.3	8.9	Sep	7.8	7.8	Aug	-0.8	-5.9	4.3	339	1.00	-14.0	
Netherlands	5.1	Q2	10.6	4.5	14.5	Sep	13.1	3.8	Sep	7.7	-2.2	2.4	240	1.00	-14.0	
Spain	6.8	Q2	6.0	4.4	8.9	Sep	9.2	12.4	Aug	0.2	-5.4	3.3	281	1.00	-14.0	
Czech Republic	3.6	Q2	1.8	2.2	18.0	Sep	16.7	2.5	Aug†	-3.8	-5.7	2.9	323	24.4	-9.2	
Denmark	3.5	Q2	3.5	2.1	10.0	Sep	8.2	2.7	Aug	8.3	0.8	2.5	240	7.40	-13.2	
Norway	3.9	Q2	2.9	2.2	6.9	Sep	6.2	3.1	Jul††	17.3	11.3	1.4	76.0	10.3	-18.6	
Poland	4.9	Q2	-8.1	3.5	17.2	Sep	14.4	5.1	Sep§	-3.7	-3.7	8.0	508	4.72	-15.9	
Russia	-4.1	Q2	na	-4.4	13.7	Sep	14.0	3.8	Aug§	12.9	-3.1	10.2	217	61.8	12.7	
Sweden	4.1	Q2	3.6	2.2	10.8	Sep	9.1	6.5	Sep§	3.0	-0.2	2.2	183	10.9	-20.9	
Switzerland	2.4	Q2	1.1	2.0	3.3	Sep	3.1	2.1	Sep	5.6	-1.1	1.2	125	0.99	-7.1	
Turkey	7.6	Q2	8.5	5.0	83.5	Sep	72.8	9.8	Aug§	-5.7	-3.8	11.6	-760	18.6	-48.8	
Australia	3.6	Q2	3.6	3.5	7.3	Q3	6.0	3.5	Sep	2.3	-1.7	3.9	211	1.54	-13.6	
Hong Kong	-1.3	Q2	4.1	0.4	4.3	Sep	2.0	3.9	Sep††	4.1	-6.8	4.1	264	7.85	-0.9	
India	13.5	Q2	9.5	6.9	7.4	Sep	7.1	6.4	Sep	-2.3	-6.4	7.4	109	82.7	-9.4	
Indonesia	5.4	Q2	na	5.0	6.0	Sep	4.9	5.8	Q1§	1.2	-3.9	7.6	151	15,568	-9.1	
Malaysia	8.9	Q2	na	6.0	4.5	Sep	3.4	3.7	Aug§	1.9	-6.1	4.4	84.0	4.71	-11.9	
Pakistan	6.2	2022**	na	6.2	23.2	Sep	20.7	6.3	2021	-5.1	-7.6	12.8	†††	182	221	-20.7
Philippines	7.4	Q2	-0.4	7.6	6.9	Sep	5.4	5.2	Q3§	-3.8	-7.8	7.3	239	58.5	-13.2	
Singapore	4.4	Q3	6.3	3.5	7.5	Sep	5.7	2.1	Q2	19.2	-1.0	3.5	173	1.40	-3.6	
South Korea	3.0	Q3	1.1	2.6	5.6	Sep	5.1	2.4	Sep§	1.8	-3.3	4.3	180	1,426	-18.1	
Taiwan	3.0	Q2	-7.0	2.9	2.8	Sep	3.0	3.6	Sep	14.1	-2.0	1.9	132	32.3	-13.7	
Thailand	2.5	Q2	2.7	2.8	6.4	Sep	6.0	1.2	Aug§	-1.2	-5.0	3.1	136	37.8	-12.3	
Argentina	6.9	Q2	4.2	5.0	83.0	Sep	73.8	6.9	Q2§	-0.6	-4.4	na	na	155	-36.0	
Brazil	3.2	Q2	5.0	2.6	7.2	Sep	9.6	8.9	Aug†††	-0.4	-6.2	12.2	18.0	5.33	4.7	
Chile	5.4	Q2	nil	2.0	13.7	Sep	11.5	7.9	Aug†††	-7.1	-1.7	6.6	6.0	954	-15.5	
Colombia	12.6	Q2	6.0	6.6	11.4	Sep	9.8	10.6	Aug§	-5.1	-4.7	13.8	595	4,893	-22.8	
Mexico	2.0	Q2	3.7	2.2	8.7	Sep	8.0	3.3	Aug	-1.0	-2.4	9.8	226	19.9	1.6	
Peru	3.3	Q2	2.3	2.6	8.5	Sep	7.7	7.7	Sep§	-3.5	-2.1	8.7	275	4.00	-0.5	
Egypt	3.2	Q2	na	6.6	15.1	Sep	13.3	7.2	Q2§	-4.8	-6.5	na	na	19.7	-20.3	
Israel	4.9	Q2	6.9	5.7	4.6	Sep	4.5	3.4	Aug	3.5	0.5	3.2	195	3.49	-8.3	
Saudi Arabia	3.2	2021	na	9.1	3.1	Sep	2.5	5.8	Q2	14.0	9.0	na	na	3.76	-0.3	
South Africa	0.2	Q2	-2.9	1.9	7.8	Sep	6.9	33.9	Q2§	-1.3	-6.2	10.7	122	18.0	-17.4	

