The Economist

Iran: bombs and a burial

A jab that reduces dementia risk

China, lithography and a Dutch master

When do children become criminals?

JULY 11TH–17TH 2026

THE MAN WHO WOULD CHANGE RUSSIA

A top oligarch speaks out

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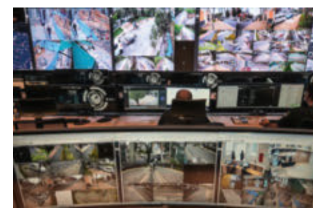

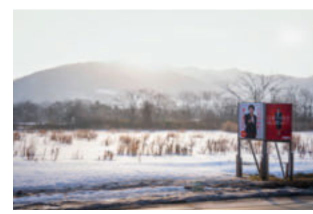

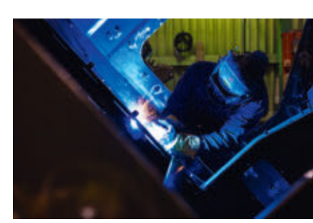

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The world this week Politics

Donald Trump began the **NATO summit** in Ankara, Turkey's capital, by airing his grievances with allies. He grumbled about their lack of support for the Iran war and said that the row over Greenland had also "hurt my relationship" with Europe, reiterating his belief that America should control the Danish territory. But he softened his tone during the gathering and signed up to a communiqué that reasserted NATO's "ironclad commitment to our collective defence".

We need your help

Mr Trump also made a significant concession to **Ukraine** by granting it a licence to make Patriot surface-to-air interceptor missiles, a response to a plea from Volodymyr Zelensky for more air-defence systems. The Ukrainian president's request came after **Russia** again pounded Kyiv, killing 28 people. A bombardment a few days earlier killed 30. Ukraine could not stop the ballistic missiles used in the attacks. Meanwhile, Ukrainian drones struck Russia's largest oil refinery at Omsk, 2,700km (1,680 miles) from Ukraine. Mr Trump said he backed Ukraine striking deep inside Russia as a means to end the war.

Iran launched drone attacks on three tankers it said had ignored designated shipping routes through the Strait of Hormuz. Mr Trump ordered new strikes on Iran and revoked the waiver of sanctions covering Iranian oil exports. Mark Rutte, NATO's secretary-general, supported America's actions as "absolutely necessary". Iran responded with attacks on Bahrain, Kuwait and Qatar. The American president said that Iran's leaders were "scum" and the ceasefire was "over".

The funeral was held of **Ayatollah Ali Khamenei**, Iran's former supreme leader, who was killed in February on the first day of the war. His coffin travelled for six days over 2,600km (1,600 miles), across five cities in Iran and Iraq. Mojtaba Khamenei, his son and successor, did not appear at the funeral; he has not been seen since the strike that killed his father.

In **Algeria**, the result of a recent election confirmed that the ruling National Liberation Front and allied parties retained a majority in the parliament, which usually rubber-stamps decisions by the president. Only 21% of those registered bothered to vote, the lowest turnout ever recorded.

The paramilitary Rapid Support Forces encircled el-Obeid in central **Sudan**, trapping half a million civilians. Reports emerging from the city are eerily reminiscent of those from el-Fasher, where the RSF is accused of massacring perhaps tens of thousands of civilians last October.

Zimbabwe's president signed into law constitutional amendments to extend and cement his hold on power. The change abolishes direct presidential elections and postpones the next vote. Emmerson Mnangagwa, who is 83, had previously promised to step down once his term ends in 2028.

China carried out a rare test of a long-range ballistic missile over the Pacific Ocean. The missile, with a dummy warhead, was launched from a submarine, and alarmed countries in the region. Japan said it was an example of the "intensification of China's military activities".

A prison riot in **Sri Lanka** left 20 convicts and seven guards dead. The violence in Negombo, just north of Colombo, was sparked by an argument among inmates about who controlled the drug-trafficking trade inside the prison.

Pakistan said that 42 security personnel had been killed in three attacks by militants on Balochistan, a province where separatists have waged a terrorist campaign for decades. The army said 54 militants were killed in the clashes.

The **Democratic candidate** in Maine's Senate race suspended his campaign, after a woman accused him of raping her. Graham Platner has also faced other claims of misconduct. He denies the allegations. Democrats will now try to select another candidate in the race, which they must win if they hope to gain control of the Senate in the midterms.

In France, the court of appeal upheld **Marine Le Pen's** conviction for misusing European funds, but enabled her to run for the presidency next year by shortening a ban on her standing for elected office. The leader of the populist-right National Rally announced that she would indeed be a candidate for president again and would appeal against her conviction at France's highest court, the Cour de Cassation.

Farage's farce

Nigel Farage, the leader of Britain's populist-right Reform UK, resigned from his seat in Parliament, triggering a by-election. Mr Farage has come under scrutiny and criticism for a £5m ($6.7m) donation he received. Mr Farage says his constituents "should be the judges" of his actions. The main political parties won't stand in the by-election, so Mr Farage will do battle with the likes of Count Binface and the Monster Raving Loony party in an attempt to re-establish his credibility.

The suspect in the parcel bombing of a **Ukrainian oligarch** and his family in Monaco was found dead in Ukraine with gunshot wounds to her head. An employee at Ukraine's intelligence service and a former police officer were arrested in connection with her murder.

The authorities in **Cuba** struggled to restore power following another collapse of the electricity grid. Meanwhile, Raúl Guillermo Rodríguez Castro, the grandson of Raúl Castro, Cuba's former leader, said he was willing to negotiate with America. Mr Rodríguez Castro held a secret meeting with Marco Rubio, America's secretary of state, in February.

The International Olympic Committee provisionally lifted its suspension of **Russian athletes**, though it hasn't decided if the Russian flag and anthem will still be barred. The suspension was introduced in October 2023 because Russia was organising Olympic committees in occupied Ukraine.

At the **World Cup** Folarin Balogun, America's star player, received a red card for a dangerous challenge on an opposing player, which meant he should have been suspended from America's next game, against Belgium. Donald Trump complained to the president of FIFA, football's world body. FIFA has the discretion to suspend the ban, which it duly did after Mr Trump's intervention. It is the only time a red card has been suspended at a World Cup since automatic bans were standardised in 1970. UEFA, Europe's governing body, said FIFA had "crossed a red line". The US team was subsequently thrashed 4-1 by Belgium.

The world this week Business

A year after legislation passed to create them, **"Trump Accounts"** became operational. American babies born from 2025 to 2028, the four years of Donald Trump's second term, can register and have $1,000 invested for them in American shares. Despite being named after the president, the scheme is funded mostly by the taxpayer, with companies, wealthy individuals and parents adding top-ups. Last year the Michael and Susan Dell Foundation pledged $6.3bn for the programme. The Treasury has said that 6m Trump Accounts have been opened so far.

A week after the Trump administration lifted its ban on Anthropic's latest AI models, OpenAI rolled out **GPT-5.6**, its most advanced machine-learning system. The launch had been delayed by the government's request that it be released to only a limited number of vetted users to assess the security risks; it is now reportedly satisfied that GPT-5.6 has passed those extra checks.

SK Hynix's share offering on the Nasdaq exchange was heavily oversubscribed ahead of the stock's debut on July 10th. The South Korean chipmaker is seeking to raise $28bn through the sale of American depositary receipts (enabling investors in the US to buy its stock), which after SpaceX would be the second-biggest share offering on record.

Samsung, which is also benefiting from the demand for memory chips, said it expects to log an operating profit for the second quarter of 89.4trn Korean won ($59bn), another record for the company and double its operating profit for all of 2025. But the share prices of Samsung and SK Hynix fell heavily amid more investor jitters about the durability of AI spending.

SpaceX's stock was added to the Nasdaq 100, a weighted index of leading non-financial companies, including Apple, Nvidia and Walmart. A rule change allowed the rockets-and-AI company to join the Nasdaq 100 less than a month after it floated shares in an initial public offering. Its stock will now be tracked by hundreds of passive investment funds. SpaceX's share price is still trading above the $135 it was priced at in the IPO.

A new frontier

The European Central Bank asked 110 banks to present credible plans for dealing with the security threat from advanced AI models. The Bank of England also mentioned the threat from frontier AI in its latest report on **financial stability**, warning that the technology will "increase the sophistication and impact of cyber-attacks" on financial institutions and market infrastructure. Andrew Bailey, the Bank of England's governor, called for co-operation among regulators in dealing with the security implications of AI, but said, unlike the ECB, he would not be issuing edicts to banks.

Yields on **Japan's** ten-year government bonds reached 2.9%, the highest since 1996, pushing up the costs of borrowing. Gross public debt is over 200% of GDP. As well as being concerned about the weak yen, investors are said to be worried about how the government is going to fund its recently announced $2.3trn, 14-year investment plan.

After holding out for a higher offer, **easyJet**, a European low-cost airline based in Britain, reached a preliminary agreement to be sold to **Castlelake**, an American investment firm, which would value the carrier at £5.5bn ($7.3bn). Castlelake, which has managed hundreds of planes through its leasing business, must make its offer official by August 3rd under British regulatory law.

UniCredit, a big Italian bank, announced that it had increased its stake in **Commerzbank**, a German lender, to 47.6%. UniCredit has been trying to take over Commerzbank for over a year, but its overtures have been rejected by the German company and the German government.

Call of duty

After declaring that the games industry is "facing the most severe hardware crisis in its history", Microsoft cut 3,200 jobs at its **Xbox** business, 1,600 of which were lost immediately. Profit margins at Xbox are lower than at its rivals and the wide availability of online gaming has eaten into demand for its consoles. It will also get rid of five of its gaming studios and reduce costs at Activision Blizzard, a games publisher it acquired in 2023 for $70bn.

Sky, a European broadcaster, struck an agreement to buy **ITV Media and Entertainment** in a £1.6bn ($2.1bn) deal. ITV M&E operates the network and streaming platforms of ITV, Britain's legacy commercial channel. The transaction does not include the more lucrative ITV Studios, which produces ITV's programmes, such as "Coronation Street" and "Poirot". Sky is a subsidiary of Comcast, which intends to spin off Sky and NBCUniversal into a separate company.

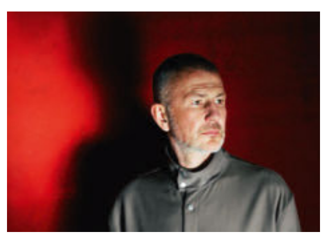
The man who would change Russia

A leading oligarch speaks out, warning of the looming disaster facing his country

When enough Russians feel the endless fighting in Ukraine is futile and that they are paying the price, their president, Vladimir Putin, will be forced to do something spectacular to break the deadlock. This is why it pays to watch Russia for warnings of fatigue or discontent. Our cover this week features the most stunning such warning so far.

It comes from Andrey Melnichenko, the world's fertiliser king and Russia's biggest industrialist. Mr Melnichenko is hardly a member of the anti-Putin opposition. Far from criticising the invasion, he is an insider whose factories have supported the war economy. Nor is he being high-minded. Having run his companies outside Russia, Mr Melnichenko returned in 2023 as the scope for global business shrank. Like most oligarchs, he has lived by Mr Putin's rules—make money, but keep your nose out of politics. He is talking now because he and his fellow tycoons can no longer afford to ignore the rot in a country they watched descend into tyranny.

Mr Melnichenko issued his warning over nearly 60 hours of interviews with *The Economist* (see *1843*) and more guardedly in an essay we are publishing online. It is the first time an oligarch in Russia has spoken out at such length. We are giving him space not because we agree with all his views or because he is a champion of democracy and human rights. Instead, he is a pragmatist who wants his firms to thrive. That is why his call could resonate in a country where wars gone wrong, including the defeat to Japan in 1905, have led to campaigns by industrialists for political change.



Mr Melnichenko's words go far beyond the war, to the bleak outlook for Russia and its neighbours. He warns the West not to wish for Russia to descend into chaos, brutal autarky or a sullen, dangerous dependency. Although he does not say that Mr Putin must be removed from power, the change he wants would amount to an end to one-man rule.

What makes Mr Melnichenko's intervention so striking is that the Ukraine war has come home to Russia. After Ukrainian attacks on its energy industry, the country is witnessing queues for fuel and fistfights at filling stations. The annexation of Crimea in 2014 boosted Mr Putin's popularity; today the peninsula is being isolated by Ukrainian drone strikes. Forced military enlistment is feeding resentment. Influencers' complaints about the war are going viral on social media.

This reality belies Mr Putin's repeated promises that the special military operation is on track and a breakthrough is at hand. Although the Russian economy is not about to collapse and people are not about to rise up, Russians increasingly feel that their country has reached a dead end (see Europe section).

Mr Putin may well try to reassert his authority by escalating the war and repressing people at home. Some Western intelligence services have recently reported that Russia is about to intensify its confrontation with NATO. At his darkest, Mr Melnichenko fears the use of a tactical nuclear weapon in an attempt to terrorise Ukraine's European backers—though Western analysts still discount that.

Mr Melnichenko argues that escalation would not lead to a lasting peace between Russia, Ukraine and Europe. Left unsaid is that, if ordinary Russians become alarmed by the war and more resentful because of a broad mobilisation and political repression, that will only exacerbate Mr Putin's problems at home—leading to the next round of escalation.

These gloomy thoughts take Mr Melnichenko to the heart of his argument. He sets out his thesis in a series of long-term scenarios for Russia, all of which, he says, would be dangerous for Russia and the world.

Most alarmingly, Russia could collapse into anarchy, as warlords struggle for control of resources and nuclear weapons. That fear was real enough to lead the Biden administration to seek to avoid Russia being humiliated in Ukraine.

Or Russia could come under the thumb of foreign powers. It may be dominated by China, which could use it to supply raw materials and serve as a buffer against America. Or, after a war of attrition, maybe Russia will exist on the periphery of Europe, an impoverished dependant. Both outcomes would breed resentment and discontent, he predicts, incubating a violent nationalism that may one day explode into conflict.

In the last scenario Russia would turn inward, like North Korea, a closed fortress under siege, starved of growth and capital. This is apparently being actively discussed in the bowels of the Kremlin. Yet, like North Korea, Russia would be in a state of permanent war against the world.

Mr Melnichenko is enigmatic about how precisely to avoid these outcomes. Self-servingly, he urges Western countries to resist the temptation to push the war to its limits. Instead, they and Russia must find a way to live in peace. To this end, he calls on them to grant Russia "sovereignty"—an immunity that sounds a lot like China's demand for non-interference. About reform in Russia, he is elusive. The country must be predictable to the outside world and must win over its people without resorting to coercion. Implicitly, he wants Mr Putin to relinquish one-man rule and devolve power. But he does not talk about democracy.

Even that will run up against the securocrats, top dogs since Mr Putin banished the original post-Soviet oligarchs from politics over two decades ago. If Russia becomes a more normal country, they will be the losers. Perhaps, though, technocrats and moguls fearful for Russia will take Mr Melnichenko's side. Mr Putin may refuse to yield. But he is in a bind. Grinding on, escalation and reform would each carry costs.

Reform has a precedent. In 1905 Russia lost a 19-month war to Japan. Industrialists and technocrats blamed the dictatorial Nicholas II. It showed, they said, that one-man rule doomed Russia to be behind the rest of Europe. That year, after an uprising, they forced the tsar to accept the October Manifesto, which proposed civil liberties and a legislative assembly.

By mid-1907 Nicholas had crushed the reforms; a decade later he was toppled in the revolution. The hope must be that Russia learns this lesson: it needs reforms that last. ■

Popular capitalism

Baby steps

Two cheers for Trump Accounts. The grubby scheme contains the seeds of a good idea

DONALD TRUMP likes putting his name on things, from Manhattan skyscrapers (with permission) to Washington's Kennedy Centre (without). From July 4th Americans have started seeing the president's name show up in their children's financial statements. Babies born between 2025 and 2028 are getting "Trump Accounts": $1,000 invested in American stocks, which will be theirs to spend when they turn 18. Some billionaires and big companies have donated top-ups, and parents can make their own contributions.

The name is not the only Trumpy thing about the new handouts: they are also partisan, grubby and funded mostly by borrowing. Only babies who are born from 2025 onward, when Mr Trump returned to the White House, will qualify. Roping in America's wealthiest to chip in alongside the taxpayer carries a whiff of the cronyism that is sadly too familiar in today's Washington.

However, beneath the unsavoury execution there sits an experiment worth watching. The idea of giving children equity stakes in the economy is sound in principle. It is also well-timed, as societies face up to the looming economic disruption from artificial intelligence.

So far, the scale of this experiment is, admittedly, rather small. The $1,000 each child receives could be worth around $4,500 by the time they turn 18, which is more like $3,000 in today's prices. Still, it could make a modest but helpful dent in a deposit for a home or car, or in university fees. Many young people already rely on handouts to help buy their first home, but how much they get depends largely on how deep their parents' pockets are. This undermines the notion that working hard is enough to succeed, a principle without which public support for free markets wanes.

Indeed, a troublingly high share of young people profess to feel more enthusiasm for socialism than capitalism. *The Economist* has spotted a worrying rise in what we call "Gen-Z socialism", a politics that combines soaking the rich with calls for price controls on everything from rental housing to groceries. Winning the next generation back to the side of free enterprise may require giving them a personal stake in the private sector that goes beyond the labour market.

Compared with other rich countries, America has already done a good job of making investors of everybody: the poorest fifth of Americans have 15% of their assets in stocks, versus just 3% in 1990. Trump Accounts could build on that start by offering a national lesson in financial literacy as children and families watch their money grow.

The experiment is particularly useful preparation for the turmoil that the spread of AI may bring. The more radical forecasts for AI's economic effects involve vast returns for capital-holders and a tough time for workers. Under that scenario, a direct and highly visible public stake in the technology might be necessary to forestall runaway inequality and political instability.

Instead of the government running the show of managing, say, the 5% of OpenAI that Sam Altman has suggested handing over, shares could be passed along to citizens via Trump-like accounts. Even if AI does not make capital eclipse labour, the mechanism could encourage a healthy new form of philanthropy in which some billionaires voluntarily pass on parts of their fortunes to all Americans.

The scheme's deficit-financing is not ideal, but at least the borrowing funds savings rather than—as with most government handouts—immediate consumption. In any case, at its current size the effect of the scheme on the deficit is microscopic: 0.005% of annual GDP. So Trump Accounts get two cheers from *The Economist.* We hope they outlast the president's term—and that his successor sorts out a name for them that Democrats and Republicans alike can get behind. ■

Social housing

The wrong fix

England needs fewer council homes, not more

YOUNG BRITONS are a gloomy bunch. One poll found that 38% expect to lead worse lives than their parents (only 36% think they will do better). Much of the blame can be laid at the locked door of unaffordable housing. In big cities, where the good jobs are, rents are extortionate. In London the average is around half of mean earnings. Anger about housing frays the social contract and leads some to scapegoat vulnerable groups, such as refugees.

Andy Burnham, the man almost certain to be the next prime minister, has an answer. He has promised "the biggest council-housebuilding programme since the post-war period" (see Britain section). This policy is popular: 72% of the public support more social housing, which in England means homes owned by councils or charities and let at below-market rents. Over 1.3m households are on waiting lists for such homes.

Yet Mr Burnham's plan would be like adding a floor on top of a crumbling tower block. England does not have too little social housing. It has too much: at 16% of the total stock, more than any other G7 country. In some London boroughs nearly 40% of homes are social housing. And far from being "the foundation for everything", as Mr Burnham says, the council-housing system is wasteful, unfair and a barrier to growth. ▸▸

England has two types of housing support. First, tenants in social housing enjoy discounted rents. Second, anyone deemed needy after a means test, whether in a private home or a social one, can receive a rent subsidy ("housing benefit"). *The Economist* crudely calculates that discounted rents to the first group add up to an implicit subsidy of £20bn ($25bn) a year. For the two-thirds of social-housing tenants who are on welfare, this saving is mostly recycled within government, lowering the benefit bill needed to cover rent. But for the remaining one-third not on welfare, it's a bonanza.

New social lets in Kensington and Chelsea were nearly 80% below market rents in 2024-25, a £32,000 annual saving per household. Social tenancies are often for life and can even be inherited. Once you're in, there's no more means-testing, regardless of how much your fortunes improve. Of the 4m households in social housing in England, more than 10% have incomes in the national top 40%. Some are rich. The wife of the president of Sierra Leone, who lives in a palace, was recently found to have a council home in London as well.

Thus, some high earners enjoy ultra-cheap social housing, while more than 1m households on benefits rent from private landlords. In much of the country, housing benefits are stingy and rents are high, so this latter group is at risk of homelessness. A system that arbitrarily foists feast on some and famine on others is not just.

Antisocial housing

It also slows economic growth by making people less mobile. If you have a lifelong council tenancy, you don't want to lose it. So you are less likely to move elsewhere in search of a better job. And many of the council homes in city centres are occupied by pensioners, who are also frozen in place, blocking young jobseekers from moving in. (Some 60% of adults in social housing do not work.) Mr Burnham seems to think immobility is a virtue: he vows to build a country where "No one has to leave to get on in life."

Rather than spending vast sums on building new council homes, Mr Burnham should instead raise all social rents to market rates. Then, those who truly need support could be given extra means-tested benefits to cover the difference. When the Tories tried and failed to introduce a similar scheme in 2015, opponents labelled it "social cleansing". Yet the proposal is not to evict tenants, merely to charge them market rents. It would direct spending to people as and when they need it, instead of pinning it to a pile of bricks and mortar. Such a reform should be phased in gradually, to give people time to adjust. It would free up billions.

Fixing social housing would not solve all England's housing woes. To do that, the country also needs to let builders put up more homes. Sir Keir Starmer enacted some reforms to make England's planning system less insanely slow and obstructive. But other changes, such as stricter safety rules, gummed it up again. Fewer new homes were added last year than the year before. To pick up the pace, England needs a nationwide zoning system, in which it is harder to veto development, and looser quotas for "affordable housing" in private projects, which currently make many of them unprofitable.

Mr Burnham has given no sign of entertaining such ideas. On the contrary, he has said that "undue weight" has been placed on planning reform. That's a pity. For too long England has been failed by cuddly-sounding housing policies that are in fact toxic. Social housing is one example; another is the "green belt" restriction around cities, which chokes off housebuilding, even on wasteland. Our proposal to scrap sub-market rents is the opposite kind of policy. It sounds harsh, but would act like a tonic. ■

Keeping memories alive

A no-brainer for your brain

One simple vaccination may dramatically reduce the risk of dementia. More people should get it

FEW CONDITIONS are as feared as dementia, of which Alzheimer's is the most common cause. This is mostly because of its insidious nature, since it strips people of their sense of self and leaves those who love them caring for a stranger. "Alzheimer's is me unwinding, losing trust in myself, a butt of my own jokes and, on bad days, capable of playing hunt the slipper by myself, and losing," wrote the late Sir Terry Pratchett, a novelist who had a rare form of it. "I felt totally alone, with the world receding from me in every direction."