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

	Index	% change on:	
In local currency	Oct 26th	one week	Dec 31st 2021
United States S&P 500	3,830.6	3.7	-19.6
United States NASComp	10,971.0	2.7	-29.9
China Shanghai Comp	2,999.5	-1.5	-17.6
China Shenzhen Comp	1,957.9	-1.2	-22.6
Japan Nikkei 225	27,431.8	0.6	-4.7
Japan Topix	1,918.2	0.7	-3.7
Britain FTSE 100	7,056.1	1.9	-4.4
Canada S&P TSX	19,279.8	3.2	-9.2
Euro area EURO STOXX 50	3,605.3	3.9	-16.1
France CAC 40	6,276.3	3.9	-12.3
Germany DAX*	13,195.8	3.6	-16.9
Italy FTSE/MIB	22,389.8	4.3	-18.1
Netherlands AEX	665.6	3.1	-16.6
Spain IBEX 35	7,870.6	3.8	-9.7
Poland WIG	48,934.5	5.2	-29.4
Russia RTS, \$ terms	1,088.6	7.8	-31.8
Switzerland SMI	10,817.2	3.2	-16.0
Turkey BIST	3,976.4	2.5	114.1
Australia All Ord.	7,005.1	0.1	-10.0
Hong Kong Hang Seng	15,317.7	-7.2	-34.5
India BSE	59,544.0	0.7	2.2
Indonesia IDX	7,043.9	2.7	7.0
Malaysia KLSE	1,455.0	2.8	-7.2

	index	% change on:	
	Oct 26th	one week	Dec 31st 2021
Pakistan KSE	41,540.0	-1.6	-6.9
Singapore STI	3,008.4	-0.5	-3.7
South Korea KOSPI	2,249.6	0.5	-24.5
Taiwan TWI	12,729.1	-1.9	-30.1
Thailand SET	1,596.5	0.5	-3.7
Argentina MERV	145,028.5	6.3	73.7
Brazil BVSP	112,763.8	-3.0	7.6
Mexico IPC	49,327.1	6.7	-7.4
Egypt EGX 30	10,553.2	3.9	-11.4
Israel TA-125	1,958.4	1.7	-5.5
Saudi Arabia Tadawul	11,798.8	nil	4.1
South Africa JSE AS	67,103.1	2.2	-9.0
World, dev'd MSCI	2,535.7	4.0	-21.5
Emerging markets MSCI	851.8	-1.6	-30.9

US corporate bonds, spread over Treasuries			
	Basis points	Dec 31st 2021	
		latest	2021
Investment grade		180	120
High-yield		498	332

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

Commodities

The Economist commodity-price index					
	2015=100	Oct 18th	Oct 25th*	% change on	
				month	year
Dollar Index					
All items		144.3	142.0	-2.1	-9.4
Food		138.5	137.7	-1.9	5.4
Industrials					
All		149.8	146.0	-2.2	-19.3
Non-food agriculturals		140.4	138.0	nil	-5.6
Metals		152.6	148.4	-2.8	-22.4
Sterling Index					
All items		194.6	189.1	-7.9	9.1
Euro Index					
All items		162.5	158.2	-5.4	5.5
Gold					
\$ per oz		1,651.7	1,654.8	1.2	-7.5
Brent					
\$ per barrel		90.2	93.5	8.4	8.2

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

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The covid baby bump

Native-born women in America had more babies during the pandemic

BIRTH RATES often fall during hard times, but the covid-19 pandemic was no ordinary economic downturn. On the one hand, people might hesitate to procreate amid such upheaval; on the other, the opportunity to work from home could make parenting more enticing. During the dark days of lockdowns, no one knew which of these effects would be greater.

At first glance, the data from America suggest that covid did prompt a small baby bust. Birth counts fell from 3.75m in 2019 to 3.62m in 2020, and rebounded only part-way to 3.67m in 2021. However, a new study by Martha Bailey, Janet Currie and Hannes Schwandt reaches the surprising conclusion that despite this apparent decline, fertility rates among women born in America actually rose during the pandemic—the first big annual increase since 2007.

The first clue that data on total births might be misleading was the timing of the drop. Birth counts fell in early 2020, but most babies conceived after covid struck America in March 2020 would have been due in 2021. The study suggests instead that what changed in 2020 was not whether women gave birth, but where.

In 2019, 23% of newborns in America had foreign-born mothers. Breaking down the data on pandemic-era births by mothers' origin, the researchers found a striking discrepancy: foreign-born women gave birth to 91,000 fewer babies than pre-pandemic trends would suggest, whereas native-born ones had 46,000 more.

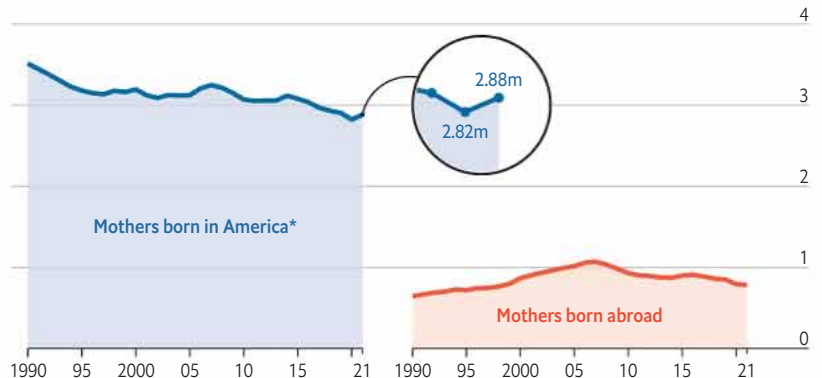
The study did not assess how much of the dip stemmed from fewer foreign-born women entering the country and then giving birth, and how much from immigrants already in America deciding to leave. But given that America closed its borders for non-essential travel in 2020, a reduction in new arrivals—including those who visit briefly to have an American-citizen child, and then leave—seems more likely.

The researchers speculated that the shift to remote work explained much of native-born women's rise in fertility. The increase was most marked among the college-educated, who are more likely to be able to work from home, in a country without any paid maternity-leave requirement or child-care subsidy.

The baby bump may be temporary. But continued flexibility for couples to spend time with their babies might mean they make more of them in future too. ■