It is also dreaded because many believe it is becoming far more common and so will inevitably strike them or those closest to them. Some epidemiologists in the field seem only to fan those fears. Models predict that the number of people suffering from dementia may triple to 153m by 2050 as societies age. In truth, the outlook is cheerier than that, especially in rich countries where, if adjusted for age, the risk of getting dementia has dropped sharply in recent decades (see Briefing). Most models assume these declines will not continue, or will even reverse. A mountain of new evidence shows that need not be.

Recent studies point out the numerous ways in which people are already reducing their risk of dementia. Many are lifestyle changes that you already know you should be making, such as eating healthily, exercising more and keeping your brain active. Others are medical interventions, such as treating hearing loss, depression, high blood pressure and high cholesterol. But getting people to adopt, and then stick to, healthy habits is hard. It does not help that, ideally, you should be working out more and boozing less for many years before your brain will thank you.

Yet there is one direct way to improve your chances of staying mentally sharp, and it involves almost no toil, tears or sweat. One of the most exciting scientific findings in recent years is that a course of the shingles vaccine may reduce the risk of dementia by about 20%. For a simple intervention, that is a huge benefit. Exactly why this happens is still being debated. One theory is that the varicella-zoster virus, which causes ▸▸

both shingles and chickenpox, contributes to dementia by causing damage or inflammation to the nervous system even while it is supposedly dormant. Another is that the vaccination gives the immune system a firm kick up its B-cells, activating it against other bugs that might contribute to dementia.

Too many public-health systems fail to offer the vaccine to more than just a small share of those who would benefit. Several studies have shown that, taking into account only the shingles cases prevented, it would be cost-effective to vaccinate almost everyone from about the age of 55. Yet many countries have rationed the vaccine to keep down the upfront costs. Britain, for instance, lowered the eligibility age from 70 to 65 in 2023, but has since been too slow to vaccinate those who were already in their late 60s. Among the 27 members of the European Union, just 17 recommend the vaccine at all, and several reserve it for the over-65s.

That makes little sense when considering only its efficacy against shingles, which afflicts 20-30% of unvaccinated people. It makes even less sense given its potential as a weapon in the fight against dementia.

Most of the evidence of its anti-dementia effect relates to an earlier version of the vaccine, which used a weakened form of the live virus. It has since been largely replaced by a new one, Shingrix, which contains just a sprinkling of proteins from the virus and is seen as safer because it cannot cause an infection. Some studies suggest the new jab may be at least as powerful against dementia as the old one. Even so, it would make sense to run randomised trials to learn which is better, the optimal age for getting it and whether boosters are needed.

In the meantime, health authorities should not wait. A full two-dose course of Shingrix costs Britain's health service £320 ($430) and federal immunisation programmes in America around $270: a bargain, given the potential savings in long-term care costs. As for individuals, even the retail cost (around £460 in Britain) is a small price to reduce by one-fifth the chances of having the world recede in every direction. ■

Children and the law

Who is capable of evil?

Countries should resist popular demands to lower the age of criminal responsibility

HOW DO YOU judge whether children are responsible for their actions? The answer often depends on age. Given how slowly human character develops, most countries do not hold the youngest to be criminally responsible, even if they commit heinous acts. In the eyes of the law the least mature, who cannot grasp the consequences of what they do, are reckoned to be *doli incapax*—incapable of evil.

Yet that raises a second question: how old is old enough to count? Countries answer this in wildly different ways, as they wrestle with the task of defining the age of criminal responsibility. Now, regrettably, lawmakers in many places are pushing it downwards. In February Argentina lowered its age from 16 to 14. Others, from the Maldives to South Korea, may do something similar. Gangs have been a scourge in Sweden for many years. It now plans to reduce the age of responsibility for the most serious crimes. Last month Northern Ireland blocked a motion that would have raised the age from just ten—the joint-lowest in Europe—to 14.

Politicians are listening to voters angry about dramatic and well-publicised crimes—and you can understand why. Indonesians were horrified when a 12-year-old stabbed her mother 26 times, killing her. In Colombia a 15-year-old boy last year shot and killed a senator campaigning to be president. In Sweden and elsewhere, gangs use children to attack properties or people.

Criminals like to recruit young foot soldiers because they are cheap and pliable. They often lack the impulse-control and judgment that most adults possess. Neuroscientists suggest that the brain keeps developing well into adulthood, perhaps even into the mid-20s, which may be why so much crime is committed by the young. Teens are often enticed into gangs by the promise of quick money. Criminals also calculate that the youngest may dodge punishment if caught. In Britain drug-dealers use children precisely because they are under-age.

You can see, therefore, why lawmakers want to criminalise the acts of ever younger people. Authorities may hope that doing so will remove an incentive for gangs to recruit them. They should reconsider, if only because lowering the age of responsibility is unjust—especially if that involves children younger than the low teens.

Even if you disagree with the moral argument, you should heed the practical one. Experience suggests that lowering the age will not work. When Denmark took it from 15 to 14 in 2010, crime rates rose. The country reversed course soon after. Britain found that, when the age of responsibility drops, gangs just recruit even younger children.

Prosecuting young children as criminals is also a way of ensuring that ever more of them will emerge from the system as hardened villains. In Queensland, Australia, where ten-year-olds are counted as criminally responsible, 96% of children who are released from prison go on to reoffend within a year.

It is wiser to try rehabilitation. That will often mean securing young wrongdoers safely away from wider society. But rather than punishing them, the goal should be to tackle the social, educational and other factors that first drew them into criminality. One focus should be on those brains. In Britain a fifth of children in the youth-justice system have learning difficulties. Another should be to deal with social problems early by, say, providing mentors. In Sweden around half of all kids who are investigated for a serious crime were flagged to social services for worrying behaviour before the age of 12.

Nothing will stop all wrongdoing by children. There should be severe criminal penalties for adults who recruit and exploit the young. But the goal for children should be to create better childhoods, with fewer reasons to go into crime, and to prevent criminal children from becoming criminal adults. ■

Letters *AI and philosophers, the impact of the Iran war, academic standards, tall men, Alan Greenspan, Warrington*

Calculating war casualties

You reported on why big artificial-intelligence labs are hiring so many philosophers and noted its impact on the ethics of war ("Computo, ergo sum", June 27th). Philosophers excel at formulating questions, but they have no agreed answers to how military objectives should be weighed against civilian deaths. For example, if a military objective of killing a wartime leader in a foreign country can be achieved only at the expense of the deaths of innocent civilians, what is the maximum number of such deaths that is acceptable? This number, known as the non-combatant casualty cut-off value (NCV), is often specified by military authorities but has varied widely (for example, between 0 and 30) across campaigns and over time. Its variability betrays the uncertainty of those who set it.

There is no "correct" NCV for human judges or for AI systems. If we knew how many future deaths a wartime leader would be responsible for the problem would resolve itself into the well-known trolley dilemma. But we don't know that. And even if we did, there is no universally acceptable solution to that dilemma.

NIGEL HARVEY
Professor of judgment and decision research
University College London

Turning on a dime

"Cancelled penalty" (June 27th) was correct in its central contention about America's waiver of sanctions on Iranian oil. It is a huge concession. But what looks significant on paper—an apparent aberration against more than 40 years of sanctions pressure—is decidedly less so in reality. The twin pressures of European and British sanctions will hold back any potential flood of Western buyers. Instead, the waiver will chiefly facilitate Iranian state actors' exports to pre-existing trading partners.

Then there is the prospect of the Strait of Hormuz being closed again with comparative ease, which still lingers over the global economy. All the while, it is entirely possible that Iran continues to build up its nuclear capability.

What could mark a break is if alternative trading routes that bypass the strait were to be established, which could check Iranian leverage. The big question here is not only how quickly this can be achieved, but whether the attendant legal and political agreements can be reached. For all the talk of waivers and sanctions, this is the dime on which the global economy might turn in the future.

JAMES WILLN
Reed Smith
Dubai

Diverging universities

Your leader on falling academic standards ("Don't dumb down", June 27th) rightly noted that pushing young people up the educational ladder without the skills to match helps no one and is, at its core, cowardly. Yet the challenge of cheating posed by AI may carry its own corrective.

By collapsing the cost of fabricated coursework, generative AI confronts every university with a blunt choice: pay for much costlier enforcement, or in effect abandon the pretence of academic integrity. Institutions with thin defences and less academic intakes will rationally give up, lowering fees and operating openly as credential mills. Those with serious invigilation and abler students will instead double down, as Harvard did recently by capping the number of A grades handed out in each course to roughly 20% of enrolled students (the policy comes into effect next year). Colleges of this type will still charge a premium for a degree that still certifies genuine learning. This would result in what economists call a separating equilibrium, the market sorting what administrators cannot.

This need not be lamented. For the many jobs that reward reliability and persistence above any particular syllabus, a degree was always mostly a signal. An honest credential may serve its holder better, and far more cheaply, than one that pretends otherwise.

PETER DONAHUE
Houston

The highs and lows

Tall men earn more, date more and are generally happier all round, you say (Graphic Detail, June 19th). As a six-foot four-inch male I would like to point out that it's not all a bed of roses. The world is designed by short people for short people. Your privileged tall man is crushed into small aircraft seats and bangs his head on low doorways. Hotel beds are often too short. There have been times in my life when I have had to order shoes from abroad. And then there's clothing and pants that finish at mid-calf. There seems to be a convention in clothing stores that all large and extra-large sizes are placed on the bottom shelves, requiring tall men to get on hands and knees to retrieve an article.

So it does seem an act of celestial justice that we score better with the ladies.

BILL CLARKE
Madrid

A reliable source

Spot-on as your June 27th obituary of Alan Greenspan was, it might have added a detail pertinent to *The Economist*. Economics coverage in the paper in the 1960s relied heavily on a single resident genius, Norman Macrae. Clandestine extra input to both Macrae and coverage of the United States was supplied by Alan Greenspan. Each week a junior in the Washington office would make two telephone calls to New York: one was to Henry Kaufman, chief economist at Salomon Brothers; the second was to Greenspan, then main partner of Townsend Greenspan.

His dry wit, analysis and parsing of often obscure labour and stock level statistics much deepened *The Economist*'s columns at the time.

ANDREW KNIGHT
Editor of The Economist, 1974-86
Shipston-on-Stour, Warwickshire

Much derided, much loved

"Warrington is not a glamorous place", as you acknowledge in your article on the economic miracle of this town in northern England ("Meet the Warrington model", June 27th). You mention the Royal Society of Arts ranking the town last out of 325 places for cultural amenities (yes, even behind Luton).

As Eric Turner, a local artist who's been called Warrington's secret Lowry, would have said, "Rubbish…have they ever been to Widnes?"

NICK RIGBY
Cambridge

Does anyone remember the contest from some years back? First prize: one week in Warrington. Second prize: two weeks in Warrington.

HENRY MA
Manila

→ Letters should be addressed to the Editor at: The Economist, The Adelphi Building, 1-11 John Adam Street, London WC2N; Email: letters@economist.com. More letters available at: ***economist.com/letters***

BY INVITATION
Mark Carney and Alexander Stubb

Prepare for a world of ad hoc coalitions, built not on multilateralism or realpolitik alone

WE LEAD TWO countries that do not have the luxury of relying on old orders of geography. Finland shares a border with a Russia that is waging a war of aggression against Ukraine and actively interfering in other societies instead of reforming its own. Canada shares the world's longest land border with a United States that is reassessing its priorities and transforming all its commercial relationships.

At the same time, we are striking closer relations with powers like India and, while avoiding strategic dependencies, China, as well as with countries of the Global South, because power no longer exclusively sits at a single Western centre. Power is spread across three groupings: a Global West, a Global East and a Global South, each increasingly autonomous. Truly global trends, including power over compute, data and artificial-intelligence models, are spawning a fourth, technology-driven grouping, shaping how we live, work and connect—unconstrained by borders and accountable to few rules.

The world order built after 1945 is unravelling. Institutions as they stand are ill-prepared to avert this decline. This is a moment that comes once in a century, in which our collective prosperity is defined by what we choose to build, and how we build it.

The work ahead requires neither wishful multilateralism, which only defends the status quo, nor cold realpolitik that dismantles it altogether. The alternative is values-based realism. A new approach that is both principled and pragmatic. Principled in its commitment to fundamental values of freedom, human rights, sustainability and solidarity. Pragmatic in recognising that not every partner will share all of our values. Put simply, we must form calibrated alliances, integrating deeply with those countries that share our values, and remain open-eyed with those that do not.

At its core, this means actively taking on the world as it is, not passively waiting for a world we wish to be. It means engaging with the reality that progress is incremental and that interests diverge. It requires recognising the inevitable differences between our countries and others, and then focusing our efforts to work together where we are aligned and where we can make the greatest impact. Progress can be signalled through monologue, but it will be achieved only through dialogue.

Another reality is that the world is moving from a more multilateral stance to a more multipolar one. Multilateral order, despite its shortcomings, is governed by co-operation and a clear set of rules and norms. A multipolar world, conversely, is one characterised by deals, transactions and chaos. Yet instead of a binary choice between multilateral and multipolar, there is another scenario, one that revolves around plurilateralism. We must strive for a revival of multilateralism with better representation and reformed institutions. At the same time, we should develop plurilateral arrangements.

This approach, a form of variable geometry, will build a dense web of connections—ad hoc coalitions that work, issue by issue. In many cases it will be most effective when dealing with countries with which we disagree on many issues but share enough common ground to act on some. Dynamic, purpose-built coalitions will be increasingly formed around shared interests, rather than a single shared institution. The coalition of the willing now planning Ukraine's post-war security has become a premier forum for like-minded nations and NATO to co-ordinate efforts. The European Union's instruments, including the SAFE pact, enable partners to cut through bureaucracy and to build and partner on defence capabilities, at speed. The G7's critical-minerals alliance is securing and diversifying the supply chains on which every modern economy depends. In AI we could build coalitions to enhance safety and accessibility by leveraging our expertise and capabilities in critical areas such as quantum computing and energy. The question is no longer whether to partner, but how fast we can build successful coalitions that scale across every region.

The answer to shifting orders of geography, trade and commerce—and the anxieties which they understandably cause for citizens—is not to mourn the world that was; it is to build for the world as it is. To build with code, concrete and steel; with institutions that work and strong alliances that protect them. To deepen our countries' partnerships with as much of the world as we can, clear-eyed and with confidence.

Middle powers of the world, unite!

In this effort Canada and Finland can be pivotal, because we are among the most connected economies on Earth through our enviable trade access; powerful, in our capabilities as nations increasing our defence spending to record levels; and purposeful, in our shared commitment to territorial integrity, human rights and pluralism. In a rapidly changing world, we have the grit and the *sisu* to chart the path ahead—and we know that so have many others whom we invite to join us on this quest. ■

Mark Carney is the prime minister of Canada. Alexander Stubb is the president of Finland.

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Francesco Rubino on why medicine can treat obesity, but can't agree on what obesity is. Labelling it a disease means millions will get treatment they may not need.
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Briefing Dementia

Brain gain

HELSINKI

The world is making heady progress in the fight against dementia

When Eric Stallard, an actuary and academic, began looking into the incidence of dementia among elderly Americans, he was so stunned by his findings that he held off publishing his first paper on the subject for two and a half years while he double-checked his work. "I wanted to be absolutely certain," he recalls, since the numbers defied all expectation. Instead of confirming the received wisdom that America faced an intensifying plague of the condition, they showed that the proportion of old people succumbing to it was in fact shrinking fast. "I was shocked by the declines," he says.

Mr Stallard has been working for a decade to corroborate this revelation. His findings have, if anything, become even more striking. Last year he and some colleagues published research in the *Journal of the American Medical Association* showing that, whereas 40 years ago three in every ten Americans aged 85-89 had dementia, by 2024 just one in ten had it (see chart 1 on next page). What is more, America is not the only beneficiary of this trend. Between 1988 and 2015 the share of older people being diagnosed with dementia fell by 13% a decade across six countries in North America and Europe, according to a study of almost 50,000 people by Frank Wolters of the Erasmus Medical Centre in Rotterdam, and colleagues.

Some smaller studies have also found big declines. Data from the Framingham Heart Study, which has tracked three generations in an American town, show an average drop in new dementia cases of 20% per decade over almost 40 years between the late 1970s and early 2010s. Those who were entering their dotage when Daft Punk's "Get Lucky" was topping the charts (2013) were 44% less likely to have dementia than those who were doing so when Sting was urging Roxanne to switch off her red light (1978).

Whereas most earlier studies had simply pooled elderly people and then applied a statistical adjustment for age, Mr Stallard looked at narrow bands of ages to compare different cohorts of people over 50 years. By examining the changes between each successive cohort, he calculates that dementia rates have been declining by 2.5-3% for each calendar-year cohort. "In my view it was the Copernican revolution in the field," he says, turning assumptions about dementia's spread upside down. Similar cohort studies in various European countries and Japan have found comparable trends there, too.

Making memories

Big questions remain about why dementia rates are falling and whether they will continue to drop. The growing number of old people in most countries and increasing longevity mean that overall case numbers are still rising, even if a smaller share of the elderly are afflicted. And the good news is largely confined to rich countries, at least for now. But the fear that an epidemic of dementia will soon be running out of control, blighting ever more lives and placing an impossible burden on health systems, is mercifully overblown.

The single biggest risk factor for dementia is age. Prevalence doubles roughly every five years after 70. In America in 2016, for instance, just 4% of people aged 70-74 had dementia, but the rate jumped to 9% for those who were 75-79 and again to 18% for 80- to 84-year olds. More than a quarter of those over 85 had the condition.

This near-exponential pattern, combined with the rising life expectancy, has long fuelled alarming predictions. In a study published last year in the journal *Nature Medicine* Josef Coresh, Michael Fang and their co-authors projected that the number of new cases in America would double from around 500,000 a year in 2020 to 1m a year by 2060. A study published in 2022 calculated that the global population of people with dementia will almost triple from around 57m people in 2019 to 153m people in 2050.

Mind-bending

Such numbers, in turn, feed frightening estimates of the likely future cost of dementia. The direct cost of care (including informally in the home) probably came to around $1.3trn worldwide in 2019 (or roughly 0.8% of global GDP). The burden becomes even greater if one accounts for indirect costs such as patients' diminished quality of life. These added up to around $781bn last year in America alone (or about 2.5% of GDP), according to a model funded by America's National Institutes of Health. A paper by Arindam Nandi of the Population Council, David Bloom at Harvard University and others uses an even broader measure that tries to put a price on patients' suffering (by estimating a willingness to pay to prevent it). It put the global cost of dementia at $2.8trn in 2019 increasing to $4.7trn by 2030, $8.5trn in 2040 and $16.9trn by 2050.

Yet such terrifying projections are almost certainly wrong, at least with respect to rich, Western countries. Almost all are based on models in which there is little, if any, reduction in the age-adjusted rate of dementia over the coming decades. Since there will be growing numbers of old people in most Western countries in the coming years, and since those old people will live longer, such assumptions lead to gigantic increases in the projected number of dementia cases. Yet even relatively small annual changes in the rate of dementia, when compounded over 30 years, can lead to much happier outcomes.

To show this Chiara Celine Brück and her co-authors at the Erasmus Medical Centre built a detailed computer simulation of 10m Dutch people and then looked at how dementia would progress under two different scenarios. In the first they assumed there would be no change in the underlying risk of dementia over time (other than from ageing) and found, as other mainstream projections have, that the number of Dutch people with dementia would more than double by 2050. In another, they used the research of their co-author, Mr Wolters, who found that the incidence of dementia had been falling by 13% a decade after adjusting for age, and simulated what would happen if the trend continued. They found that, although the number of dementia cases would still increase because of the growing ranks of elderly people, instead of more than doubling by 2050, it would grow by just 43% from the level of 2020.

To be more confident about such projections, researchers must determine why so many more people have been keeping their wits and so be able to make a more reasoned judgment about whether the trend will continue. That is not easy, in large part because dementia is a condition with multiple causes that typically develops slowly over decades before clearly manifesting itself.

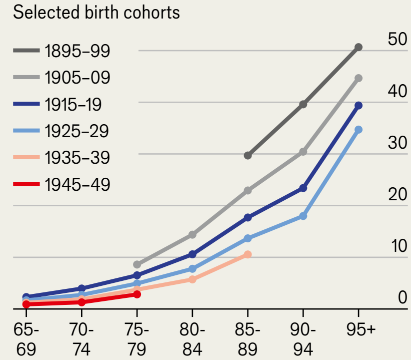
Scientists have long known that dementia has a genetic component. Roughly 25% of the population carries a single copy of a gene known as APOE4, which is associated with a risk of getting Alzheimer's (much the most common of the dozens of diseases that can cause dementia) that is 2-3 times greater than the norm. For the 2-3% of the population with two copies of this gene, the risk is 10-15 times greater.

Yet many people without these genes get dementia and many who have them do not. The search for other causes of the condition was given a boost in the 1970s in North Karelia, a remote and hard-living region of Finland which had one of the world's highest rates of heart attacks. To reduce this scourge, health authorities discouraged smoking, monitored blood pressure and encouraged healthy eating. The public-health campaign eventually cut deaths from heart attacks by 84%. An unexpected benefit, says Tiia Ngandu, a researcher at the Finnish Institute for Health and Welfare, was the opportunity for researchers to examine some 40 years of detailed health records for a large population.

Cognitive coup 1

United States, % with dementia by age

Selected birth cohorts



Source: "Changing story of the dementia epidemic", by E. Stallard et al., *Journal of the American Medical Association*, May 2025

Memory laws

The result was a groundbreaking series of observational studies showing that high blood pressure, high cholesterol, obesity and poor fitness in mid-life all increased the risks of dementia 20 years later. "It really changed the way we think about dementia," says Miia Kivipelto of the Karolinska Institute in Stockholm, who led some of these studies. "We saw that it was not only a late-life disease that can't be prevented, but more of a process that starts in mid-life with the possibilities to at least slow the progression."

Observational studies, however, cannot account for variables that researchers are not able to (or do not think to) measure, but that may nonetheless contribute to the outcome. The best way of eliminating these is by using a randomised controlled trial (RCT), the gold standard in clinical research, in which people are divided into two groups, only one of which receives the intervention being tested. In 2009 Dr Ngandu and a team led by Ms Kivipelto began the world's first big RCT to see whether two years of healthy eating, exercise, cognitive training and heart treatment could reduce dementia among old people at high risk of it. Sure enough, the results of FINGER (Finnish Geriatric Intervention Study to Prevent Cognitive Impairment and Disability), which were published in 2015, proved that people could significantly diminish the risk of cognitive decline by adopting a healthy lifestyle.

Several similar RCTs have found significant benefits from such changes in lifestyle in America, Australia and Japan, among other places. Because these studies are comparable, pooling their results has also given researchers a big enough sample group to study interactions between lifestyle and genes. This has produced a particularly hopeful result for those with the APOE4 gene, who saw a bigger benefit from the interventions than those without. "You can't change your genes," says Ms Kivipelto, "but you can do things to postpone the onset of the disease or reduce the effect of genetics."