→ Births in America have been declining, but 2021 bucked the trend

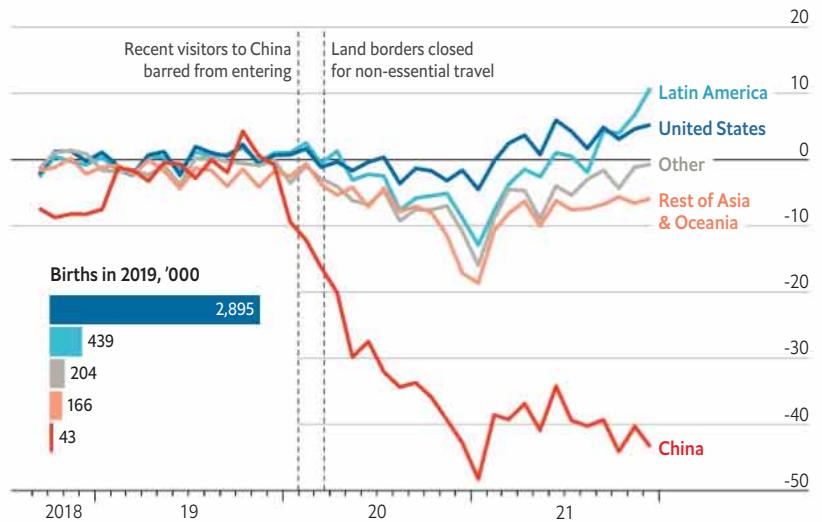
Annual births in the United States, m



→ Births by foreign-born mothers fell during the pandemic

Births in the United States, by mother's birthplace

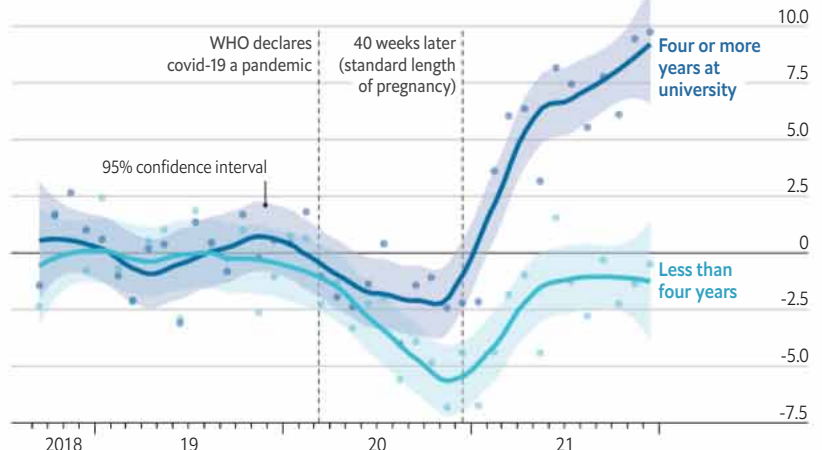
Deviation from 2015-19 trend, %



→ The baby bump was driven by highly educated native-born women

Births in the United States, by mother's time at university

American-born mothers, deviation from 2015-19 trend, %



*Including a small proportion where mother's birthplace is unknown. Sources: "The covid-19 baby bump: the unexpected increase in US fertility rates in response to the pandemic", by M.J. Bailey, J. Currie and H. Schwandt, National Bureau of Economic Research, 2022, working paper; National Centre for Health Statistics; kidscount.org



To steal a stone

Ian Hamilton, lawyer and activist for Scottish nationhood, died on October 3rd, aged 97

AS TREASURES WENT, this one was no beauty. It was an oblong block of red sandstone, 26 inches long by 16.7 wide by 10.5 deep, rough-hewn and chisel-pocked. One face was incised with a crude cross, and two iron rings on chains were set into the ends. By young Ian Hamilton's estimate—for he had borrowed book after book on it from the Mitchell Library in Glasgow, where he was studying law at the university—it weighed four hundred-weight: in fact it weighed 336lb, or 152 kilos. It was also crammed tightly under the ancient wooden coronation chair of the kings and queens of England in Westminster Abbey. All this made it difficult to abscond with. But that was what he meant to do.

For the Stone of Destiny, as this was, did not belong to England. It belonged to Scotland, and was the seat of Scottish kings. Legends hung thickly round it, instilled in his head by his mother. This was the pillow on which Jacob had slept, dreaming of angels descending and ascending again to heaven. The prophet Jeremiah had brought it to Ireland, where it became the seat of the High Kings. Thence it came to Scotland. It was ripped from Scone Abbey by Edward I in 1296, since Scotland could not prosper if it was gone. Edward III later promised to return it, but never had. Now, in 1950, 650 years later, a 25-year-old chain-smoking student was proposing to right a great wrong.

He did not do so because he hated the English. Though he came across the border like a reiver bent on plunder, he admired England in many ways. Rather than steal cattle or blow up bridges, he intended nothing violent. He had signed the Covenant of 1949 that demanded self-government in Scotland, but he was loyal to the English king; he did not seek separation, just a better union. More than anything, he wanted to wake Scotland up to its own greatness, its history and shared identity. Since the Stone symbolised all that, its restitution would be a rallying cry. And no blood would be shed in doing it.

So the plot was hatched, with him as the mastermind and three other students, Gavin Vernon, Alan Stuart and Kay Mathieson, joining in. Matters soon turned farcical. His first plan, to hide in the Abbey at night and open a door from the inside, was foiled when a watchman found him. The next day, Christmas Day in the small hours, they managed to break in at the Poets' Corner Entrance, but made a noise with their huge jemmy fit to wake the dead. When at last they got the Stone out and onto his coat to be dragged (he insisting that his coat should have that honour), he pulled a ring too hard, and the Stone broke in two. For a sickening moment, he seemed to have destroyed what he had come to save.