The implications are vast. The Lancet Commission on Dementia, an international collaboration of leading experts, reckons that as many as 45% of dementia cases worldwide could be delayed or prevented through addressing 14 "modifiable risk factors" at various stages in life. These range from better schooling for children (insufficient education is associated with a 60% higher risk of dementia), to treating deafness, high cholesterol and depression in mid-life and avoiding social isolation when older (see chart 2).

The commission's findings offer important lessons for policymakers about how to reduce the incidence (and cost) of dementia. The first is not to focus exclusively on the factors with the strongest association with dementia, such as untreated depression (which brings a 120% bigger risk of developing the condition than the norm). Instead, attending to factors that are associated with lower risk but are more common can have a bigger impact. Treating people with hearing loss and high cholesterol, for instance, could cut total dementia cases by 14%, the commission finds.

Mind control

Such advances help explain why the incidence of dementia has fallen so rapidly over the past 40 years. Improvements in education and successful efforts to reduce heart disease and strokes have also, by happenstance, improved brain health. "When I graduated from medical school, which was quite a long time ago, we thought that dementia was just like one of these things that hit you from outer space in a totally random fashion," says Gill Livingston of University College London, who leads the Lancet Commission. "It is hugely positive and hopeful that we now know that policy and individuals can do a huge amount to change that."

Researchers continue to discover new risk factors. In 2024, for instance, the Lancet Commission added untreated vision loss and high levels of LDL, a type of cholesterol. Among the bewildering array of possible additions researchers are examining are some that can be easily acted on, such as regularly flossing teeth (inflammation from infected gums may harm the brain). Others, such as poor sleep, may simply give anxious insomniacs one more thing to lie awake worrying about. And some may prove to be double-edged swords, says Ms Kivipelto. People with demanding and engaging jobs (such as medical researchers and journalists, she says, perhaps a little generously) have little need to do extra cognitive exercises to keep their brains nimble. But such jobs may also be more stressful, which may well turn out to be a risk factor, too.

Research is also revealing unexpected interventions that help to keep ageing minds sharp. One of the most promising derives from an analysis by Pascal Geldsetzer of Stanford University and his team of a natural experiment in Wales. In 2013 the British region started offering people aged 70-79 free vaccinations through the public-health system. This change resembled an RCT, in that a large number of people were separated almost at random into two groups: those who had already turned 80 in the weeks before the programme started, and so were not eligible to be jabbed; and those who turned 80 in the weeks after, roughly half of whom were duly vaccinated.

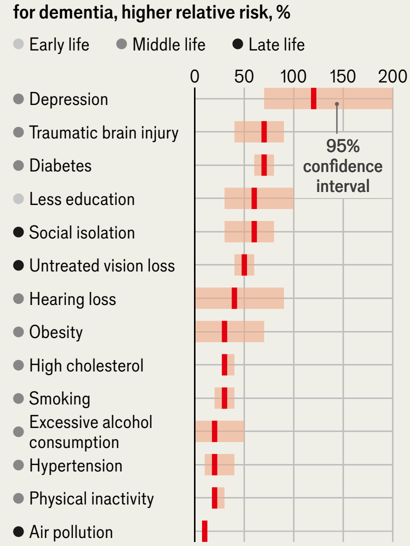
The study found that a vaccine intended to prevent shingles, a form of chickenpox, suffered chiefly by the elderly, also reduced the risk of developing dementia by 20% for at least seven years after it was administered. This conclusion has been validated by similar studies in Australia and Canada. "We were super-excited by this finding," says Mr Geldsetzer, "because it showed that such a simple and cheap intervention could potentially avert one-fifth of cases." A more recent study by the same team suggests that the vaccine also slows the progression of dementia in people who already have it before they get vaccinated.

These results are not only encouraging in themselves, but also raise tantalising prospects of further benefits. Should people be jabbed at a younger age—50, say—given that dementia can take years to manifest? Should the elderly receive regular booster vaccines over the years?

The news regarding treatments developed expressly for dementia is less heartening. Until recently the most promising drugs were thought to be antibodies such as Lecanemab and Donanemab that bind to and clear out amyloid-beta, a protein that clogs up the brains of people with Alzheimer's. But studies suggest they offer modest real-world benefits and carry hefty risks of bleeding or swelling in the brain, especially for people with the ApoE4 gene. In other words, the people most in need of these drugs are also at greatest risk of being harmed by them. For some, these findings also call into question the hypothesis that tangles of amyloid cause Alzheimer's and that clearing them could cure it. Others argue that these drugs need to be given earlier in life to have an impact.

Mind map 2

Potentially modifiable risk factors for dementia, higher relative risk, %



Source: "Dementia prevention, intervention and care", *Lancet* Commission report, 2024

Some observers hope that GLP-1s, weight-loss drugs often heralded as a miracle cure for practically everything, might make brains as trim as they do waistlines. An RCT has found that it offers no benefits to people who already have Alzheimer's, although earlier observational studies had suggested that people on these sorts of drugs had a lower risk of getting dementia in the first place.

Trials are under way to test lots of drugs as treatments for dementia, including many that were originally developed for other ailments. In the EasyFit gym in central Helsinki, a group of grey-haired women clad in lycra are in the vanguard of this effort. They start their warm-up exercises at the gentle cajoling of a physiotherapist. For the next hour they lift weights, swing kettlebells, horse around and laugh heartily, as part of an RCT. "Alzheimer's is a real problem," says Riita, aged 77. "If something can be done to improve the methods of helping people I would very much like to be part of it."

Riita and her buddies are among almost 600 people in three countries taking part in the MET-FINGER study, which combines healthier lifestyles with metformin, a diabetes drug, to see if these can prevent or at least delay the onset of various sorts of dementia. Other studies are examining activities from saunas to ice baths in search of methods to sharpen the mind.

For now even the most optimistic projections still entail a rise in the total number of dementia cases over the coming decades, albeit at a far slower rate than before, as the ranks of the elderly grow. Yet there are good reasons to hope that a combination of drugs, vaccinations, lifestyle and policy changes could bend this curve further. It is even possible that the total number of people with dementia may soon begin to fall in rich countries.

Mr Livingston and Ms Kivipelto both point out that the grim arithmetic whereby dementia rates double every five years after the age of 70 also offers huge possibilities. Simply delaying the average onset of dementia by five years would cut the total number of cases by around 50%. "I'm optimistic it's possible," says Mr Livingston. So is Lisa, a 66-year-old working out in the gym in Helsinki. She lifts weights or exercises five times a week, motivated, in part, by personal experience. "It's not nice to see your own mother becoming a different person," she says. "I know Alzheimer's can come to anyone, so it is good to do these things if you can." ■

United States

Nationhood

The new identity politics

In its war against "Islamification", Texas asserts one definition of America

EIGHTEEN MONTHS ago Republicans in Texas took on a new fight. It began in February 2025, when Greg Abbott, the governor, described a housing development proposed by the East Plano Islamic Centre as an example of "sharia cities". A dozen state agencies then launched investigations. In November he designated the Council on American-Islamic Relations (CAIR), America's biggest Muslim civil-rights group, a "foreign terrorist organisation" and barred it from buying land in the state. In March the state comptroller shut Muslim schools out of Texas's new voucher scheme. The state Republican Party now ranks "Stop the Islamification of Texas" second on its list of legislative priorities.

On its face, this looks like a revival of the backlash to radical Islam that followed the 9/11 attacks. But today's campaign is driven by fear not so much of external violence as of internal transformation. Across the country, support is swelling for ideas that fuse American civic life with Christian values, loosely defined as Christian nationalism. How this agenda will evolve is still unclear. But Texas, America's largest Republican state, is now showing one way forward, asserting America's Christian roots while battling fiercely against a perceived threat.

"The United States of America was founded as a Christian nation," Mr Abbott stated earlier this year, as part of a defence of religious freedom. Other prominent proponents of America's Christian identity include J.D. Vance, the vice-president, Pete Hegseth, the secretary of war, and Charlie Kirk, a conservative influencer assassinated in 2025. Kirk, to whom Donald Trump posthumously awarded the Presidential Medal of Freedom, tied America's Christian character to a specific composition of citizenry. America, he argued, was living through a "constitutional crisis" because "you cannot have liberty if you do not have a Christian population".

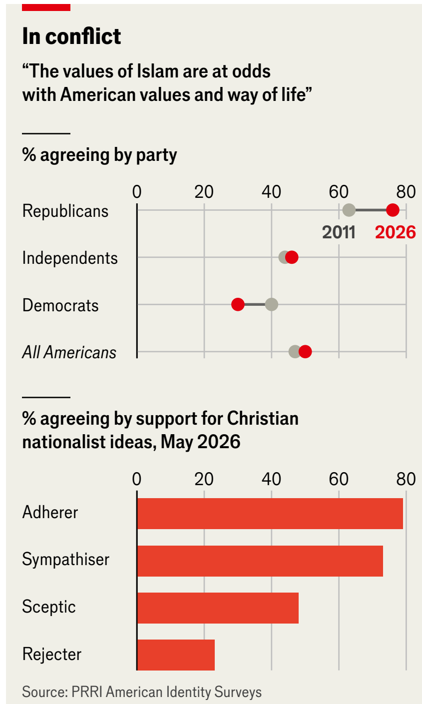
A growing number of politicians view Islam, in particular, as a threat to the country's identity. In the 13 months to March, 46 Republican elected officials across America published 1,111 anti-Muslim posts, a 15-fold increase in monthly volume, according to the Centre for the Study of Organised Hate, a watchdog group. Many painted Islam as a death cult working to indoctrinate children and take over society. Tommy Tuberville, a senator from Alabama, shared a post that paired photos of New York's Muslim mayor with the burning twin towers, warning that "the enemy is inside the gates." Andy Ogles, a Tennessee congressman, said that "Muslims don't belong in American society."

Mr Trump likes to point to European cities as disastrous parables, with Paris and London "no longer recognisable" and the latter moving towards "sharia law". Last ▸▸

→ ALSO IN THIS SECTION

year two Texas congressmen, Chip Roy and Keith Self, founded the "Sharia-free America Caucus" in Congress. It has since recruited 66 other members from 25 states.

This reflects a spreading anxiety within pockets of the electorate. Three-quarters of Republicans think that American values and Islam are in conflict, according to the Public Religion Research Institute, compared with 30% of Democrats, a partisan gap that has doubled since 2011 (see chart). Those who support the idea of America as a Christian nation are even more likely to think Islam is a risk.



With Muslims making up about 1% of the country's population, fears of a takeover may seem misplaced. To the movement's proponents, that isn't the point. "Christian values form the foundation of our nation and the constitutional system that governs our daily lives," noted Mr Self in a recent press release celebrating the success of the anti-sharia caucus. "Sharia and its principles", he added, "stand in direct opposition to those foundations." Muslims are the perfect foil for defining who is a "true citizen", says Andrew Whitehead, who studies Christian nationalism at the University of Indiana.

Congress has a few nascent bills. Mr Roy has introduced legislation to bar foreigners who observe sharia law from entering the country, and Randy Fine of Florida has filed a facetious one to "protect puppies" from sharia bans. Texas is a few steps ahead. Mr Abbott's office told *The Economist* that the governor's policies do not vilify "law-abiding Texas Muslims", but target "those who aid terrorism or attempt to impose foreign law on American soil".

In practice, Republican ideas are wide-ranging, from the attempt to stop taxpayer funds going to any organisation that has "allegiance to a foreign legal system" to a push "to deport advocates of sharia law". After the Texas legislature required the Ten Commandments to be displayed in classrooms last year, in late June the state board of education overhauled its curriculum. New guidelines drop a middle-school "World Cultures" class and replace high-school units that "explain the significant beliefs of Islam" with ones that "describe the teachings of jihad and how they led to the expansion of Islam and the conquest of Christian land". Pupils will now be required to read more Bible stories.

For Republicans who have defended religious liberty, this is awkward. Shaimaa Zayan of CAIR, the non-profit Mr Abbott branded a terrorist organisation, says what was once "Islamophobia" has now turned into "religious persecution". "They're trying to make our lives hell so we self-deport," she contends. Sam Westrop of the Texas Public Policy Foundation argues that the "mob-like noise" on social media obscures a genuinely dangerous rise in Islamist extremism in America. The right, he says, needs to realise that ordinary Muslims could be allies in the fight against it.

When Oklahoma tried to quash consideration of sharia law by courts over a decade ago, a judge overturned the rule. Mr Abbott's efforts in Texas have so far fared only slightly better. Courts have blocked the state's attempt to exclude Islamic schools from the voucher programme and have allowed a religious-discrimination lawsuit brought by the East Plano Islamic Centre to proceed. A judge appointed by Ronald Reagan rebuked the state, observing that "no evidence has been presented" that the mosque intends to impose sharia law on Texans.

This is unlikely to deter Texan legislators, who are due to reconvene in January. They will take cues from Mr Abbott. "The governor will not allow empathy to enable bad actors who would destroy Texas and America from the inside, as has already happened in the United Kingdom," says Andrew Mahaleris, his press secretary.

Other states are taking note. Mr Fine, the Florida congressman, says a recent poll of Republican primary voters in his district found they cared seven times more about "Islam in America" than abortion, and six times more than about gun rights. When asked by *The Economist* to define "sharia law", Mr Fine skirted the question, instead reiterating that Islam is rooted in an ideology of "conquest and submission" that threatens democracy. As for others who are pushing their religion into public life? The Jewish lawmaker is conciliatory. "The United States is a Christian nation," he says. "We need to understand where we live." ■

Party politics

Now what?

BOSTON

Maine mayhem reveals a deeper problem for Democrats

GRAHAM PLATNER'S downfall is somehow both unsurprising and startling. For months Maine's Democratic nominee for Senate had weathered a stream of controversies: from a tattoo resembling a Nazi symbol to years of inflammatory Reddit posts so prolific that a Maine newspaper created a searchable database of them. In spite of it all he managed to cling on.

Then, on July 6th, *Politico* reported that Jenny Racicot, a former girlfriend of Mr Platner's, was accusing him of raping her in 2021. She alleges that he entered her home without permission and sexually assaulted her. Mr Platner denies this.

But on the evening of July 8th, he announced that he was suspending his campaign. His selfie video is 11 minutes long and indignant: in it he accuses the "corporate media system and the political establishment" of serving as his "judge, jury and executioner".

Many Democrats will now breathe a sigh of relief. Mr Platner's odds of beating the Republican incumbent, Susan Collins, had dropped from 81% in late May to 56% this week, according to *The Economist*'s election model. Mr Platner's rise and fall is nonetheless an indictment of his party.

For more than a decade Democrats have struggled to find a formula to win in the Trump era. In Maine Mr Platner, a former marine and plain-spoken oyster farmer, offered one answer. He quickly eclipsed


Shucked

Janet Mills, the state's governor, who had been backed by party chieftains such as Chuck Schumer, the Senate majority leader. Ms Mills suspended her campaign in April. Prominent national Democrats brushed aside concerns about Mr Platner's tattoo and posts, throwing their weight behind the new guy. Elizabeth Warren, a senator from Massachusetts, called Mr Platner "my kind of man".

The political stakes of choosing the right candidate could not have been higher. Of all the states with Republican-held Senate seats up for re-election this cycle, Maine alone voted for Kamala Harris in 2024. That makes it one of Democrats' best chances to flip a Republican seat—and probably essential to any hope the party has of winning a Senate majority.

The race's importance may have contributed to the myopia that followed. The *New York Times* reported in June that Lyndsey Fifield, another former partner and current Republican strategist, was accusing Mr Platner of physical aggression. Ms Fifield alleged that a decade earlier he twisted her arm behind her back, shoved her into a bedroom and prevented her from leaving, telling her she needed to stay there until she calmed down. She said he often grabbed her hard enough to leave marks. Mr Platner denied wrongdoing.

Sheldon Whitehouse, a senator from Rhode Island, dismissed Ms Fifield's allegations as the tale of someone working in "right-wing political operations". Jennifer Welch, a liberal podcast host, told listeners of her popular show: "I don't give a fuck if somebody had a toxic relationship...that's part of the human experience." Ms Racicot told *Politico* that the dismissive responses to Ms Fifield's allegations were one reason she decided to come forward.

In the hours after Ms Racicot's allegations were published, Democrats began rescinding their endorsements. Ro Khanna, the Democratic congressman for Silicon Valley and one of Mr Platner's staunchest supporters, said that "sexual assault or violence against women is a red line." Ms Warren and Ruben Gallego of Arizona withdrew their endorsements. The Maine Democratic Party said he should drop out, as did Bernie Sanders, a progressive senator from Vermont, who had helped to catapult Mr Platner's campaign.

Mr Platner had until July 13th to withdraw, and contends that deadline prompted his new accuser to come forward. "This was the last week to try to get me off of the ballot," he claimed in his video, bitterly.

Democrats now have two weeks to find a good nominee to replace him and unite the party. Many of Mr Platner's supporters will be reluctant to move on—he told them that the political system "is built structurally to make sure that movements like ours cannot flourish". His easiest replacement would be Ms Mills, because she suspended her campaign rather than end it. But what she offers in logistical ease she lacks in political appeal. She has performed poorly in head-to-head polls against Ms Collins.

Other candidates may fare better. Troy Jackson, a logger and former president of the state Senate, came third in the state's Democratic primary for governor, and Nirav Shah, a former health official, finished second. *The Economist*'s election model estimates that a generic Democratic candidate would be a roughly five-point favourite over Ms Collins.

Ordinarily losing a nominee in a crucial Senate race in July would be catastrophic. In Maine this may give Democrats a way out of a candidacy that had become a liability. That still leaves Democrats with a larger question: what kind of party do they want to be, and why did so many leaders embrace Mr Platner in the first place? ■

Voting rights

The bill that won't die

WASHINGTON, DC

The SAVE Act is unlikely to pass. Why won't Donald Trump let it go?

As THE MIDTERMS approach, Congress often becomes less productive. Members spend more time on the campaign trail, where they don't want to have to defend controversial votes. The incentive to compromise diminishes, not that there was much to begin with. Yet this Congress recently passed a bipartisan bill aimed at lowering housing costs. In the coming months it is due to take up other measures, including annual defence legislation and government-funding bills.

But even that modest agenda has been thrown into doubt by Donald Trump's fixation on a bill with little chance of becoming law. Mr Trump says he will not sign any legislation until the SAVE Act is approved. Prediction markets put its odds at less than one in ten. John Thune, the Republican leader in the Senate, has repeatedly told the president that the measure lacks the 60 votes needed to overcome a filibuster. "This is a distraction," says a Republican aide. "We would like to be done with this, but it's an issue that won't go away." Why, then, won't the president let it?

At its core the SAVE Act would require voters to provide proof of citizenship, such as a passport or birth certificate, when registering to vote. They would also have to present photo identification to cast a ballot. States would be required to compare voter-registration rolls with federal citizenship records. Supporters describe the measure as an election-integrity reform that would increase public confidence and ensure that only citizens vote. Yet evidence of voter fraud by non-citizens—or anyone else—is vanishingly rare.

The SAVE Act would, however, make it harder for citizens to register and vote. Around 12% of registered voters could not

Sir, I'm gonna need to see some ID

produce documentary proof of citizenship on short notice, according to the Bipartisan Policy Centre, a think-tank. Roughly half of Americans do not have a valid passport. Democrats and Republicans are about equally apt to have at least one qualifying document. Yet Republicans rely more heavily on birth certificates, which are more likely than passports to be rejected because of discrepancies. The SAVE Act could therefore hurt Mr Trump's own party more than Democrats.

For Mr Trump, the politics of the act may matter more than its practical effects. A recent *Economist*/YouGov poll found that 82% of Republicans thought voting by non-citizens in American elections was a serious issue, compared with 41% of independents and just 13% of Democrats. A majority of Americans (56%) support requiring documentary proof of citizenship to register to vote, but that view is held by almost all self-identified MAGA supporters (94%). "They love this, and so Trump's going to continue talking about it," says Douglas Heye, a Republican strategist. "And if Trump puts himself in a place where he's fighting the leadership of his own party, his base loves that, too."

In private, Republican aides concede that Mr Trump will probably use the bill's failure as a pretext to blame lawmakers if the party loses seats in the midterms. Critics see a broader purpose. They argue that the SAVE Act is part of an effort to undermine trust in elections. "The strategy was never about necessarily passing this bill," argues Alexandra Chandler of Protect Democracy, a non-profit. "It's about setting the pretext to claim that if Democrats win, then the election can't be trusted." Mr Trump has repeatedly made such claims. Earlier this month his administration ordered the FBI to beef up an investigation related to the 2020 election in Georgia, reviving his baseless allegations of widespread fraud in the contest he lost.

Whatever the fate of the SAVE Act, Americans' trust in the electoral process has already been deeply eroded, not least by Mr Trump's repeated attacks on election integrity. Around 60% say they are confident votes will be counted accurately—a 17-point drop from two years ago. Only 25% say they are confident the midterms will not suffer interference.

Meanwhile, the work of Congress has stalled. On June 30th a group of Republicans in the House blocked a defence bill from advancing in an effort to force Senate action on the SAVE Act. A week earlier, inside one of the Capitol's gilded halls, lawmakers from both parties milled around a stage, waiting for Mr Trump to sign the housing bill. But he was a no-show, refusing to do so until the SAVE Act was passed. To Mr Trump, "just about everything is a big yawn" by comparison. ■

Technology and its discontents

Rise of the Gen-Z Luddite

NEW YORK

Resistance to tech is brewing among digital natives

"WE WILL FREE the iPad babies," went one chant at the Summer of Ludd. "No Gemini, no GPT, no Grok, no Claude," went another. The festival for big-tech sceptics, held in New York from June 28th to July 5th, stayed mostly true to its principles. Phones were banned. The event had no social-media presence. Organisers relied on posters and word of mouth to publicise the festival. Perhaps as a result, the crowds were small. Yet those who came, most of them in their 20s, reflect an ambivalence about technology that is increasingly common among Generation Z.

Members of this cohort are the first to have grown up entirely in the age of the smartphone. Now many are reflecting on what it has cost them. In 2024 nearly a quarter of Gen Z-ers told Harris, a pollster, that they wished smartphones had never been invented. More recent polling by Pew found that over half support banning under-16s from social media. Many are trying to reduce their own screen time, deleting apps or setting limits. Others, like the self-described Luddites in Manhattan, go further. At one point during the festival, devices were "executed" after standing trial.

The original Luddites were 19th-century textile workers who resented the mechanisation of their industry. They were not opposed to all technology, but feared for their livelihoods. Today's young Luddites do not shun the digital world entirely, but object to tracking tools, invasive algorithms and devices' effect on their social lives. Artificial intelligence has added another fear: 70% of Gen Z think AI will have a negative impact on jobs, according to Marist.

Some Gen Z-ers are trying to lead more analogue lives, swapping screen time for offline pursuits. Sales of flip phones and cassette tapes have risen. New "Luddite clubs" encourage people to give up their smartphones and social media, at least for a while. Ironically, going offline is being popularised online. Influencers post about gardening and puzzles as antidotes to doomscrolling, reframing tactile activities as a "luxury" lifestyle. A video on TikTok, encouraging a switch to an old iPod, has 3m views. (One commenter asks how the device works without streaming.) Pinterest, a social network, is courting users by promising "it's about life, not likes".

Even the Summer of Ludd is not entirely free from the tensions of the modern world. One attendee admits she was her group's "designated smartphone user", helping everyone else navigate the city. Still, the Luddites believe in their cause. Since giving up his smartphone three years ago, Nick Plante, 25, reports milestones such as being able to finish a book again. "This is the best I've felt, probably ever in my life."

Health care

The wizard

Mehmet Oz is enacting the president's agenda with professionalism and zeal

FEW STUNTS were too bonkers for "The Dr Oz Show", a TV programme, notionally on health, which ran from 2009 to 2022. Mediums and mentalists were regular visitors and quackery was common, with segments on green-coffee extract and raspberry ketone supplements. Mehmet Oz, the host, documented his own colonoscopy. The show was much loved, at its height getting 3m viewers a day.

None of this primed health-care wonks to be pleased when Donald Trump nominated Dr Oz as administrator of the Centres for Medicare and Medicaid Services (CMS), among the most important roles in Washington. Like Pete Hegseth, a former TV commentator appointed secretary of war, and Dan Bongino, a conservative podcaster turned deputy director of the FBI, Dr Oz seemed an odd choice for a serious job. The CMS administrator's duties include running Medicare, the health-insurance programme for the old, and Medicaid, the programme for the poor. Dr Oz oversees $1.6trn in annual payments and the health care of nearly two in five Americans.

But 14 months in, Dr Oz has emerged as one of Mr Trump's most effective lieutenants, advancing the president's priorities with competence and zeal. On June 29th Democrat-run states sued to challenge his implementation of health-care cuts for being too aggressive. On June 30th a New York fraud unit learned it would not receive federal money because it was being too soft. While other health agencies are plagued by turmoil, Dr Oz's CMS is reshaping swathes of American health care.

His propensity for videoed colonoscopies might, understandably, obscure other qualifications for his current role. He studied at Harvard and the University of Pennsylvania before becoming a heart surgeon. High-profile transplants gave him a springboard into his second career, as the man whom Oprah Winfrey crowned "America's Doctor". He ran for the Senate in Pennsylvania in 2022 and lost, amid criticism that he was out of touch.

But at CMS Dr Oz has hit his stride, energetically implementing the president's agenda: cutting Medicaid, slashing drug prices and cracking down on fraud. Together these add up to a mishmash of policies that limit some Americans' access to care, expand it for others and provide ample opportunity for Mr Trump to put pressure on states of his choosing.

Having lobbied Congress for the Medicaid cuts in the One Big Beautiful Bill Act (OBBBA), Dr Oz is not just enacting the reductions but often stretching the interpretation of the law. For instance, OBBBA requires many Medicaid recipients to work 80 hours a month. But new rules from CMS are stricter than many states expected, prompting the lawsuit on June 29th.

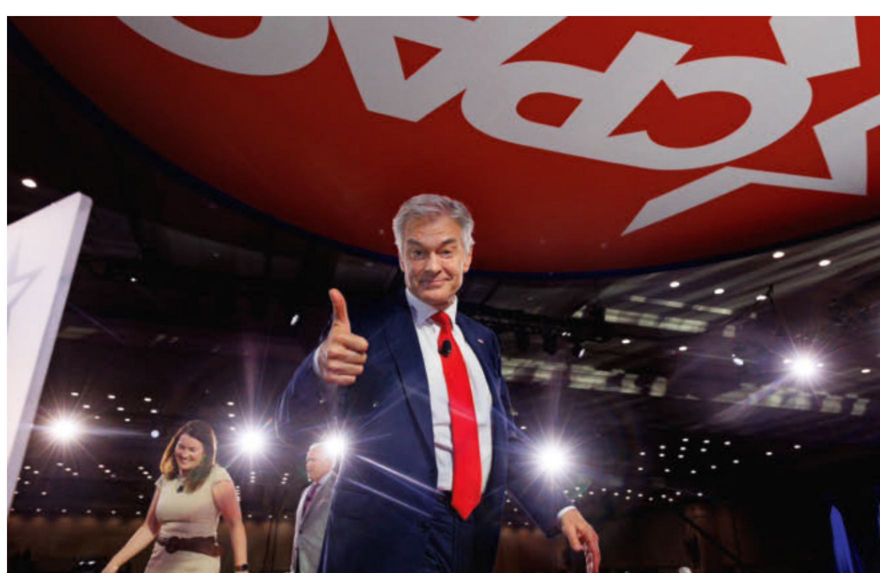
Americans with other forms of health insurance, meanwhile, stand to benefit from Dr Oz and the president's agenda. CMS has bypassed traditional rulemaking to cajole businesses, securing a promise from insurers to cut the number of treatments that require insurance reviews. Dr Oz has lobbied pharmaceutical firms to include more of their drugs on TrumpRx, the administration's marketplace for cut-price medicine. Separately, on July 1st CMS launched a pilot to let some Americans on Medicare get GLP-1 medications for $50 a month. Nearly 4m people may qualify.

Dr Oz's crusade against health-care fraud makes use of different skills, and follows a particularly Trumpian pattern: identify a problem that is real but difficult to quantify, then unleash enforcement that, according to opponents, seems political. This CMS administrator is surely the first to invite the press on armed stings targeting alleged fraudsters. He accused the "Russian-Armenian mafia" of running "quite a bit" of fraud in Los Angeles, prompting Gavin Newsom, California's governor, to file a civil-rights complaint. (Dr Oz responded on X that Mr Newsom "will do literally anything to avoid talking about the rampant Medicare fraud in his state".)

In April Dr Oz sent letters to all 50 governors instructing them to check providers in "high-risk" areas for fraud, warning "that failure to do so will be considered as we evaluate the likelihood of fraud in each state". This was not an empty threat. CMS has used concerns about fraud to attempt to delay $1.6bn of Medicaid spending in California and Minnesota, requiring the states to provide additional information before paying out. Tim Walz, Minnesota's Democratic governor, accused the Trump administration of exploiting fraud as part of a "campaign of retribution".

For the president's critics, Dr Oz's efficiency is unsettling. At other agencies, poor execution and a disdain for the workings of government have sometimes frustrated the president's agenda. Dr Oz, though, talks to his predecessors, and has hired and promoted people with relevant experience. "He's probably been the most prepared CMS administrator of any that I know of," says Andy Slavitt, who oversaw CMS under Barack Obama.

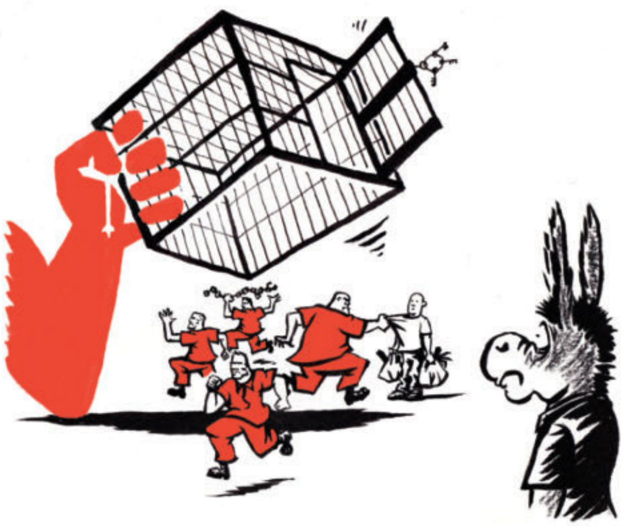
Mark McClellan, a CMS administrator under George W. Bush who receives calls from Dr Oz, notes that this is "different than the way leadership at some of the other [health] agencies has played out". Due to a time limit on interim appointments, the Centres for Disease Control is without an acting director. The Food and Drug Administration has lost its commissioner, seemingly in a spat about e-cigarettes. Even the post of surgeon-general, typically a PR job, is on its third nominee. If the churn continues, Dr Oz's unique skills may land him an even larger role. ■



Get ready for your colonoscopy, America

LEXINGTON
The left's common-sense problem

Radical ideas on crime may seriously harm the Democrats



IT IS ODD that the Republican Party, whose leader has 34 felony convictions and a knack for turning power into cash, is more trusted by voters to deal with crime. Yet that is what the polls say: YouGov puts Republicans ahead on this issue by 39% to 31%.

Part of the problem is that people recall the summer of 2020, when riots paralysed American cities after a cop murdered George Floyd. Some on the left then embraced radical slogans, such as "defund the police", by which a few actually meant "abolish" them. Rates of murder and other violent crimes have fallen sharply since 2021. But memories linger of the Democratic mayor of Seattle, who tolerated a police-free zone in the city centre that inevitably turned violent. And today, though the Democratic Party's actual platform on crime is boringly mainstream, the chatter among progressive activists can sometimes veer into dottiness.

At Netroots Nation, a progressive conference in Philadelphia in June, *The Economist* met Felix Rosado, one of the speakers. Though a convicted murderer, he seemed a nice fellow. He is truly sorry about the life he took decades ago, when he was a drug-dealing teenager. After serving 27 years behind bars, he now runs "Let's Circle Up", a project promoting "restorative justice"—the perfectly sensible idea that criminals should take concrete actions to try to make amends to those they have wronged.

However, he also thinks prisons and police should be scrapped. He talks of "creating the kind of world where cages are unnecessary". If people were not poor, there would be less crime. And if, in this wonderful future, a few still stray, the "people in the community" should "determine what repair needs to look like".

Very few Democrats would agree. But the Democratic Socialists of America, a group that endorses candidates in Democratic primaries and is on a roll this year, only recently removed prison abolition from its platform and still has an old page on its website that demands "freedom for all incarcerated people". Darializa Avila Chevalier, a DSA-backed Democratic House candidate in New York, refused four times in a recent interview to agree that murderers should be locked up.

The utopian idea of building a society where predators no longer prey on the weak, even when the state cannot forcibly remove them from the streets, may win respectful nods in faculty lounges, but voters think it nuts. As for "community" justice, the theory sounds humane but the real-life alternative to a formal justice system has often been mob justice, as your columnist once saw in an underpoliced market in Zambia, where a crowd had caught a suspected thief. He was soaked in blood as they dragged him away.

Because extremism wins clicks, the stars of the progressive chattersphere are often extreme. Bank robberies are "cool", says Hasan Piker, a lefty streamer with millions of followers. Mr Piker, who headlined a DSA event before New York's primary, is "pro stealing from big corporations", he told the *New York Times*, because they "steal" from workers by extracting surplus value from their labour. No politician would go so far, but some sympathise with shoplifters. "They are accessing things that their government will not provide," suggests Chris Rabb, a DSA-backed House candidate from Pennsylvania. Or perhaps they are doing it "to punish a deceptive, unethical, profit-maximising business".

The most alarming argument that some progressives make is that political violence is often justified. In an Emerson poll, 22% of Democrats thought the murder of a health-insurance boss in 2024 was "acceptable". A *New Yorker* writer called the killing "an effective act of political consciousness-raising".

What many of these ideas have in common, besides moral idiocy, is that they ignore incentives and knock-on effects. Yes, America should lock up fewer non-violent offenders. But if criminals can *never* be locked up, what will deter them from mugging you? Yes, some people struggle to afford groceries. But theft is hardly a solution to the affordability crisis. When some people steal, prices rise for everyone else. One can see a parallel with the left's worst ideas about economics, which also gloss over incentives. Rent controls deter construction; rules making it hard to fire workers discourage firms from hiring them in the first place; and so on. A big difference, politically, is that whereas bad economics is often popular—58% of Americans and 75% of Democrats support rent controls, for example—far-left ideas on crime are not.

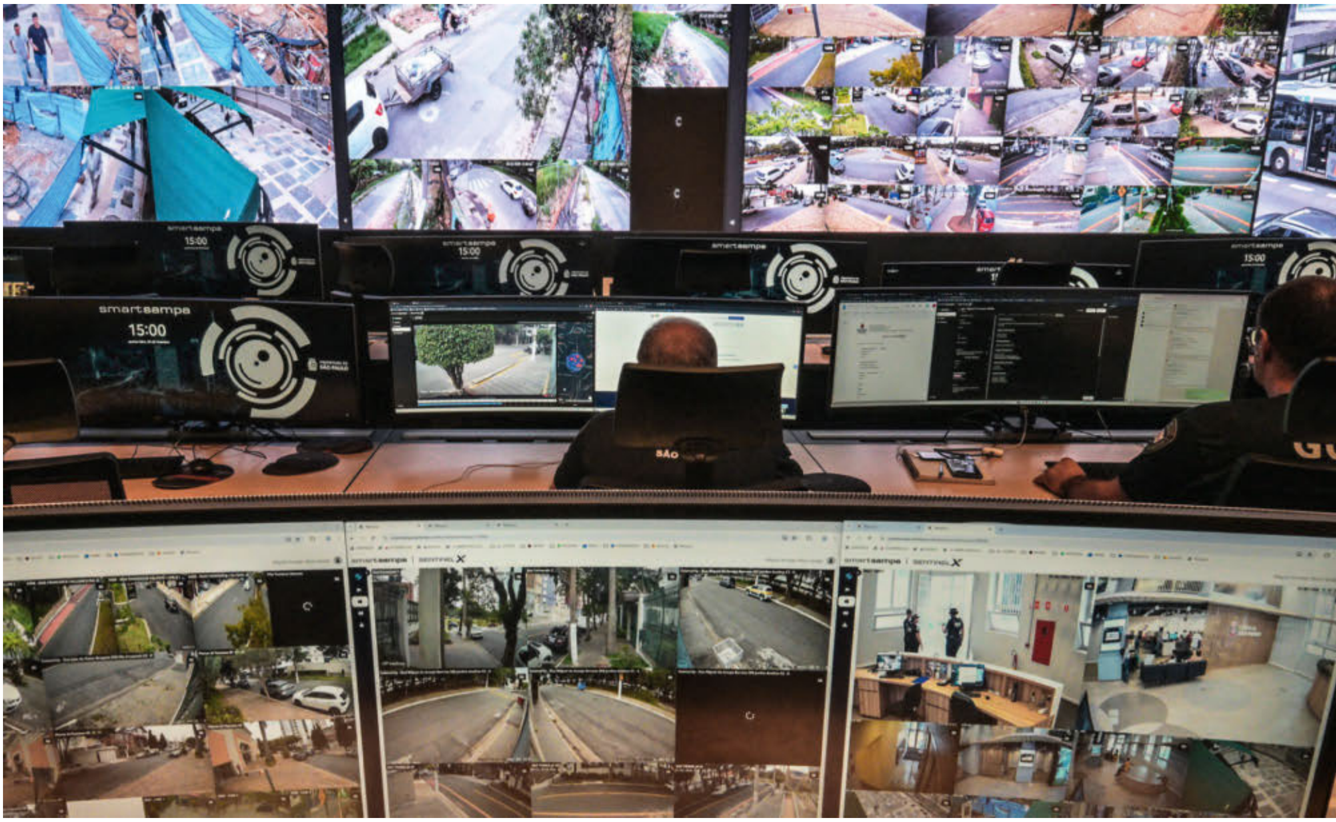
So they will not shape policy much, bar the odd, calamitous experiment in Seattle. No Democratic Congress would dream of legislating for murderers to be given a good talking-to and then released. Yet anti-cop animus can still infuse Democratic politics. Zohran Mamdani, New York's DSA-backed mayor, vowed during his campaign to restrain the police. In office, when actually responsible for public safety, he tried to hire more. But then he backed down, in part due to pressure from his far-left base.

Crime and no punishment

The big danger of daft ideas about crime is not that they will be enacted. It is that voters will feel the vibes and draw conclusions. Mr Piker's ideas are simpler and more memorable than, say, the successful crime-fighting policies of Baltimore's Democratic mayor. This helps Republicans push a simple, emotive message: Democrats coddle thugs while President Donald Trump blows up boats full of suspected drug smugglers.

Neera Tanden, the thoughtful head of the Centre for American Progress, a think-tank for Democratic moderates, recently sounded exasperated on X as she pointed out the folly of being associated with prison abolition. "[P]eople who murder people should go to jail. This is not a controversial idea," she wrote. An "unapologetic leftist" commenter responded: "Hey Neera, can we please just skip to the part where you become a Republican?" ■

The Americas



Fighting crime

Every step you take

Brazilian cities are building vast surveillance networks

In "Brazil", Terry Gilliam's film about a dystopian society, eyeball-shaped surveillance bots hover over citizens' shoulders, watching their every move. In Brazil, the country, something a bit similar is afoot. That is evident in the heart of São Paulo's historic centre, where a giant electronic counter known as the "prisonometer" records arrests attributed to Smart Sampa: a network of 50,000 cameras enhanced with clever tech.

The system, introduced in 2024, uses facial recognition to spot people wanted by police on São Paulo's streets. It issues alerts and officers are dispatched to pick them up. The system can also locate people who have been reported missing, identify stolen vehicles and provide footage to police investigations. Streamed to its control room in the city centre, information flows not just from lenses on street corners but in health centres, on buses and mounted on police motorbikes. By 2028 the number of cameras in the network is supposed to double, to 100,000.

São Paulo is one of many Brazilian cities spending big on crime-fighting technology. As in other countries, police are investing in body-worn cameras and networks of microphones that detect the sound of gunshots. What sets Brazil apart from many democracies is its enthusiasm for face-spotting tech. Researchers for O Panóptico, a watchdog, count 560 active facial-recognition projects in more than 20 Brazilian states. These include police-run initiatives but also experiments in schools, for example, where cameras are increasingly being used to take attendance. They gaze upon some 99m people, more than 47% of Brazil's population.

The main impetus for the likes of Smart Sampa is Brazilians' persistent fear of crime. Policing is largely the responsibility of states and municipalities. Their governors and mayors are embracing high-tech kit as a way of showing they are cracking down on insecurity. The spread accelerated during the pandemic, when cities bought cameras to enforce lockdowns and track public-health measures. Many were later repurposed for public security.

It helps that high-resolution, internet-connected cameras are becoming cheaper—and that software capable of wringing insight from their footage is growing more effective. As well as governments, companies and individuals now deploy smart surveillance systems, says Erick Coser of Gabriel, a security-technology firm. Smart Sampa relies heavily on cameras put up by landlords, such as the firms that operate in São Paulo's shopping centres or manage apartment and office buildings, who link their sensors into the system. Ricardo Nunes, the city's mayor, says that already more than half the cameras in the network are privately owned.

The authorities paint these developments as a success. São Paulo's government says more than 3,000 fugitives have been arrested after being spotted by its system, and that the cameras have let them ▸▸

catch nearly 6,000 people in the act of committing crimes. The use of facial recognition has won broad support across Brazil's political spectrum, says Rafael Ch of Signum Global Advisors, a consultancy.

Yet privacy advocates and some security experts are alarmed. They question the effectiveness of the surveillance systems, and their fairness. São Paulo has been hauling people in on warrants later found to have expired or been withdrawn. A persistent worry is that face-spotting systems are not uniformly accurate when identifying people of different ethnicities. According to Agência Brasil, a state news agency, roughly 80% of wrongful arrests linked to facial-recognition systems in Rio de Janeiro involve black Brazilians. Though the country's privacy and data-protection laws are some of the strongest in Latin America, public security gets big carve-outs. In other places that have invested heavily in surveillance technology, such as Britain, there are stricter legal safeguards.

Surveillance tech cannot make up for underlying failures in the criminal-justice system, says Pablo Nunes of the Centre for Security and Citizenship Studies (CESeC), a think-tank. Many crimes in Brazil are never properly investigated (only a third of murders are ever solved; in São Paulo state, police solve only around 2% of recorded thefts). Sensors that help pull wanted people off the street are no use in cases where no suspects have been identified.

Capturing more crimes on camera will surely be helpful. But police often lack the skills and resources to sift through reams of footage. The CESeC recently compared crime trends in São Paulo during Smart Sampa's first year with those in other municipalities and found no reduction in thefts, robberies or homicides, nor any increase in police productivity as measured by the number of arrests.

Eyes in the sky

Official claims about effectiveness also tend to ignore the fact that Brazil's streets were growing safer before new crime-fighting technologies became widespread. Murders, robberies and thefts have fallen markedly since 2018. In São Paulo, robberies reached a 25-year low in 2025; its murder rate is now among the lowest of any large city in Latin America. One reason is that crime is changing: large organised crime groups are becoming less like street gangs and more like lawless conglomerates. They infiltrate legal markets, seize control of their supply chains and launder money through legitimate businesses. According to the Brazilian Forum of Public Security, a think-tank, gangs generated 147bn reais ($29bn) from fuel, gold, cigarettes and drinks in 2022, compared with only 15bn reais from trafficking cocaine. None of this is easy to capture with cameras, no matter how smart they may be.

All this raises questions about costs. Smart Sampa now requires at least 118m reais a year to run. The state of Rio de Janeiro has spent more than 670m reais on facial-recognition technologies for public security. The opportunity costs are highest in poorer parts of Brazil. In Goiás, a central state, lawmakers have splurged on whizzy security systems for towns where less than half of households have basic sanitation and violent crime is rare.

Courts are beginning to push back. But even if new rules are adopted, enforcing them will be hard, says Caitlin Bishop of Privacy International, a digital-rights group. "Officials often lack the technical expertise needed to verify rules are being respected." Security will be an important issue in general elections in October. As the "prisonometer" shows, Brazilian politicians love eye-catching ways to look like they are tough on crime. ■

Mexico's rail revolution

Tomás and friends

BACALAR AND TOLUCA

Mexico is placing an enormous bet on passenger rail

GIVEN THAT its passengers are mostly heading into work, the mood aboard El Insurgente, a train linking Mexico City with nearby Toluca, is unusually upbeat. Since it began running in February, Mexicans have enjoyed a smooth ride in sleek trains across one of the world's most clogged and sprawling urban areas. It's "wonderful" to avoid traffic, says one customer. On a bad day the journey between Toluca and the Mexican capital, barely 60km (40 miles) apart, can take several hours by road. El Insurgente takes about an hour and costs under $6.

Claudia Sheinbaum, Mexico's president, wants more of this. She has ambitious plans to build more than 3,000km of new passenger rail before the end of her term in 2030. Many countries, such as China and Turkey, are making big bets on trains. But Mexico's dreams are "dramatic", says Andrew Young, a rail analyst. Mexico is starting more or less from scratch, in a region not known for trains, and building with speed, he says.

Mexico once had a passable passenger network. By the 1990s, however, the rail system was deteriorating and the government privatised it. The concessions that followed focused mainly on freight. These have been useful: trains play an important part in North America's supply chains, hauling cars, grain, fuel and manufactured goods between ports, factories and the American border. But passenger services all but vanished.