Yet it was not so. Despite all their fumbings, the more than canny force of the Stone worked in their favour. In two pieces it was easier to carry, and at times he barely felt the weight at all; he picked up the smaller chunk like a rugby ball, slid it into the clapped-out Ford Anglia which was the first getaway car, and the car fired instantly. Improbably he and Kay, the driver, managed to divert a policeman by posing as lovers looking for a hotel. Miraculously, returning to the pitch-black abbey for the second chunk, he trod on the mislaid keys to the second getaway car. Everyone got clean away. When he had first touched the Stone, though he was not especially religious, he had felt the soul of Scotland in his hands. What he did not expect was that, henceforward, the Stone would also hang around his neck.

At first, this was exciting. England and Scotland both went wild over the theft; for a while, the border was even closed. Yet he and his helpers had no idea what to do with the Stone. They hid one piece in Kent, the other in Birmingham, before reuniting them in Scotland. Within four months, however, they realised that they would have to give it back. He left it, draped in a Saltire, on the altar of the ruined abbey in Arbroath, and swore not to look at it again until Scotland was free. Policemen recovered it, locking it in a mean cell like common loot, and took it back to Westminster.

Having escaped prosecution (another miracle), he then resumed his legal career. By 1953 he was already famous as a second petitioner in a landmark case, *MacCormick v Lord Advocate*, over whether Queen Elizabeth II should be plain "Queen Elizabeth" in Scotland. The first Elizabeth, after all, had never ruled there. The ruling went against him, but he had exposed deficiencies in the Act of Union of 1707, and that made his name. He became a much-respected criminal lawyer in Scotland, as well as director of civil litigation in Zambia and rector of Aberdeen University. In the Scottish National Party, which he joined in 1992, his views on the union hardened, and his two memoirs burned with nationalist polemic. In 1994 he stood in European elections for Strathclyde East, in 1999 for the Scottish Parliament for Greenock. Though he lost both races, he was revered as an elder in the party.

Yet he often felt he had no identity except the Stone. For years he was "the Stone man", little else. He would not talk about it, for fear of becoming invisible; though he laughed at his youthful daftness, he struggled to get rid of that shadow. The rebel in him—the one who jumped off a bridge for a drunken bet and roared round on a motorbike in his 80s—was still proud of what he had done, and rejoiced in having been called a "vulgar vandal". The thoughtful lawyer felt ashamed that the Stone had made him famous, when the names of the airmen who had died in the war, in which he had volunteered as an RAF mechanic, had long been forgotten.

In 2008 a film came out about the raid. The publicity reunited him with the Stone, which in 1996 had been returned on loan to Edinburgh Castle. He could look at it now because Scotland, though still not free, was awake, and the flood-tide was flowing.

No new encounter, though, could dislodge the image of their last, when he had left the Stone at Arbroath. It lay in its Saltire, blue against the blood-red broken walls of the nave: merely an oblong block of the same sandstone, rough-hewn and chisel-pocked, cracked (though since mended), with iron chains at its ends. Yet as he gazed, he heard the voice of Scotland crying out defiance. ■

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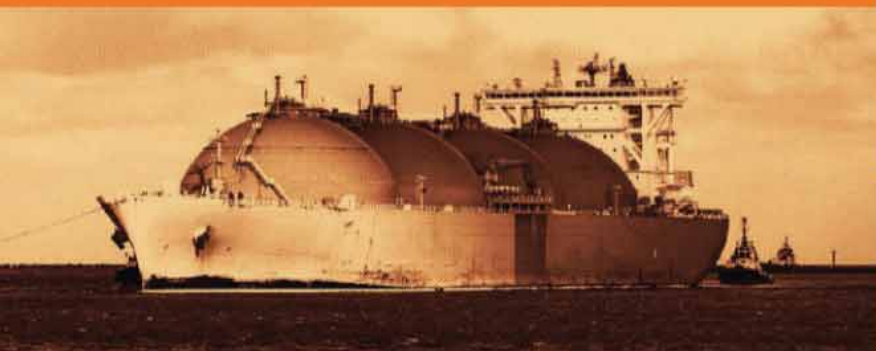
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