Recent efforts to revive passenger trains have been fraught with controversy—in large part because they started with a dud. Tren Maya, a pet project of Ms Sheinbaum's predecessor, Andrés Manuel López Obrador, runs for 1,500km around the Yucatán peninsula in the south-east. It has caused huge environmental damage and its planning was influenced by political considerations. Stations were built in inconvenient locations without good connecting transport. "We have not seen the benefits we were told we would," says a tour guide in Calakmul, one of the stations that bears the name of a nearby archaeological site.

Ms Sheinbaum's plans have more rigour. Andrés Lajous, the official in charge, says the idea is to connect contiguous metropolitan areas: from Mexico City to Pachuca and Querétaro, then on towards Irapuato and Guadalajara, and from Saltillo through Monterrey towards Nuevo Laredo (see map). These lines will connect cities that are slow to drive between but too close for flying to be sensible. Planned and built properly, they could save people time, cut pollution and spur economic growth. They could also stem urban sprawl, since rail makes it easier for people to live in one town while holding down jobs in another.

The idea is for the passenger lines to be built alongside existing freight ones, meaning the right of way is already mostly secured. (They will avoid running them on the same tracks, which can clog up the lines and limit speeds, as tends to happen in the United States.) The government is moving fast: it recently inaugurated a line to Felipe Ángeles airport, north of Mexico City, and has begun work on others to Pachuca and Querétaro.

But to reach its destination the government will have to confront several challenges. One is whether there will really be ▸▸

Mexico, railways

— Existing (2025) — Under construction and planned (2024-30)

Sources: ATTRAPI; Mexico Projects Hub; Ministry of Infrastructure, Communications and Transportation

Surging ahead

enough cash. Passenger rail almost always requires public money: both to build it, and then to keep fares affordable. (Only a handful of high-density routes worldwide, such as Paris to Lyon and Tokyo to Osaka, are profitable.) Mexico has shallow coffers and many other needs. Oscar Ocampo of IMCO, a think-tank in Mexico City, reckons that only some of Ms Sheinbaum's proposed lines make obvious sense (such as Mexico City to Querétaro, and Saltillo to Monterrey). The case for others is "not so clear". Some of the money would be better spent further improving things such as freight rail, ports and industrial-corridor connections, he says.

A second question is whether Mexico's government intends to do far too much of the work itself. Mr López Obrador's administration put the state—and the army—at the centre of infrastructure delivery, keeping private firms at arm's length. Ms Sheinbaum has recognised that she must be less dogmatic. The state will lead the rail roll-out and operate the train services (not uncommon globally for big rail projects). The idea is that private companies will build substantial portions of the infrastructure. Big tenders are going out for stations, bridges, signalling, electrification and more. But keeping a correct balance may be difficult.

Last, Ms Sheinbaum will have to resist the temptation to prioritise speed over quality during development. Services along the Interoceanic railway—another of her predecessor's projects, linking the port of Coatzacoalcos on the Gulf of Mexico with Salina Cruz on the Pacific coast—have been suspended since a train derailed in December, killing 14 people. Swift, efficient travel is worth investing in. So is arriving in one piece. ■

Canada and America

Whose native land?

WRANGELL

A national border complicates a fight between indigenous groups

TWELVE YEARS ago members of the indigenous Tahltan Nation blocked roads in British Columbia (BC), in Canada, to stop a copper mine opening on their ancestral land. The mine went ahead—but the Tahltan won big concessions. Today the copper operation, dubbed Red Chris, provides them with hundreds of jobs and millions of dollars in grants and royalties.

Now Newmont, the operator, is preparing a big expansion of the mine. It has agreement from the federal and provincial governments (on July 2nd the government of Canada said it would invest C$500m, or $350m, in the project). It also has the Tahltan's approval. All this seems like a success in asserting hard-won indigenous rights. But while that is true for the Tahltan, indigenous groups across the nearby border with the United States fear disaster.

Mining is surging in BC's mineral-rich "Golden Triangle", driven by soaring demand for critical metals and Canada's push to build up domestic industries in the face of Donald Trump's tariffs. The boom has effects beyond Canada's frontiers. Red Chris is one of at least eight proposed or operating mines in BC on headwaters of rivers that flow into the lands of indigenous people in Alaska. They do not share in the profits and get no say in how the mines are run. But they worry toxic mining waste will wash down their rivers.

Red Chris is on a tributary of the Stikine River, which flows into the Pacific Ocean near the Alaskan town of Wrangell

Sources: Government of British Columbia; Alaska Native Language Centre; Native Land Digital

(see map). The river runs between snow-crowned mountains, their flanks thickly furred with spruce and pine trees. Bald eagles fly overhead. A strip of cut-down forest on either side of the river is the only marker of the border.

The Wrangell area is home to the Tlingit people. Most houses in town have a freezer packed with salmon from the Stikine, as well as meat from deer and moose that are hunted along its banks. The river also sustains old practices such as harvesting oil from small eulachon fish. The mines jeopardise this, says Coven Petticrew, a Wrangell Tlingit. "It could destroy what little is left of our way of life."

The miners say they are "committed to environmental stewardship". The Tlingit and neighbouring groups such as the Haida and Tsimshian do not trust them. Several watersheds feeding rivers flowing from Canada into Alaska have in the past been contaminated by industry, to varying degrees. Wrangell residents are quick to mention a 2014 tailings-dam rupture at another BC copper mine, which spilled waste into creeks and lakes.

The Tlingit, Haida and Tsimshian's historic territories include areas that straddle the border. Those living in what is now Alaska believe this should grant them a say in what happens upriver. They have petitioned the Inter-American Commission on Human Rights to investigate the mines. They have filed a suit in BC's Supreme Court claiming they have the right to be included in decision-making.

The Alaskans are not mad to think some over the border might be sympathetic. Canada, and BC in particular, volubly promote indigenous rights. Many public gatherings begin with a land acknowledgment recognising First Nations. In 2019 BC passed a landmark law giving indigenous nations broad rights to be consulted on legislation and other issues. And some relevant legal precedent exists: a 2021 Canadian Supreme Court decision on a hunting-rights case ruled that American members of an indigenous tribe with members on both sides of the border could be considered indigenous Canadians.

The Tahltan are unmoved. They do "not recognise the claims of Alaskan Tribes in Tahltan Territory and view them as an encroachment on our title and rights," says Tahltan Central Government's president, Kerry Carlick. The provincial government is taking a similar line. In April it passed a law explicitly locking Alaskan tribes out of the most important environmental decision-making processes.

The Alaskans are continuing the battle in court. They see the stakes going up. In December the Tahltan gave their consent to another new mine on an Alaska-bound river—in exchange for $10,000 per member and the promise of more to come. ■

Asia

Japan

Hokkaido Dreamin'

CHITOSE AND SAPPORO

Can cutting-edge semiconductors supercharge Japan's northernmost island?

HOKKAIDO HAS long been known for dramatic volcanic peaks, creamy dairy products and powdery snow. These days, Japan's northernmost major island is being touted by enthusiasts as the country's next high-tech hub. "Hokkaido is the new Taiwan," writes James Riney of Coral Capital, a Tokyo-based venture-capital firm. Japanese officials speak, somewhat breathlessly, of "Hokkaido Valley".

The vision hinges on Rapidus, a bold if risky chipmaking effort. Launched in 2022, the company aims to bring Japan back to the frontier of advanced semiconductor manufacturing. Supported by the Japanese government and a consortium of big Japanese companies, Rapidus broke ground on its first fab in September 2023, in a field near the international airport in Chitose, a suburb south of Sapporo, Hokkaido's capital. Pilot production of 2-nanometre chips, the cutting edge for chipmaking technology, is under way. The ambitious effort is seen as a model for the sort of new-age industrial policy favoured by Japan's prime minister, Takaichi Sanae.

Rapidus could have set up in Kyushu, the southernmost main island. TSMC, a Taiwanese semiconductor giant, has two fabs there, tapping into a strong local supplier network. (Officials there call Kyushu a "Silicon Island".) But the Rapidus bosses settled on Hokkaido. The island, home to the indigenous Ainu people, was once Japan's frontier, annexed formally only in the late 19th century. The new frontier spirit is focused on pioneering semiconductors, says Ota Yasuhiko of Hokkaido University.

Rapidus cites an "abundance of water" in Hokkaido, crucial for semiconductor manufacturing, as a key reason for choosing the region. Besides that, no other prefecture in Japan has as much potential for offshore wind energy: Hokkaido is projected to produce a third of the country's wind power by 2040. The local governor also agreed late last year to restart the island's sole nuclear power plant, which will provide a carbon-free, stable baseload for Hokkaido's electricity grid.

Hokkaido's geography also brings a number of other advantages. Large and sparsely populated by Japanese standards, the island offers ample space for new production facilities; Rapidus hopes to build several more fabs next to its first. Cooler temperatures make it a desirable location for data centres, which run hot; SoftBank, a Japanese tech giant, recently began building a ¥65bn ($400m) data centre in Tomakomai, south of Chitose. Another largely unspoken benefit is geographic diversification: if a conflict ever broke out around Taiwan, Japan's south-west islands, including Kyushu, could be at risk; production facilities in Hokkaido, by contrast, would be much farther from any fighting.

Hokkaido would gain if there were a chipmaking boom. The semiconductor cluster could add as much as ¥11.2trn to its ▸▸

GDP between 2023 and 2036, according to a study by a regional-development agency. While Hokkaido will not reproduce the dynamism of Silicon Valley's startup ecosystem or the scale of Taiwan's chip-manufacturing base any time soon, it has a decent shot at becoming an important node in global semiconductor development and a key part of Japan's nascent AI ecosystem. A more realistic guide may be Albany, New York, where Rapidus's main technology partner, IBM, sits at the centre of a thriving tech research-and-development hub. Hokkaido's governor visited Albany in 2024 to study its model.

Yet despite all the enthusiasm, the Hokkaido Valley plan faces several big obstacles. First is cultivating the third necessary resource for chip manufacturing: human talent. Hokkaido hopes to sell itself as a place where skilled engineers might want to live. True, it is bitterly cold in winter. But the island is home to world-famous ski spots. And local culinary delights, culled from the icy surrounding seas, include tasty scallops and sea urchins as well as enormous crabs.

Nonetheless, Hokkaido has few international schools for foreign recruits' children and salaries in Japan lag behind global standards. While the region has plenty of universities and colleges, they have tended to focus on agriculture, fisheries, forestry and service industries. Hokkaido University, the biggest and oldest university, was founded as an agriculture school; it is only now gearing up to train semiconductor engineers. Rapidus has relied heavily on veteran Japanese engineers.

The second obstacle is the supplier ecosystem. Manufacturing accounts for less than 10% of Hokkaido's output, compared with 20% nationally. While dozens of semiconductor-related firms do operate there, the industry is still small. Some of Rapidus's partners have set up support offices nearby, but so far not big manufacturing bases of their own. Hokkaido Valley insiders acknowledge that it will take at least a decade to cultivate a thriving cluster.

Most important is the success of Rapidus itself. While the firm has made impressive technological advances, its commercial success is far from guaranteed. The true test will come when it begins mass production, which it aims to do next year. TSMC produces standardised chips at large scale; Rapidus, by contrast, plans to offer rapidly made, small batches of bespoke AI chips. Given the dearth of firms able to make cutting-edge semiconductors, and the growing demand for them, the strategy is plausible. But even in the best case, Rapidus will need to rely heavily on public subsidies. The government has already promised more than $15bn in support for the project. It is a big bet on a single firm. The Hokkaido Valley concept depends on it paying off. ■

Laos

Power down

VIENTIANE

Laos dreams of big energy exports, but its dams have flooded it with debt

WITH ITS large ambitions for data centres and factories, South-East Asia needs energy. Last month the International Energy Agency estimated that the region would account for a fifth of the increase in global power demand between now and 2035; only India is expected to contribute more. Yet as the war in Iran has painfully illustrated, secure supplies cannot be taken for granted. Where could the juice come from?

Laos believes that it could be part of the answer. Coming from officials belonging to a landlocked country of around 8m people and an income per person of only $2,400, that sounds audacious. But Laos is rich in one respect: water. The Mekong, South-East Asia's longest river, and its tributaries tumble through the country's mountains. Harnessing all that falling water offers an abundant source of clean energy. Laos wants to use it to become the "battery of South-East Asia", as enthusiasts term it, and the core of a regional grid.

The idea of such a South-East Asian network was first dreamt up as long ago as the late 1990s, though Laos had been exporting power long before that. It first sold hydro-generated electricity to Thailand, with which it shares a long border, in 1971. Since then it has built more than 80 hydro plants, with a total capacity of more than 12GW, enough to meet Singapore's peak demand, and accounting for around 70% of Laos's own supply. By 2030 it hopes to be operating 100 dams and to have lifted capacity above 15GW. Electricity is already the country's biggest export. In 2024 Laos sold power to six countries, including Singapore (some 2,000km away), raking in $2.4bn, which was nearly a quarter of its total exports.

Much of this growth is due to China, which borders Laos to its north. This year a new transmission line linking the two countries opened up, allowing far bigger sales northwards. But Chinese influence extends well beyond electricity generation. The two countries, both nominally communist one-party states, have long shared an affinity. That has deepened thanks to a flood of Chinese investment in railways, rare-earth mines and dams. Around half of Laos's hydropower projects are believed to involve Chinese financing. In 2021 Électricité du Laos (EDL), the state utility, handed a 90% stake in a transmission grid to a subsidiary of China Southern Power Grid, a state-owned firm, under a 25-year concession.

But the China-fuelled dam-building frenzy has come at a cost. Public debt is estimated to have ballooned to roughly 81% of GDP in 2025, up from about 53% a decade ago. Around half of the country's borrowing is owed to China, which has repeatedly staved off crises by deferring repayments. Many dams have been financed under build-operate-transfer deals, in which ownership will eventually revert to the Lao government. But such transfers will take time. According to the Lowy Institute, an Australian think-tank, the earliest Laos can expect to take over a big hydropower project is 2035. Environmentalists, meanwhile, blame the dams for collapsing fish stocks in the Mekong and the erosion of river banks along it.

The quest for exports has also meant neglect at home. EDL is in the red because of transmission losses and other infrastructure problems. Power cuts remain common, especially in the dry season, when the Mekong runs low. This means that Laos has to often import electricity from Thailand at a higher price than it sells it for, according to Len George of the Asian Development Bank. To tackle this, the country is now investing more in solar power, which it also hopes to export. In April South-East Asia's largest solar plant, of 1GW, opened in the country's north. This too was built by a Chinese state firm to serve the Chinese market.

Exporting energy may help Laos's neighbours, but its economy has its own needs. Investment in power has crowded out spending on schools and clinics. Laotians stream across to Thailand in search of better-paid work. In November the country is due to graduate from the UN's list of least-developed countries. To keep climbing, however, Laos will need more than the Mekong to charge its economy. ■

Indian food

Forbidden fruit

DELHI

A mango ban in Japan is the latest sign of India's food-safety problem

HUNDREDS OF PEOPLE had gathered to honour India's favourite fruit. Braving the heat in Delhi's Lodhi Gardens, a rapper riffed on the double meaning of *aam,* the Hindi word for both mango and common, as in common man. People dressed in mango-themed outfits were lectured by a mango farmer. Finally, the party, the fifth to be organised by an enthusiast named Ravinder Singh, descended into the mass munching of 120kg of the stuff.

Japan won't be having any, though. It has banned fresh mango imports from India, after the world's biggest producer failed its pest-control checks. India flunks a lot of such tests. Its spices, seafood and rice all face restrictions, bans and extra inspections in America, Europe and Asia. The EU has issued 365 alerts against various Indian food products in the past two years. The problem begins on farms, where runaway pesticide use and banned chemicals are common and good pest control is not. Corruption and lax monitoring mean that pesticides, drug residues and microbial bugs like salmonella then travel smoothly up the supply chain.

Bad food is bad for business. A single cargo container of spices can be worth over $100,000, so rejection by inspectors hurts. Harder to measure are reputational hits and extra inspection costs in the future. The EU already lab-tests 20-50% of all Indian chilli and curry-leaf shipments—at the producers' expense.

The biggest victims are unsuspecting Indians. Almost one in five samples that the Food Safety and Standards Authority of India tested in 2024-25 failed. One recent raid in Gujarat unearthed a stockpile of worm-eaten and fungus-infected mangoes destined for juice. Artificial ripening—a banned but common chemical trick—can cause organ failure. Other things can kill over decades: the bigger the amount of certain pesticides you consume, the greater the risk of cancer.

Some fixes are for policy wonks. There could be a national farm-to-port tracing system for agricultural exports, and more testing labs along the supply chain. Other solutions may require high-level input. Over the past decade Bangladesh has virtually eliminated poisoning from lead chromate, a chemical that was frequently added to the spice turmeric to enhance its colour. Lead is toxic to humans, increasing the risk of brain and heart disease, and particularly dangerous to children because it can stunt their cognitive development.

Bangladesh's action against the additive involved public intervention from the prime minister, as well as a graphic TV campaign and the plastering of 50,000 notices in markets and other public areas. Adulteration of turmeric with the chemical was made a crime; India had done that earlier, but failed to implement its rules. It could do a lot worse than learn from its often looked-down-upon neighbour. ■

Do I dare to eat a mango?

Religion in South Korea

The middle way to Gen Z

DAEGU

Life is suffering; the Buddha can help

A ROBOT MONK trundles across the exhibition hall of the Korean Buddhism Culture Expo in the city of Daegu. The humanoid, called Gabi, was unveiled in May and has since generated a new buzz about an ancient religion. Buddhists in South Korea have recently been trying to appear less old-fashioned, says Bae Ji-yun, a 26-year-old attending the expo and sifting through T-shirts bearing slogans such as "Shut up and meditate". Their efforts seem to be paying off. The event used to draw mainly Buddhists, but it increasingly attracts casual shoppers too. A similar expo this year in Seoul, the capital, drew a quarter of a million visitors, mostly youngsters.

Gloomy young Koreans are drawn to Buddhism. Young adults report that life is increasingly stressful and competitive. The number of young who are economically inactive is said to have nearly tripled since 2004. Buddhism, which views suffering as an unavoidable feature of life and strives to rise above it, offers them some comfort. The religion generates faith in oneself rather than in a deity, says Kim Su-jin, a 25-year-old who recently trekked to a temple in search of inner peace. Buddhism remains the religion viewed most favourably by secular Koreans, a recent poll shows. Books about mindfulness such as "Life Hacks from the Buddha" are bestsellers. Last year temples hosted a record number of overnight guests.

Buddhist leaders hope the interest will revitalise their fading religion. South Koreans, especially young ones, are becoming less religious overall. The number of practising Buddhists is shrinking. Fewer new monks join monasteries: ordinations within the Jogye order, the largest in South Korea, have dropped to less than a third of their level two decades ago.

Last year, the Association of Buddhist Orders in Korea convened to discuss Buddhism's survival in the country. The latest challenge is to arouse lasting engagement while remaining uncoercive—one of Buddhism's key selling points.

To appeal to younger people, Buddhist orders are these days throwing dance parties and meditation festivals. Some temples even host matchmaking events for singles. These aren't gimmicks, says the Venerable Seo One of the Jikjisa Temple, one of the Koreas' oldest, dating back to the fifth century. Buddhism, she says, has always embraced "an unorthodox culture that transcends class and age". Others fear the religion is being cherry-picked. "The core beliefs may get lost," worries the Venerable Il Hwa of the Cultural Corps of Korean Buddhism.

It may be so. Hipster brands sell merch and preach the importance of inner well-being. One brand, Haetal Company, prints Buddhism-inspired memes on mugs and plastic key-chains. "I have always found Buddhism incredibly fun and cool," says Ju Yeo-jin, its founder. The knick-knacks may not be a path to true enlightenment, but at least they are lifting spirits. ■

ASHOKA
Books of revelation

English-language books offer a glimpse of India's hopes and dreams

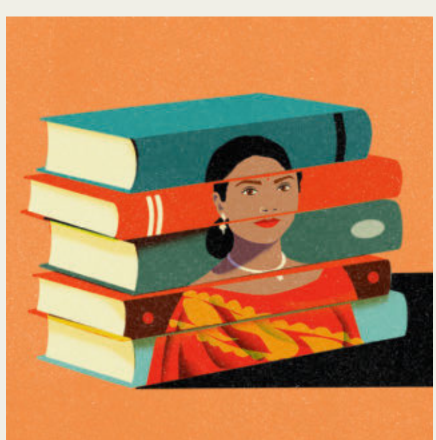
INDIA IS A rare country where hawkers still peddle pirated books at traffic lights. Congestion is often terrible, it is true, but it is not novel-length bad. The black-market trade says several things about the place: that there are not enough bookshops; that Indians are keen readers; and that copyright enforcement is somewhat lax. No matter. For many authors—if not their publishers—seeing knock-off versions of their books from car windows is the ultimate sign of success.

The observant commuter will spot something else. In a country where only a small minority has any facility with the language, and an infinitesimally tiny one speaks it natively, all the books sold at red lights are in English. So are most of those at roadside second-hand-book dealers, in bookshops and in the top 100 on Amazon India. English-language books make up about half of (non-educational) official sales. For a country as linguistically and culturally kaleidoscopic as India, that makes English books a rare example of common ground. What Indians read offers a glimpse of their hopes and dreams.

Bookshop displays and bestseller lists reveal the chief concern of the Indian reader to be **self-improvement**. English is itself the biggest giveaway: it is the language of aspiration, not of pleasure. The split within English is illuminating, too. Half of all books sold are non-fiction, with fiction and children's books roughly equal. That is in contrast to other big English-language markets, where fiction has a clear lead.

That is why "Atomic Habits" and "The Psychology of Money" are reliable bestsellers. "Word Power Made Easy", which combines linguistic aspiration with the more general kind, is a perennial favourite. The desire for personal growth is not new. "How to Win Friends and Influence People" has been a regular on Indian bookshelves for decades. But it has recently been Indianised. "Do Epic Shit" by Ankur Warikoo, an entrepreneur and content creator (what else?), has sold over 300,000 copies since it came out in 2021. Its secret is to locate its epigrams in modern Indian society. The shops are full of similar books offering advice on life, work, health and relationships written by everyone from celebrities to doctors.

Books reveal, too, that Indians are on a journey of **self-discovery**. Histories of India, often written by foreigners, have always sold well. But now Indians are not just writing their own stories, as Manu Pillai does in his mammoth "Gods, Guns and Missionaries". They are also interrogating who actually tells these stories, as Sowmiya Ashok does in "The Dig", a book about "the politics of the past". Contemporary histories are thickening the genre. Publishers rush out quick-response editions about still-fresh events; a book about last year's war with Pakistan was out within months of the fighting. Even memoirs by retired bureaucrats and politicians find a market (though mostly among their own friends and contacts).

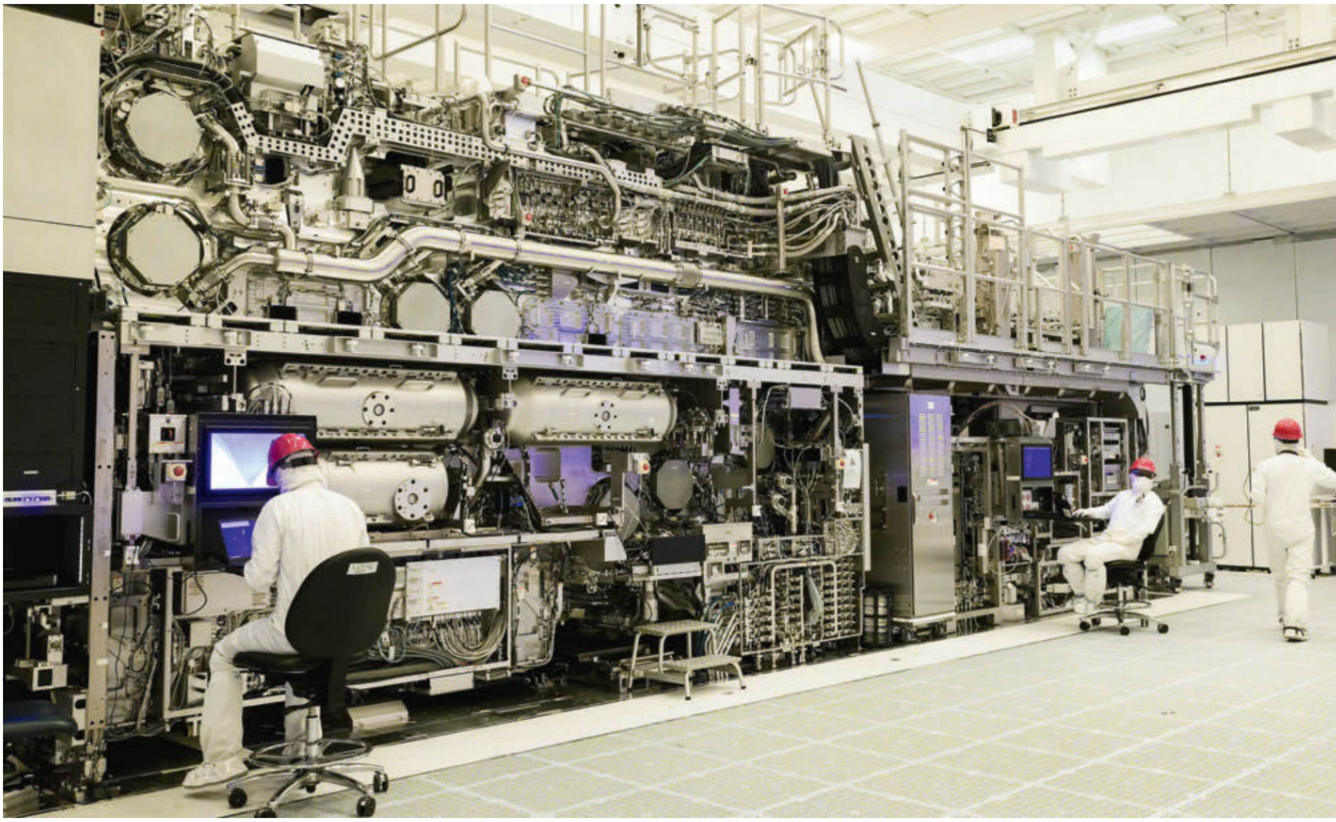


Books related to religion, mythology and spirituality are a growing force. One of last year's bestsellers was a small, inexpensive edition of the "Hanuman Chalisa", a five-century-old Hindu devotional poem. Gaur Gopal Das, who calls himself an "urban online monk", writes blockbuster hits that combine self-help with spirituality. India's foreign minister wrote one about geopolitics based on the lessons of the Ramayana. Other books tell CEOs what they can learn from the Mahabharata.

Back at the traffic lights, an idling driver might notice that many bored commuters are whiling away their time on their phones. Indeed. Social media and books share a symbiotic relationship. YouTube videos from literary festivals, Instagram poses from bookshops, photos of annotated pages of Dostoevsky—books feed the feed. And vice versa. Mr Warikoo's guide was essentially a collection of his social-media posts. Last year's biggest fiction hit was "Too Good to Be True", a romance novel whose author, Prajakta Koli, is a YouTuber with millions of subscribers. Books reveal the Indian reader—both creator and consumer—to be versed in the art of **self-promotion**.

Yet social media does not transform the act of reading. It is at heart a solo endeavour. In India it is also a socially acceptable way of cultivating an individual identity in what remains a deeply collectivist society. Whether undertaken in pursuit of self-improvement, self-discovery or self-promotion, its appeal points to a deeper aspiration of modern Indians: the desire for self-expression.

China



Chip wars

Dutch masters

TAIPEI

Has China obtained the world's most important machine?

THE DUTCH punch above their weight in technology transfers that shaped the modern world. In the 17th century their financial and farming innovations spread to Britain, spurring the Industrial Revolution and the British empire's expansion. Peter the Great, a Russian tsar, studied Dutch shipbuilding techniques to build the navy that made Russia a maritime power in the 18th century. And in the 1970s a Pakistani scientist, A.Q. Khan, stole blueprints from a Dutch lab to launch his country's nuclear-weapons programme and seed similar efforts in North Korea, Iran and Libya.

Could Dutch know-how have just tilted the global balance of power again? So the Trump administration alleges. Since 2019 America has blocked the export to China of the extreme-ultraviolet, or EUV, lithography machines (pictured) that make the world's most advanced semiconductors. These machines, whose creations power the most capable artificial-intelligence models, are made only by ASML, a Dutch firm. In recent weeks, however, America's commerce secretary, Howard Lutnick, has thrown the company into crisis by sharing with it his concerns that one of these machines may have found its way to China.

Impossible, says ASML. Europe's most valuable company has told American officials that it knows the exact location of all 340 EUV machines it has produced, including 26 decommissioned ones. None is in China, it says. What is more, only ASML can transport the highly sensitive machines, which it monitors online, and components that it ships are handled by ASML engineers in customers' fabs. "ASML has never shipped an EUV machine to China, nor have we shipped to China any component, module or equipment specially designed to be used in an EUV machine," the company says. Despite repeated requests, ASML has yet to be provided with any evidence to support Mr Lutnick's allegation.

The Dutch government, while taking the American claim seriously, is pushing back, too. On a visit to Washington in late June, its trade minister, Sjoerd Sjoerdsma, tried to convince Mr Lutnick, other officials and members of Congress that the Dutch government strictly enforced its export controls, including on EUV technology. Speaking to *The Economist* on July 2nd, Mr Sjoerdsma declined to provide details of conversations about Mr Lutnick's claim. But he says the Dutch government is not, at present, investigating the American allegation. "If there were things to be investigated or perhaps even to be prosecuted, then obviously we would do so," he says.

The dispute hinges on whether there is any basis for Mr Lutnick's allegation. Although no information supporting it has been made public, some people briefed on it describe it as "unverified" yet "not unfounded". Many industry experts consider it highly unlikely that an entire EUV machine from ASML was shipped to China. But ⏩

some believe that related components could have been, perhaps via ASML's own suppliers or other third parties. Others think the issue is more likely to be ASML's export to China of its older deep-ultraviolet, or DUV, lithography tools and related parts and services, most of which are not covered by export controls. ASML's DUV-related exports to China accounted for about a third of its revenues in 2025.

Build your dream

Behind this controversy, however, lie much deeper differences over China's technological progress and how Western governments should respond. It also highlights the recent friction between the Trump administration and many American allies. Some American officials see Europe as weak on China. Many European governments fear the Trump administration is undermining their economic and security interests while trying to strike its own preferential deals with China. Some European officials and executives also worry that the Trump administration is trying to strong-arm ASML and related companies into shifting more of their business to America to help develop the chip industry there.

One pivotal question is how far China has progressed in building its own EUV machine. Reuters, a news agency, reported in December that a team of former ASML engineers in China had completed a prototype EUV machine in 2025 and were testing it at a high-security lab in Shenzhen. ASML said it cannot control where former employees work, but they are bound by confidentiality agreements and in some cases the company has successfully taken legal action in response to theft of trade secrets.

The prototype had not yet created any working chips but the Chinese government had set a goal for it to produce functional ones by 2028, Reuters reported. Most experts think that unrealistic, and that it could be a decade before China has a working EUV machine (see Business). Still, they concede China is making faster progress than expected on EUVs, and some alternative technology (see Science).

The other big American concern is China's innovative use of DUV technology. Chinese chip firms such as SMIC and Huawei have pushed the limits of a technique known as "multi-patterning", allowing them to use DUV technology to make logic chips of less than seven nanometres, near the industry's cutting edge. Those were previously only made by EUV machines. While that technique brings higher costs and more errors than EUV tools, some American experts believe it could allow China to produce millions of the advanced chips it needs to catch up with America in the race for AI supremacy. Many in Europe believe such risks must be balanced with the need to protect and expand the revenues of ASML and the ecosystem around it, while avoiding retaliation from China.

One pillar of America's response is a new alliance of countries involved in Western AI supply chains. Known as Pax Silica, it aims to encourage partnership and common regulations in areas ranging from energy and critical minerals to advanced manufacturing and AI models. It has so far won support from 24 signatories, including the European Union and the Netherlands, which signed up in June during its trade minister's visit. That could make it easier to share cutting-edge technology among like-minded countries and to unify export controls relating to EUV systems.

The more divisive American initiative is the MATCH Act, legislation that was introduced in April with bipartisan support. It would not just block sales of DUV machines to China, but also restrict ASML's provision of servicing, spare parts and software support for the hundreds of DUV machines already there. And it would give the Dutch and others 150 days to align their controls with America's or face action under the Foreign Direct Product Rule. That applies American export controls to foreign products whose manufacture involves technology that originated in America and, in ASML's case, would oblige it to comply or face hefty fines and other penalties. Backers say such measures are necessary, given the national-security stakes. "I don't support asking the companies nicely not to do this. I support making it illegal to do this," says Gregory Allen, a former director of strategy at the Pentagon's Joint AI Centre who now runs an advisory firm.

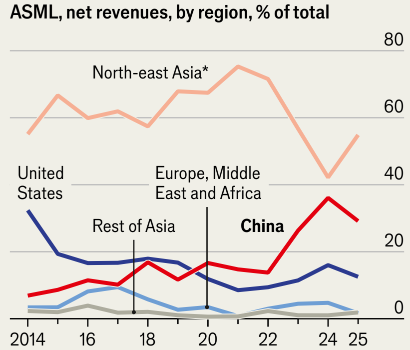
The Dutch, and some others, disagree. The MATCH Act is "really unfortunate from our perspective," says Mr Sjoerdsma. He expresses particular concern about the threat to apply American law extraterritorially to Dutch and allied firms. "We believe that every country can best decide for itself what technology should be developed by its companies and what security risks this might or might not entail," he says. Further grounds for his government's scepticism is the contradiction between the demand to restrict exports of older DUV tools and the Trump administration's agreement to allow the export to China of Nvidia's H200 AI chips. They can only be made by some of the latest EUV machines.

Mr Sjoerdsma faced similarly tricky negotiations on a visit to China this week. It has denounced the MATCH Act and introduced regulations authorising it to penalise foreign companies that comply with American sanctions or export controls. The Netherlands is already reeling from the backlash to its decision in September to take control of Nexperia, a Chinese-owned Dutch chipmaker, to stop it from moving operations to China. The Chinese government responded by blocking Nexperia's exports from China, severely disrupting European and Japanese carmakers.

The fracas over Mr Lutnick's claim may die down, especially if America shares no evidence. But this is just an early salvo in the bigger battle over AI chokeholds. It will not be the last time that ASML and its technology are caught in the crossfire. ■

Nether regions

ASML, net revenues, by region, % of total



Source: Company reports *Japan, South Korea and Taiwan

Church leader freed

One of China's most influential Christians has been released from detention and has flown to America. Jin Mingri, known as Ezra Jin, was detained in October in a crackdown on religious activity. He was the pastor of Zion church in Beijing, one of China's biggest house churches. When authorities shut it down in 2018, he moved services online, broadening its reach. Donald Trump raised his case with Xi Jinping in May. He also spoke about Jimmy Lai, a pro-democracy tycoon serving 20 years in a Hong Kong jail for "conspiracy to collude with foreign forces". Mr Xi reportedly told him that Mr Lai's case was "a tough one". Other pastors from Zion church remain locked up.

Pacific-rim security

OK, boomer

TAIPEI

A rare ballistic-missile test unnerves China's neighbours

SECRECY IS ESSENTIAL to the operation of submarines that bear nuclear missiles. The vessels, known as boomers, are designed to stay hidden at sea for long periods, poised to fire nuclear-armed ballistic missiles at potential foes. China, however, is especially opaque about its boomers. Although the Pentagon estimates that they have patrolled at sea for a decade, China's government has never confirmed that. So its announcement on July 6th that one of them had carried out a rare test of an intercontinental ballistic missile in the Pacific Ocean surprised and unnerved the region.

The missile carrying a dummy warhead was fired towards international waters, said Xinhua, an official news agency, without saying where it came down. China has test-fired missiles from submarines before but usually closer to its own shores. It has tested long-range ballistic missiles over the Pacific twice before, in 1980 and 2024. Both were launched from land.

The test shows that China is "moving closer to a credible triad", the capacity to launch long-range ballistic missiles from land, sea and air, wrote Frank Rose, a former senior official at the US National Nuclear Security Administration. Wang Qiang, a former professor at China's National Defence University, predicted on his Weibo social-media account that by next year China would demonstrate the triad's completion by test-firing an air-launched ballistic missile.

Foreign analysts say China is likely to carry out such tests regularly in the coming years as a way to validate the equipment involved and demonstrate resolve to America. "The United States and its allies must modernise their own deterrent capabilities and...find ways to bring arms control back into play as a tool for constraining China's build-up," wrote Mr Rose. China suspended nuclear-arms talks with America in 2024 in protest over arms sales to Taiwan.

The Pentagon has warned that China is expanding its nuclear arsenal and could have more than 1,000 operational warheads by 2030, compared with "the low 600s" in 2024. It is also building quieter submarines. American officials fear this is in preparation for a potential war over Taiwan that could escalate into nuclear confrontation between China and America.

The missile, which appeared to have been launched from the South China Sea and to have splashed down in the South Pacific, was likely to be a JL-2 or JL-3, said several experts. The former has a range of about 7,200km, meaning it would have to be fired from the mid-Pacific Ocean to hit the western half of the continental United States. The JL-3 has a range of about 10,000km, allowing it to hit parts of the American mainland from Chinese coastal waters. It was on display for the first time at a military parade in Beijing last year.

China did notify some governments in the region before the latest test. Still, several voiced concern about the operation, which came on the eve of a NATO summit in Ankara and in the midst of American-led joint naval exercises around Hawaii. America's State Department said China's "rapid and opaque nuclear-weapons build-up is of great concern". It urged China to commit to routine notification of such launches, as other nuclear powers have. Australia's foreign minister, Penny Wong, described the test as "destabilising".

China is not alone in test-firing missiles from its boomers. The four other permanent members of the UN Security Council—America, Britain, France and Russia—do so regularly. But, given China's expanding nuclear arsenal and military pressure on Taiwan, this test will heighten regional fears about Chinese intentions and America's capacity to protect its allies. ■

Looking at Britain

Prime ministers and mandarins

Chinese viewers laugh at British politics, and at British comedy

IT WAS NOT hard to guess how China's state-run media would react to the resignation of Sir Keir Starmer last month and the ongoing process of replacing him. The fall of the sixth British prime minister in a decade is yet more evidence, they suggested, that liberal democracies are unstable. "Could there be a problem with this type of government?" coyly asked the *People's Daily* in an interview with Cui Hongjian, a Chinese diplomat-turned-professor.

The chaotic turn in British politics since Brexit has been a gift to critics of Western democracies. It makes China's system look more stable. "Foreigners doing politics are like children playing with mud," said a commenter on a video of one ugly House of Commons debate circulating on social media. The problem is that British parties only care about winning elections, rather than improving things, said Mr Cui. So they "quickly swap through prime ministers to win back votes rather than address deep-seated problems". The Communist Party, of course, does not have to worry about winning elections.

Interest in Britain's politics extends to satire. "Yes Minister", a BBC sitcom from the 1980s, has an unlikely but devoted online following, in part thanks to its cynical view of politics. Cheng Hong, wife of the late Li Keqiang, a former prime minister, translated a BBC book on the series into Chinese. One video analysing "Yes Minister" on Bilibili, a video platform, has 9m views.

Quotes are shared online. In one popular clip, Bernard, a naive civil servant, pushes for more transparency. "Surely the citizens of a democracy have a right to know!" he exclaims. "No," responds Sir Humphrey, his boss. "They have a right to be ignorant."

"Yes Minister" is also loved because some Chinese viewers recognise their own elitist, unaccountable bureaucracy. And the turnover of British leaders contrasts with the unending rule of Xi Jinping. In power since 2012, he removed presidential term limits in 2018. Commenting on Sir Keir's resignation, one social-media user wrote, "I envy this kind of replacement." "Wow," replied another. "You dared to say it."

"Hello? Is that Chairman Xi?"

Middle East & Africa

Iran

Bombs, bombast and a burial

KARBALA

Iran's new ultra-nationalist leaders may welcome the American president's declaration that the ceasefire is over—even if it is bluster

IT WAS LESS a traditional lament for a slain Shia holy man than a victory parade, a display of power and a rallying cry for another confrontation with America. Over six days, Iranians marked the funeral of Ayatollah Ali Khamenei, Iran's former supreme leader, by chanting "Death to America". Red flags of vengeance fluttered above the crowds. Mourners hurled stones at images of Donald Trump and hung effigies of America's president.

Then, on the third and fourth days of mourning, the Islamic Revolutionary Guard Corps (IRGC), the regime's elite defenders, launched drone attacks on three tankers that they claimed had ignored their designated route through the Strait of Hormuz. If the generals meant to provoke Mr Trump, they seemed to succeed. On July 7th he ordered strikes on Iran and revoked the sanctions waiver covering Iran's oil exports. "Scum," he called Iran's rulers at a NATO summit in Ankara on July 8th. "It's just a waste of time dealing with them." Perhaps, the president suggested, America could do without a deal and simply hit Iran "hard" again.

America carried out dozens of strikes in southern Iran overnight on July 7th, and again on July 8th. Even so, Mr Trump's words may be bluster. American and Iranian negotiators are still expected to resume talks on July 11th in Islamabad, Pakistan's capital, over a final agreement about Iran's nuclear programme. But both sides look belligerent. The leadership that has emerged in Iran since Khamenei's death seems keener to project strength and wear down Mr Trump through military pressure, rather than diplomacy.

Iran responded to both sets of American strikes with attacks on Bahrain and Kuwait. The oil price reached $80 a barrel early on July 9th; Iran's rial slipped. Observers again predicted Iran could stomach more economic pain than the global economy. "We don't fold," posted Iran's chief negotiator and parliamentary speaker, Mohammad Bagher Ghalibaf, on July 8th.

The funeral offered an early glimpse of the new configuration ruling Iran and what some Iranians now call a second republic. Gone were the traditional rites that marked the burial of Ayatollah Ruhollah Khomeini, the Islamic Republic's founder, in 1989. His body was hurried to its grave, three days after his death, wrapped in a simple white shroud. By contrast, officials spent 126 days preparing for Khamenei's final rites, which they claimed was the largest state funeral in history. His coffin travelled for six days over 2,600km, across five cities and two countries, including Iraq.

The ceremony also revealed a shift in the regime's centre of gravity. The IRGC generals who directed the war occupied pride of place. Iranian flags dominated the stage and draped the coffins. Khamenei's black turban—a symbol of the clerical establishment he led for 37 years—rested almost inconspicuously on top. More than 100 days after assuming power, his son and successor, Mojtaba Khamenei, has still not appeared in public. Even if he eventually does, he may prove little more than a figurehead. His televised statements sound like military communiqués, not sermons. Along the funeral route, guards units and allied Iraqi militias marshalled the crowds and distributed food and water. Iran's rulers appear to be burying not only their supreme leader but also the clerical order over which he presided.

Khamenei's killing has accelerated Iran's transition from a theocracy to an ambitious nationalistic state dominated by military men. The IRGC appears to wield power with few constraints. Clerics who challenged its influence—including former Presidents Mohammad Khatami and Hassan Rouhani—were conspicuously absent from the processions.

The generals, meanwhile, are asserting their regional power. As Iraq's prime minister, Ali al-Zaidi, prepared to curb pro-Iranian militias and for his first official trip to America, they directed Khamenei's funeral procession through Iraq's holy cities and lined its roads with armed groups. Free transport, food and lodgings, together with respect for Iran's success in repelling a foreign attack, drew vast crowds. Many Iraqis who once resented Iranian meddling now curse America and Israel.

Iran's bullying of its neighbours in the Gulf has also resumed. Delegations from Saudi Arabia and other Arab states travelled to Tehran to offer condolences despite enduring thousands of Iranian strikes during the war. Their gestures went unrewarded: more Iranian strikes have since followed. Gulf officials shrink at the determination of Tehran's new leadership to control the Strait of Hormuz. One of them mused that it smacked of a return of imperial Persian ambition.

Two forces could yet restrain Iran's generals. The first is military reality. America's latest strikes underline the possibility that the war could resume in earnest. Iran's Gulf neighbours, meanwhile, appear more willing to support a tougher American approach. They are pressing partners in Europe and China to increase pressure on Tehran while quietly highlighting both their previous covert operations against Iran and their willingness to act again.

The second is economic. Once the funeral crowds disperse, Iran will still face a fragile and isolated economy. Sanctions-busting smuggling networks can sustain the regime, but not the wider population. Perhaps 40% of Iranians live in poverty, probably more. Much of the middle class has disappeared, while the war has pulverised the country's industrial base and left millions jobless. Most Iranians yearn for economic recovery and relief from sanctions rather than the reimposition of America's naval blockade and more war. National renewal will require some accommodation with Iran's enemies, not merely more bombs and bombast. ■

Syria

If you rebuild it

DAMASCUS AND HOMS

Reconstruction in Syria will cost over $200bn; bombs are not helping

On July 6th Emmanuel Macron, the French president, became the first major Western leader to visit Syria since the toppling of the Assad dictatorship. He brought with him a coterie of French CEOs. Mr Macron's host, Ahmed al-Sharaa, al-Qaeda-militant-turned-statesman, must have been thrilled. He has chased foreign investment and recognition since seizing power 19 months ago. The two bombs that rocked central Damascus the next morning were far less welcome. They are a reminder of the limits of Syria's recovery.

Nowhere is that clearer than in Jobar, a once-thriving suburb in north-east Damascus. Today it is littered with the concrete shells of looted apartment buildings and the ruins of mosques and shops. There is no mobile-phone signal. Nor is there much evidence of anything being rebuilt.

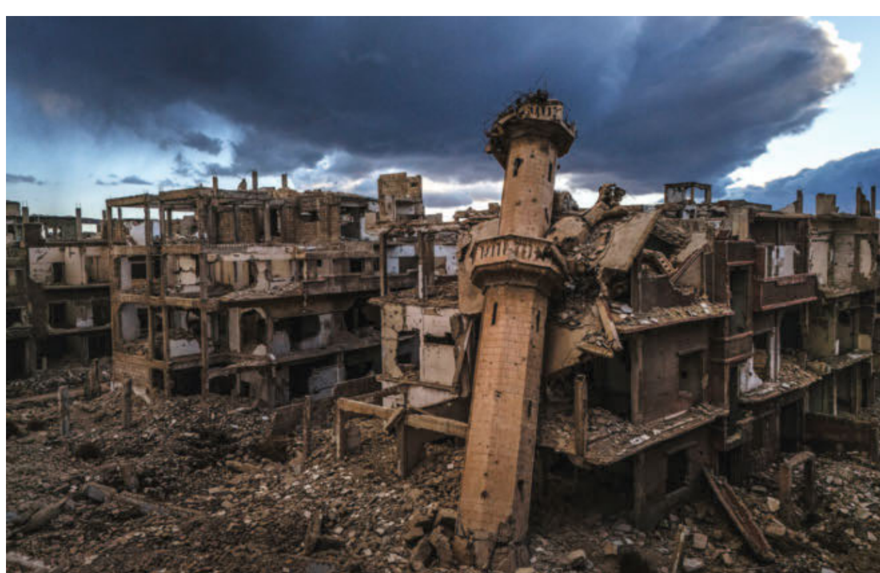
Since Bashar al-Assad's regime was overthrown, the much-touted reconstruction of a country devastated by civil war has yet to materialise. A slew of agreements with foreign and domestic firms and a big investor conference in June grabbed headlines. But on the ground frustration is growing. Bureaucracy and old regulations that are "designed for corruption" are choking progress, says a local businessman. Petty graft, political infighting and broken promises are sapping optimism.

Syria needs to rebuild everything, from houses, roads and bridges to energy and water infrastructure and its patchy telecoms network. One-third of its physical assets have been destroyed. The World Bank puts the total reconstruction costs at $216bn, ten times Syria's GDP in 2024.

Syria is painfully strapped for cash. Strict withdrawal limits mean few Syrians are willing to deposit their savings in local banks. Bereft of capital, banks are unable to extend loans. The Syrian pound, a managed currency, has continued to fall against the dollar in recent months.

Still, if Mr Sharaa has succeeded at anything, it is at diplomacy and drumming up investor interest. His government, he declares, does not want to rebuild Syria "through aid and assistance" but through investment. He has struck up an improbable rapport with Donald Trump, who has eased American sanctions. And he has capitalised on growing interest among Gulf rulers in Syria as a strategic hub, especially after trade through the Strait of Hormuz was choked off.

Gulf investors zoom into Damascus by private jet. Gulf commercial airliners fly in



Build to-day, then, strong and sure

multiple times a day. Qatar has taken the lead: UCC, a construction firm, already has spades in the ground. It is redeveloping an airport that it hopes to open at the end of summer and is ploughing billions of dollars into Syria's power plants. The Qataris have also acquired a Syrian bank, which will make it easier for them to move money into the country. And they plan to finance a big affordable-housing project in the coming months.

The Emiratis have also shaken off their early wariness of Mr Sharaa. In May Mohamed Alabbar of Emaar, a big property firm in the United Arab Emirates (UAE), said he was looking at $18bn-worth of projects in Syria. Emirati delegations have descended on Damascus in recent months to discuss transport, trade and a logistics corridor. Saudi companies and its government have pledged more than $5bn. STC, its biggest telecom firm, is building a 4,500km-long fibre-optic network, data centres and subsea cable-landing stations worth $800m. On June 30th Syria awarded a $750m licence to Zain, a Kuwaiti telecoms operator, which wants to roll out 5G.

Syrians themselves are also getting in on the action. Hadi Aladdin, a Canadian-Syrian tech entrepreneur, also aims to build a data centre. Samer Chamsi-Pasha, a recently returned exile from a famous merchant family, is lobbying the government to redesignate a disused military airport in Homs for civilian use so he can launch a flight school.

Even some American firms are tiptoeing in. Visa and Mastercard have said they are returning. American oil companies will not invest directly but are partnering with regional firms to dip into Syrian oilfields. JPMorgan Chase, an American bank, along with two Gulf lenders, hopes to arrange a $7bn loan, guaranteed by a state-backed Qatari bank, to fund projects led by UCC.

For most Western investors, doing business in Syria is still tough. America has, in theory, declared an end to its sanctions there. In reality, a raft of restrictions still prevent big American firms from entering en masse. European and American investors are also confused by the government's strategy. At a UN confab in June, one minister proclaimed a free-market economy, only for another to declare a desire for a "free, planned" one.

Syrians, meanwhile, worry that Mr Sharaa has been so busy with diplomacy and investors that he has ignored other problems. Many are disappointed that he has not done more to pursue Mr Assad's cronies; last month, crowds marched on the homes of officers of the former regime, killing some. Investment conferences and presidential visits are welcome. But one in four Syrians live in extreme poverty. They will judge Mr Sharaa when places such as Jobar are rebuilt. ■

Captagon

It's a bust

The Middle East's drug trade is becoming more decentralised

AMONG BASHAR AL-ASSAD'S many crimes as Syria's dictator was turning his country into a narco-state. Captagon, an amphetamine, became Syria's largest export. Mr Assad's neighbours resented his role as drug-pusher-in-chief. To their relief, Ahmed al-Sharaa, Syria's new president, seems eager to stem the flow of captagon in the region. But as a result, the trade is becoming more decentralised.

Captagon, also known as fenethylline, was developed in the 1960s to treat hyperactivity in children and narcolepsy. In 1986 it was banned internationally because it was addictive. Today poor labourers use it to fuel long shifts. Some people take it to suppress hunger. Traumatised soldiers self-medicate with it. The Gulf elite use it as a party drug.

It is a lucrative trade. A pill costs cents to produce but may sell for $25 in Saudi Arabia. The global trade may be worth as much as $10bn. The UN says between 2019 and 2025 as much as 80% of global seizures originated in Syria.

As part of his efforts to win international legitimacy and convince outsiders to unlock reconstruction funds, Mr Sharaa has cracked down on the trade. In the first year of his rule his forces seized over 500m pills and dismantled 16 industrial laboratories. In June last year Anas Khattab, the interior minister, declared that captagon was no longer being produced in Syria.

Cleaning up

He spoke too soon. Over the past year Syrian authorities have seized over 80m pills. Some are Assad-era stockpiles. But new production plants are being built, too. Most are in Sweida, a southern province dominated by Druze militias that have clashed with government forces. Remnants of the Fourth Armoured Division, an elite army unit led by Mr Assad's brother that oversaw the state's labs, have fled there and started making the pills again. "Sweida 24", a local news outlet, reports that 12-15 labs operate in the province.

Much of what is produced in Sweida is smuggled into Jordan, the only overland route to markets in the Gulf. Syria and Jordan share over 360km of desert borderlands and a web of tribal trade routes. Interceptions along the border have risen almost four-fold since the Druze-led National Guard took control of the province in July last year. In January Jordan and Syria set up a joint security committee to tackle the trade in drugs and arms. They also deployed more forces to the border. In May Jordan conducted its fifth round of air strikes on production facilities in Sweida. Officials say they were in co-ordination with Syrian authorities. Smugglers are adapting by using GPS-guided balloons loaded with pills, which Jordanian forces shoot down, with Mr Sharaa's blessing.

Production is spreading. Hizbullah, the Iran-backed militia in Lebanon, started making captagon in 2006 to replenish its coffers after a war with Israel, which gouged its finances. It has turned to the drugs business once again. In the past six months a quarter of all captagon seized by Syrian authorities has come from Lebanon, says Charles Lister, an analyst. In the past year Lebanese authorities have raided three laboratories in Baalbek, near the Syrian border. They also caught smugglers trying to get production equipment into the Bekaa Valley, a Hizbullah redoubt. A year ago a joint Iraqi-Lebanese operation shut a captagon laboratory in the valley, said to be one of the region's largest.

Labs have been found in Kuwait and Egypt. In February last year a factory making about 100,000 pills per hour was seized in Sudan in territory previously held by the Rapid Support Forces, a paramilitary group. Last June Yemeni authorities seized 1.5m captagon pills being moved from Sanaa, controlled by the Houthi rebels, to Saudi Arabia. This May Indian authorities raided a production network spanning the country, a first for South Asia.

Captagon can lead to heart and brain damage. But the Middle East remains a ravenous consumer. The disruptions in supply are driving up street prices, so users are turning to crystal methamphetamine, an even more destructive stimulant. The region's appetite for cheap synthetic highs shows no sign of abating. ■

Agriculture in Africa

To strive, and not to yield

Stalling productivity growth means Africa may not follow Asia's growth path

ECONOMISTS IN AFRICA speak enviously of the "green revolution" that transformed Asia from the 1960s onwards, when new varieties of rice flourished on small family farms. Population density pushed farmers to innovate and use more inputs, like fertiliser. As rural people grew richer, they demanded more manufactured goods. Factories filled with workers who were no longer needed in the fields.

Could sub-Saharan Africa be on the same path? In aggregate its farmers are growing more cereals, such as maize (corn) and rice, than ever: nearly five times as much as in the 1960s, when many countries achieved independence. But most of those gains came from cultivating more land, which cannot go on for ever. Africa, once sparsely populated, is getting crowded. The amount of arable land per person has been falling for decades, and now sits at roughly the global average.

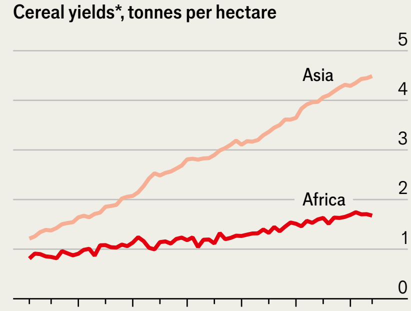
That might not matter if farmers were also growing more crops per hectare. But recently gentle growth in agricultural productivity has given way to stagnation, perhaps even decline. Consider figures drawn from national statistics in Africa by the Food and Agriculture Organisation (FAO), a UN body. Cereal yields did not grow between 2020 and 2024, the latest data point (see chart). Nor did total factor productivity (TFP), a measure of how efficiently inputs of all kinds (such as labour and machinery) are turned into produce. Most African countries had lower agricultural TFP in 2023 than a decade before.

This seems to be more than a pandemic blip. In a paper published in 2024, Douglas Gollin of Tufts University in Massachusetts and his co-authors analysed data from surveys of 55,000 household farms in six African countries between 2008 and 2019. They estimated that, for smallholdings, yields and TFP were already falling by 3-4% a year then. They found steeper declines than the FAO did, perhaps because their sample did not include large farms, or because official statistics are sketchy.

Why is this happening? There are plenty of suspects, from conflict to tired soils. As El Niño returns, threatening drought in southern Africa, thoughts turn to climate change. By one estimate, agricultural TFP on the continent is a third lower than it could have been, had the climate remained as it was in 1961. Farmers complain that they no longer know when to sow.

Fields apart

Cereal yields*, tonnes per hectare



*Includes rice, wheat, maize and mixed grains
Source: Food and Agriculture Organisation

Mr Gollin and his colleagues cannot rule out environmental factors, but in checking weather data they have yet to find a smoking gun. Instead, their tentative hypothesis is that workers are spending less time in their fields. Richer, better-educated farmers are especially likely to look for other work. Since factors like workers' skills and working hours are imperfectly measured, this shows up as a fall in TFP.

If that proves true, the lessons from Asia would need to be revised. There, farmers responded to rising population density by working their land more intensively. But African farmers are cutting their hours most rapidly in congested places, especially near cities. That might be because African economies are relatively integrated into global markets, so city-dwellers' growing demand for food is partly met by imports. If local food prices do not rise, farmers have less reason to intensify.

Another difference is that in Asia it was rising crop yields that helped kick-start economic change. In Africa agricultural productivity is stagnant, but farmers are still being pulled away from their land. That might be because money from sources such as oil revenues is driving urban growth and creating informal service jobs, suggests Mr Gollin.

The thorniest question concerns farm size. In Asia, small farms yielded more per hectare than large ones. Some studies find the same relationship in Africa; others explain it away as measurement error. In a paper in 2019 on Kenya, Milu Muyanga and Thomas Jayne, both of Michigan State University, find a U-shaped pattern: yields fall as farms get bigger, but in farms larger than five hectares they start to rise again, perhaps because it becomes easier to mechanise. Often even highly productive small farms are too tiny to be viable.

Admirers of the Asian model point to rising fertiliser use in the 2010s, suggesting that some farms are starting to intensify. Fast-growing trading firms are shuttling farm produce to towns; demand for meat, eggs and vegetables is met almost entirely by domestic supply. Since 2005 the market value of Africa's agricultural produce has risen at a rate that matches South Asia, and outstrips every other region of the world. Crowded spots, from Africa's Great Lakes to the Ethiopian highlands, could yet follow the path of Taiwan or Punjab.

Still, the relevance of the Asian example must be proved rather than assumed. "We're in a different world than we were in [Asia] in the 1960s," Mr Gollin says. Africa must find its own way. ■

Europe

European defence

Guns and sputter

ORNSKOLDSVIK

Most Europeans want stronger armed forces, but are unwilling to pay for them

A UKRAINIAN FLAG inscribed in Cyrillic with the words "Thanks, always" hangs at a factory in northern Sweden, where slabs of steel are transformed into hundreds of armoured vehicles each year. The flag was presented by Ukraine's 21st Brigade, which operates the CV90 infantry fighting vehicle made here. Its soldiers affectionately call it "the Scandinavian beast". The flag is a daily reminder to employees of how they are contributing to the security of Europe. "It is good to see that we have helped people," says Julia, who works on an assembly line.

A decade ago the Hagglunds factory, owned by BAE Systems, Britain's biggest defence firm, was cutting costs to survive. Today it is expanding its capacity five- or six-fold to fulfil soaring orders. Revenue has surged from $211m in 2018 to $1.1bn in 2025, and is heading "north of $2bn" a year, says Tommy Gustafsson-Rask, the general manager. The workforce has more than tripled since 2021, to around 2,600.

Prosperity in Ornskoldsvik is one side of Europe's rearmament boom, as the continent rushes to meet a year-old NATO agreement to raise defence spending to 3.5% of GDP (plus another 1.5% on security infrastructure) by 2035. Much of this money will go towards new equipment, from missiles to drones, tanks and warships. European NATO members must rebuild their armed forces to counter a potential Russian attack, possibly without American support. For countries with substantial defence industries, this investment will create economic growth.

The other side of the rearmament spree, however, showed up at a recent demonstration in Brussels, where thousands marched under the banner "welfare, not warfare". Last year in Italy trade unions put some 500,000 people on the street in protest against higher defence spending. If Europe wants more capable armed forces, it faces a trade-off. It will need more public borrowing, higher taxes, cuts to social spending or a mix of all three.

A fistful of euros

Yet a close look at the finances of Europe's biggest military powers shows that many, including Britain and France, are on a trajectory that is unlikely to reach the 3.5% target. Donald Trump and his secretary for war, Pete Hegseth, see NATO's European members as freeloaders mooching off America's security guarantees while giving their citizens generous benefits and long holidays. On July 3rd Mr Trump posted a chart on social media showing American defence spending towering above that of several NATO members, and commenting: "Ridiculous for the U.S.A. to continue along this one sided path."

The 3.5% spending goal was intended to keep Mr Trump on board. To under- ▸▸

stand why many European countries may fail to live up to the promise, it helps to sort them into three groups: the good, the sad and the smugly indifferent.

Countries that have reached the target or are on track to do so soon are mainly those that feel most threatened by Russia, such as the Baltics and Poland. This often involves hard choices. Lithuania is introducing a new "security contribution" tax. Finland is slashing spending on health care. In total, 11 European countries are financing at least half of their increase in defence spending by raising taxes or cutting spending, reckons Fitch, a rating agency.

This is generally easier in front-line countries, where most people support cutting social spending to fund defence, according to polling by the European Council on Foreign Relations, a think-tank. Other countries on the "good" list have plenty of room to borrow, such as Denmark, Sweden and above all Germany, which aims to hit 3.7% by 2030. Their low public debt allows politicians to duck choices between guns and butter, for now.

Countries in the "sad" group aim to reach the target, but have little room to borrow and low support for higher taxes or welfare cuts. Alas, this includes both Europe's nuclear powers, Britain and France. Britain is in such tight straits that last month the defence secretary, John Healey, resigned over the miserly planned increase to his budget. Further wrangling produced a small increase of 0.1% of GDP by 2030, for a total of 2.7%. Analysts doubt Britain will hit 3.5% by 2035. France is even further behind. It plans to raise defence spending to just 2.5% of GDP by 2030. Even this will require "significant trade-offs" in higher taxes or budget cuts in other areas, according to France's Court of Auditors.

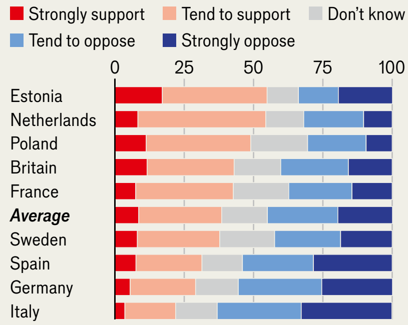
Then there are the smugly indifferent. Spain managed to get itself exempted, saying it would cap spending at 2.1% of GDP. Others, such as Portugal, solemnly swear they will reach the target but have made almost no effort to do so. Italy came up with its own creative solution, reporting a 39% increase to hit 2% of GDP last year. But the actual increase in spending was just 7%; the rest was accounting chicanery.

Countries that fail to hit 3% by 2030 will have an even bigger hill to climb by 2035. Many may delay until the last few years, as when NATO set a guideline of 2% at a summit in 2014, warns Fenella McGerty of the International Institute for Strategic Studies, a British think-tank. The resulting "hockey-stick" jump in spending made allies bid against each other for limited kit, driving up prices and waiting times.

The politics is difficult. Many countries have both left-wing populists who oppose defence spending for social reasons, and right-wing populists who do not see Russia as a threat. The fiscal side will be hard, too:

Biting the bullet 1

Support for cutting other public spending to invest in defence, % responding, May 2026



Source: European Council on Foreign Relations

countries that borrow for defence budgets, such as Germany, will struggle to sustain them as interest payments and the costs of their ageing populations rise.

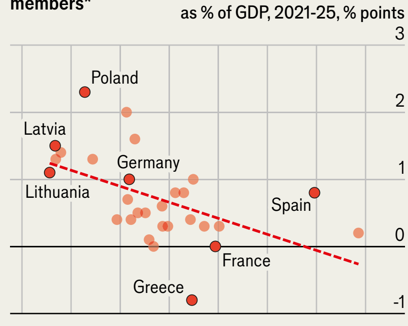
The problem is not just that countries may miss the targets, but that they also use the money poorly. Spending too much on their own industries leads to fragmentation. Europe operates 12 sorts of tanks and makes five different howitzers, compared with one of each in America. Then there are the boondoggles. Last month Germany cancelled a €10bn ($11.4bn) shipbuilding programme because it was running late and costs had ballooned. Taxpayers have reason to be furious, having blown €2.3bn on frigates the navy will never get.

Instead of simply looking at spending, countries should consider what that money is buying, and whether it is providing the capabilities (such as armoured brigades) that they pledged to NATO. Secrecy surrounds many of these targets, for good reason, but lifting the veil a bit would increase accountability. The most intense budget fights are still to come. Governments will be better able to make the case for defence if they can show they are putting the money to good use. ■

Where they stand, where they sit 2

European NATO members*

Change in defence spending as % of GDP, 2021-25, % points



Distance of capital from Moscow, '000km

Sources: SIPRI; Google Maps *Excluding Iceland

France's populist right

Le Pen, again

PARIS

The far-right leader is running for president

FOR OVER half a century, a member of the Le Pen family has stood at every French presidential election bar one. Then, after a court in 2025 banned Marine Le Pen, the leader of the populist-right National Rally (RN), from running for elected office for five years, it had looked as if the presidential vote next year would mark the end of a dynastic era.

But on July 7th, in an unexpected twist, the court of appeal in Paris upheld Ms Le Pen's conviction for the misuse of European Parliament funds for party ends—yet lightened her sentence, freeing her to run. Hours later Ms Le Pen announced that she, not Jordan Bardella, her 30-year-old lieutenant, would make a bid for the presidency after all.

The RN leader's decision ends 15 months of uncertainty, and sets France up for a highly unusual election. In its ruling, the court of appeal handed her a three-year jail sentence; two are suspended, and one is to be served with an electronic ankle tag. Crucially for Ms Le Pen, the court also shortened her ban and ruled that she had already served the ineligibility penalty.

In announcing her candidacy, Ms Le Pen said that the ban had posed "an enormous democratic problem" and that its ending changed everything, enabling "the French people to judge". That ruling, in effect, took the political decision out of the judges' hands and put it firmly into hers. Ms Le Pen continues to claim that she is innocent. She is now taking her case to the highest court, the Cour de Cassation, in part to contest the requirement that she wear a tag (which will not be imposed while the appeal is under way). That court says it could review her case before the election next April and May. If it rejects her appeal, she will have to campaign while wearing the tag.

For the RN, her decision brings clarity and will allow the party to begin its campaign proper. Ms Le Pen will have the authority to shape its direction, take decisions on which there is policy disagreement (she wants to reduce the legal minimum pension age for some workers to as low as 60, from around 63; Mr Bardella is less sure) and keep the party's identity as a populist outfit that promises to defend ordinary working families. She is a deputy for a constituency in the mining basin of northern France.

Ms Le Pen's candidacy, however, will ▸▸

not resolve all tensions within the party. Mr Bardella, who had for months geared himself up to stand for the presidency in her stead, is now relegated back into second place. The young RN president has been pushing a different electoral strategy—based on marrying the party's traditional working-class base and its politics of indignation to a middle-class electorate—by sounding more fiscally responsible and business friendly. The pair insist that they will work together seamlessly. Indeed, the day after the verdict they made a joint trip to a market in rural France. Ms Le Pen described them as a "ticket", and confirmed that she would make him her prime minister if she wins the presidency. But over the coming months such differences will inevitably strain the tie.

Ms Le Pen now begins her campaign with a handsome lead: she is on 36% in first-round voting, according to an Ifop poll conducted after the verdict, well ahead of either 19% for Edouard Philippe or 15% for Gabriel Attal (two of President Emmanuel Macron's former prime ministers), depending on which of them is tested. In the run-off, polls suggest she has a chance of winning and doing just as well as Mr Bardella would have. Ms Le Pen remains a fearsome campaigner, with three presidential bids and bitter lessons learned behind her. One of France's most popular figures, the RN leader will draw support from those who think that it is—at last—her time. "She will be very hard to beat," says a centrist figure.

Even so, polls nine months ahead of voting are seldom an accurate indicator of the final result. It remains unclear who she would be up against in the broad centre; at the moment both Mr Philippe and Mr Attal have formally declared their candidacies and are out campaigning. Ms Le Pen lacks the freshness and sense of renewal that a Bardella candidacy would have brought the party. Above all, the prospect of a leading presidential contender, however popular, possibly campaigning under house arrest with an electronic ankle tag puts France in uncharted territory.

The opposition has lost no time condemning Ms Le Pen's decision to stand, and reminding voters that she has now been found guilty by two courts, even if the second conviction is suspended by her latest appeal. Out on the streets the day after the verdict, with Mr Bardella at her side, a defiant Ms Le Pen declared that voters "know full well" that the accusations against her "do not deserve a criminal conviction". Mr Attal accused her of "Trumpian rhetoric". Playing the victim may go down well with her base, which has long suspected that the judges are out to get her. But it could make it more difficult for her to widen her appeal. ■

Le Pen is mightier

The transatlantic alliance

Battered, then loved

ANKARA

NATO survived its bipolar summit

DONALD TRUMP came to insult NATO, not to bury it. He arrived in Ankara for the alliance's annual summit threatening to withdraw American troops from Europe unless he got Greenland, a Danish territory. He repeatedly said he was "not happy" with allies for failing to help with his war in Iran, and vowed to sever trade with Spain. Yet by the time he left he was waxing about the "tremendous love" among allies.

For those who feared the summit could bring a potentially catastrophic break-up of NATO, the happy parting is a relief. Mr Trump signed up to a joint declaration that reaffirmed NATO's "ironclad commitment to our collective defence" including Article 5, which holds that "an attack on one is an attack on all". Even so, Mr Trump's declaration of affection will seem, to many Europeans, akin to the love of a wife-beater.

Another crisis will surely come. As one European official put it, Mr Trump's commitment helps to preserve deterrence against Russia, "but we cannot be naive". The Pentagon, having cut both front-line troops in Eastern Europe and the backup forces it promises to send to reinforce NATO in any war, is conducting a six-month review that may yet bring more reductions. Pete Hegseth, the secretary of war, is thought to have wanted to withdraw all troops, but was checked by Marco Rubio, the secretary of state. Moreover, the resumption of hostilities with Iran may keep stoking Mr Trump's resentment at Europeans' refusal to join the fight.

Even so, with every bust-up averted, Europeans buy a bit more time to strengthen their defences. And they are. Britain will lead a 12-country, $50bn European initiative to develop missiles able to hit targets 2,000km away. These are a replacement for the deep-strike ones Mr Trump has been withholding, though Germany also struck a deal to buy American Tomahawk missiles. Other contract announcements showed that Europeans are trying to fill the gaps in "enablers" provided by America, for instance mid-air refuelling aircraft and long-range drones; they also served to tell Mr Trump that American firms had much to gain by keeping close to Europe.

Ukraine's ability to fend off Russia's invading army, and to inflict palpable damage far behind the front lines, is also buying vital time for Europeans. Volodymyr Zelensky, Ukraine's president, emerged as one of the winners from the summit. Mr Trump once told him he had "no cards" and threw him out of the Oval Office. Now he promises to give him an ace: a licence to make desperately needed Patriot interceptors, the only weapons Ukraine has that can shoot down Russian ballistic and hypersonic missiles. Ukraine failed to intercept any of the 29 missiles Russia fired on July 6th, killing 28 people in and around Kyiv. The licence is no quick fix, even if it goes ahead. Getting production up and running will be a long process.

Mr Trump seemed to give Mr Zelensky the nod of approval for Ukraine's strikes against Russian oil facilities and other targets that are bringing the war to Moscow and St Petersburg. J.D. Vance, America's vice-president, had urged Ukraine to be "maximally defensive", but Mr Trump suggested long-distance strikes could bring Russia to the negotiating table. "It's an escalation, but it's also an escalation that can help lead to an end," said Mr Trump.

Mr Trump's marked friendliness towards Mr Zelensky, think some, may be a sign that he now regards Ukraine's president as a fighter and a winner. "It's hard to believe, right?" Mr Trump told reporters. "From the Oval Office to now, I think we've developed a very good relationship." Mr Trump is mercurial, however. His next conversation with Mr Putin may yet steer him closer to the Kremlin's viewpoint.

Another winner from the summit was its host, Recep Tayyip Erdogan, Turkey's strongman president. Ahead of the summit, Turkish officials had privately said just getting Mr Trump to show up would count as success. He did, and came bearing gifts. He suggested he would move ahead with the sale of F-35 fighters to Turkey, which America had blocked in 2020 after Mr Erdogan purchased an S-400 air-defence ▸▸

system from Russia. He also promised to roll back CAATSA sanctions the US had imposed the same year against Turkey's defence-procurement agency.

Congress says America can provide Turkey with the F-35s only when the latter "no longer possesses" the Russian air defence batteries. Even so, the prospect of a breakthrough seems closer, despite the objections of Binyamin Netanyahu, Israel's prime minister, who warned that selling Turkey the jets would "destroy the power balance in the Middle East".

Having salvaged the summit, and in many ways done better than expected, the allies are in no rush to repeat the experience. The next one is set to take place in Albania, but the leaders pointedly did not give a date. Some think they should henceforth be held every two years, rather than yearly. The fewer get-togethers with Mr Trump, they argue, the fewer the chances of a family meltdown. ■

Poland and Ukraine

War over the past

KYIV

When one country's heroes are another's criminals

On July 11th Poland commemorates the Volhynia massacres, in which some 100,000 Polish civilians were killed by Ukrainian nationalists in 1943 in what is now western Ukraine. The day used to be an occasion for dialogue. Polish and Ukrainian leaders together honoured the victims of the killings and of reprisals by Polish partisans. Local officials and priests organised vigils on both sides of the border.

Not this year. Poland and Ukraine, long close allies, are entangled in a fight over Volhynia's legacy. A Polish minister has warned that his country may block Ukraine's accession to the European Union. And Poland has reneged on a deal to give Ukraine MIG-29 fighters, citing its unwillingness to share drone technology. Donald Tusk, Poland's prime minister, has suggested he may withhold aid. The squabble threatens lasting damage to one of Europe's most crucial partnerships.

The latest dispute began in late May, after Ukraine's president, Volodymyr Zelensky, named a special-forces unit after the Ukrainian Insurgent Army (UPA), which during the second world war fought the Soviets and the Nazis (though it occasionally co-operated with the latter). Ukrainians celebrate the insurgents as a symbol of resistance against Moscow. Poles revile them for the massacres, which Poland officially considers a genocide.

The provocation may have been unintentional. The request to rename the unit came from its officers, not from Mr Zelensky. It appears to have inadvertently bypassed diplomatic review. Ukraine had unveiled monuments to UPA commanders in the past, drawing pro forma protests from Poland. But this time Karol Nawrocki, Poland's right-wing populist president, decided to escalate. On June 19th he stripped Mr Zelensky of Poland's highest state honour, awarded in 2023. Mr Zelensky was initially taken aback. But he leaned into the fight, sending his medal back by commercial mail rather than diplomatic courier.

The two countries' nationalist politics then made it hard to untangle the dispute. Three former Ukrainian presidents renounced their own Polish honours. Mr Zelensky doubled down, unveiling plans for a National Pantheon that will showcase Ukraine's historical great and good. "No one will ever dictate...which heroes we should honour," he growled. Some officials on both sides, notably the countries' foreign ministers, have tried to lower the temperature, but without success. The hard-right opposition in Warsaw hopes to use the July 11th commemorations to whip up new anger against Ukraine.

At the start of Russia's invasion in 2022, the friendship between Poland and Ukraine reached new heights. Western weapons poured into Ukraine through Poland, while millions of Ukrainian refugees crossed the other way. But many Poles gradually lost enthusiasm. Farmers resented Ukraine's tariff-free grain exports to the European Union. Poles grumbled that Ukrainians were crowding schools and driving up rents. Such divisions were exploited by Russian influence campaigns and by Poland's own nationalist opposition.

The dispute over the UPA threatens to poison relations for the foreseeable future. Mr Nawrocki may table a bill that would criminalise "glorifying" the UPA. Ukraine's parliament, meanwhile, is weighing a law to combat "Ukrainophobia", which could ban criticising the UPA. Unless cooler heads prevail, says Bartosz Cichocki, a former Polish ambassador to Ukraine, "Poland's support for Ukraine's EU accession, military assistance and even economic co-operation" may be at stake.

That would have grave implications for Europe. Cracks in solidarity with Ukraine would embolden Russia. The end of military co-operation with Poland would undermine Ukraine's war effort. A setback to Ukraine's EU membership bid would hand Russia another reason to celebrate.

Ancient quarrels

Much of the problem is political. Mr Nawrocki is backed by Poland's populist-right opposition Law and Justice (PiS) party, and is wooing far-right voters ahead of parliamentary elections next year. For him and for PiS, the dispute is "political gold", says Renata Mienkowska-Norkiene, a political scientist. Mr Tusk and the other members of Poland's governing alliance, she says, are simply trying to keep pace.

For Mr Zelensky, the turn towards nationalist grandstanding is a departure. He previously joined in commemorating the victims of the Volhynia massacres. Last year his government approved allowing Polish researchers and civic groups to exhume victims' bodies, a long-standing Polish demand. That conciliatory diplomatic attitude is sorely needed now, on both sides. Instead the two countries are allowing historical squabbles to inflict severe damage on their relationship, to the detriment of Europe and themselves, and to the benefit of Russia. ■

Tusk and Zelensky trying to hold it together

Discontent in Russia

Darkening mood

MOSCOW AND ROSTOV

Russians are growing anxious and angry as the war hits home

IN MIDSUMMER THE Moscow railway stations that serve southbound routes are usually bustling with holiday-makers. For the past four years stressed parents and children gazing towards the distant promise of the sea have mingled with men in uniforms. This summer the stations feel entirely different. Trains heading towards Crimea are spookily empty, the khaki is more prominent and there is a pervading sense of anxiety. As is the case everywhere in Russia, the talk is of petrol shortages, drone strikes, internet outages and the threat of a new round of mobilisation.

Not since reservists were first mobilised to fight in Ukraine in 2022 have Russians felt so unnerved. On July 2nd the Public Opinion Foundation (FOM), a pollster close to the Kremlin, reported that 55% said their colleagues and relatives felt anxious, up from 40% last year. Russia's social contract, whereby citizens stayed out of politics and the authorities left them alone, has been broken. The war has come home and is everyone's problem. Drone attacks, once confined to the border cities of Kursk and Belgorod, now threaten much of the country. On July 6th Ukrainian drones struck Russia's largest refinery in Omsk, some 2,500km from the front line.

Petrol is being rationed across the country. Drivers wait two or three hours to buy the maximum daily allowance of 20 or 30 litres. Some filling stations have run dry. In Crimea and Novorossiysk, a city on the Black Sea, authorities have banned retail petrol sales; only officials, public services and businessmen connected to fuel operators may fill up. Two oil facilities near Novorossiysk have been destroyed. Valery, who owns a grocery shop in the city, expects fuel shortages to have a knock-on effect on food deliveries and other logistics. Food prices have already been affected: in June the cost of potatoes rose by 4.5% from a month earlier. Some farmers say they will not be able to harvest their crops if fuel shortages continue.

In the Rostov region, in southern Russia, the owner of several stalls that sell local produce says she dreams of having her own fuel tanker. "They can all go to hell with their ideas and grand ambitions," she says. "They" include Vladimir Putin, Donald Trump, Volodymyr Zelensky, Emmanuel Macron and local governors. "We used to live just fine. Now all you do is scramble from one problem to the next."

Elena Panfilova, who conducts focus groups in Moscow, says the mood is turning from frustration to seething hatred of the authorities. It is not just the fuel shortages and internet outages that make people angry, but the widening gap between reality and the Kremlin's rhetoric. "The only way out is to stop [hostilities]," says Valery. "We have been hearing upbeat reports that 'Russian troops are confidently advancing along the entire front line' for all four years. Yet if you look at the maps, everything is bogged down in a swamp."

Mr Putin continues to insist that the war is mostly going to plan. In a recent interview, reading his answers from an autocue, he said: "Everything is operating steadily and with a substantial margin of resilience." His bare acknowledgment of the change in circumstances suggests he may still be deciding on his next course of action. Many Russians fear that instead of cutting his losses and scaling back, he will double down on the conflict.

Talk of mobilisation has intensified. In early June Sergei Gurulev, a deputy in parliament, wrote on social media that a decision to mobilise in autumn had already been made. Later he deleted his post, claiming it had been hacked. "It always happens like this: first there are rumours that something bad will happen, then the authorities start denying it, and then it happens," says another Sergei, who works for an advertising firm in Nizhny Novgorod, east of Moscow. He is thinking of moving to the countryside, where it would be harder for recruiters to find him: "Going to the office will become suicide." Many of his colleagues are considering fleeing the country. Discussion of emigration is at its most persistent since 2022.

Tests for another round of mobilisation may be under way in the Penza region, south-east of Moscow. Since mid-June locals have been reporting that men are being grabbed in public and in door-to-door sweeps, taken to assembly points and forced to sign contracts with the army. Noticeably fewer men are now on the streets. "The atmosphere in the city is terrible," says Elena, a resident. "I forbade my husband from leaving the house. When I go out, I lock him from the outside. We keep the curtains drawn all day." Andrey Surkov, Penza's military commissar, claimed the raids were simply to hunt for draft dodgers and deserters.

Bolshier brigades

Dissent is becoming more open. On June 25th a former soldier posted an appeal to Mr Putin on Instagram, saying soldiers were being tortured for refusing to hand over their earnings to commanders or to carry out suicidal missions, with many "zeroed out" (killed). "Vladimir Vladimirovich, pay attention to this. Invite me to meet you. Otherwise the army will turn its weapons on the Kremlin." The man was predictably arrested (and later released), but by then the video had gained 20m views. From soldiers to street merchants, discontent is rising. As Sergei in Nizhny Novgorod says, "Nobody understands what all this is for, other than perhaps to satisfy Putin's ego. If people protest, they go to jail. All we can hope for now is that he dies." ■

Operating steadily, apparently

CHARLEMAGNE
From prime time to hard-to-find

Apathetic teenagers and culture warriors are hobbling public-service broadcasters

EVERY EVENING in dozens of European countries, a soothingly familiar ritual unfolds. Cued in by a few bars of portentous music, a much-loved newsreader delivers the day's happenings with the solemnity of a suburban accountant. A cheery meteorologist then gestures at a map in a segment not much changed since the 1950s, bar the warming weather. Later a costume drama reminds viewers of a more decorous past. As the evening trundles on, a series imported from America passes the time, or a game show with unfathomable rules. On the other side of the television screen, meanwhile, teenagers slumped on the living-room sofa are utterly unaware that any of this exists as they guzzle another hour of TikTok on their phones before turning their attentions to YouTube.

Likely as not, the content being studiously ignored by youngsters is the work of a public-service broadcaster, or PSB. These enduring mastodons are often known by their mere initials—RAI in Italy, ZDF in Germany, TVP in Poland or the BBC in Britain. They are integral to modern European polities. Funded by the state but somehow not of it, they have long been as recognisable to citizens as royal families and the postal service. (Brits call theirs "Auntie".) Turn on an old-fashioned television set and it will probably serve up a channel hosting a PSB as the cathode ray tubes warm up. Fiddle with your car's radio and soon enough the sound coming through the static will belong to a publicly funded disc jockey.

For decades after their founding in the 20th century, PSBs had a charmed life: the public in search of information or titillation had few alternatives. Commercial rivals sometimes made inroads, beating PSBs in the ratings by offering racier shows. But public broadcasters' funding was guaranteed by a dedicated licence fee levied on households, with advertising a handy sideline. Everyone knew where to find them. Their news set the national agenda. Once a year PSBs from Portugal to Finland joined forces for the Eurovision Song Contest, a festival of kitschy pop put on by the European Broadcasting Union (EBU), their umbrella group.

Alas, times have changed as jarringly as the key in a 1990s Eurovision ballad. These days PSBs are under attack from an unlikely alliance of apathetic teenagers, American tech giants and culture-warring politicians. Without changes in regulation, broadcasters whose brands were once synonymous with radio and television fear they will be forgotten, if not gone. Should that happen, they argue, a venerable part of Europe's social fabric will have frayed.

The politicians offer the noisiest spectacle. Once the biggest threat from officialdom was meddling in editorial affairs, particularly in central Europe, where autocrats sometimes turned PSBs into mouthpieces. (The Hungarian one once controlled by Viktor Orban's regime apologised on July 7th for its past lies, and paused news programming.) Now the threat is more subtle, but also more widespread. Populists, particularly on the hard right, dislike PSBs, which they see as run by air-kissing urbanistas who turn up their noses at rural and working-class types. Alternative for Germany and France's National Rally have vowed to privatise their respective state broadcasters. Giorgia Meloni in Italy has been accused of politicising RAI. In Switzerland a recent referendum called for a slashing of the licence fee—though it was comfortably defeated.

Partly as a result, PSB budgets have been squeezed. They have fallen by a tenth in the past decade, says the EBU—even as pricey obligations, such as running regional radio broadcasts or maintaining classical-music orchestras, have not disappeared. Licence fees that guaranteed editorial independence are sometimes being replaced by straight-up government funding. The populist Czech government is mulling such a move, alongside funding cuts. That would erode the safeguards against politicians meddling in editorial output, warns René Zavoral, head of the public radio there.

Worse, the funding squeeze comes just as PSBs are no longer so sure of finding an audience. Like newspapers and other traditional media, they are facing stiffer competition. Younger viewers go for streamed series over linear television, and prefer podcasts to radio. Though PSBs offer these, they often do so via platforms controlled by tech giants. These serve up content based not on the public interest, but on what keeps up engagement. Buy a TV these days and the remote control may well include a Netflix or YouTube button. Finding a PSB's output might take quite a bit of fiddling, buried on the 15th page of a television menu between a Korean yoga app and a shopping channel that has paid to be featured.

The state broadcasters' latest gambit is thus to find regulatory ways to keep their perch. The EBU is lobbying for the European Union to mandate "prominence" rules for PSBs. These might force makers of TV sets or car radios, for example, to ensure it is easy to find state media. More controversially, it might result in social-media titans like TikTok, YouTube or Facebook being forced to serve up state-funded content, on the dubious logic that this is somehow of higher quality. "What we want is for people to have the choice to see our content," says Noel Curran, the EBU's boss.

But who then killed the video star?

Whether teenagers know it or not, public-service broadcasters matter. Yes, they overplay their distinctiveness: on a recent evening France 2 aired six back-to-back episodes of a dubbed detective series, while those in other countries served up World Cup football. That is hardly fare the commercial sector would shun. Some PSBs are bloated, their stars overpaid. But even if imperfect, these stalwarts of shared public consciousness offer a remedy against the polarisation affecting European societies, a trusted place for nations to see themselves reflected. In case of a war or crisis, the public would not turn to some YouTube influencer for information—they would flock to established state-run outlets. If they could remember how to find the channel, that is. ■

Britain

Housebuilding

Handy Andy

Britain's prime-minister-in-waiting promises the biggest programme of council-house building in 40 years

THE "PEOPLE'S HOUSE" in Desford, Leicestershire, was a humble home. With three small bedrooms and hot water heated by a coal fire, in 1952 it was the Conservative government's model solution to Britain's post-war housing crisis. Taking just 12 weeks and £952 to build (£24,500, or $33,000, in today's prices), the house was rented from the council for 16 shillings a week, a 30% market discount and equivalent to about 10% of average manual wages.

Andy Burnham, the prime-minister-in-waiting, is nostalgic about these post-war council homes, which he thinks used to be "the foundation for everything". In a speech on June 29th he asked: "If you don't give people a good home, what chance have they got of having a good life?" One of his few bold policy promises was to "oversee the biggest council-housebuilding programme since the post-war period".

But council housing is not the only way to give people a good home. Sir Keir Starmer, the outgoing prime minister, focused on enabling private housebuilding, through planning reform, rather than the state picking up the shovel. The most sensible thing for Mr Burnham to do would be to ease planning restrictions further and to relax regulations, such as environmental requirements. Instead, he has said that "undue weight" has been placed on planning reform—he wants to return housing to its post-war heyday of state-led intervention.

In 1952, the year the People's House was built, local authorities funded the construction of four in five of the 200,000 new homes built in England that year. A little under half of housebuilding was public for most of the pre-Thatcher decades. Last year, by contrast, only 12,500 of the 190,000 new homes, or one in 16, were built for what is now called "social rent" (the tenure Mr Burnham seems to have in mind when he talks of council houses), priced at 50% of the market rate on average. Mr Burnham's announcement implies that he wants to build 75,000 social-rent homes a year, as that was the record level achieved after Margaret Thatcher won power in 1979, often seen as the end of the post-war period. As well as being costly it would take years to reach that level.

The promise to build a lot more housing for more people would seem to be a no-brainer. Politicians of all persuasions agree that Britain does not build enough. Between 1955 and 1979 new homes added around 1.9% to the housing stock each year, according to the Centre for Cities, a think-tank. Between 1980 and 2015 that rate fell to 0.8%, the lowest in all but one of 11 other European countries studied.

Sir Keir's solution was simple: build more homes. His government set a target that 300,000 homes a year would be built in England—housing policy is devolved to ▸▸

the nations—over its five-year term. He introduced welcome reforms, including a tweak to mandatory housing targets and a change in the rules to give a presumption in favour of development around well-connected railway stations. But some of these reforms won't be implemented until later this year at the earliest and they are in any case not sufficient. By our calculations, the number of homes added to the stock fell from 222,000 in the year to June 2024, when Sir Keir came to power, to 208,000 in the year to March 2026.

The biggest reason is that, while the government freed one hand from planning restrictions, it tied down the other. A slew of fresh taxes and regulations—from a building-safety levy to new climate standards—have added to the cost and complexity of construction. Add to that an increase in the price of labour and materials, and the Home Builders Federation, a lobby group, estimates that construction costs for a typical home have risen by £76,000 over the past five years (equivalent to 20% of the average sale price), causing a "viability crunch". A new rule requiring second staircases in buildings over seven storeys is halting the construction of new-build flats, particularly in London. Construction began on just 7,500 private homes in the capital last year, against a target of 88,000.

A nation of homebuilders

If Mr Burnham is serious about building more homes, further planning reforms and regulatory changes would be the easiest and cheapest way to do so. He should also look at the inefficient allocation of existing council homes (see next article). Attempting to build more council homes is a far inferior solution. The first problem is funding. The government has allocated £39bn over the next decade to build 300,000 affordable homes, including 18,000 social-rent homes, each year. The National Housing Federation, another industry lobby, reckons it costs £183,000 on average to build a social-rent home. If Mr Burnham earmarked all the current funds, perhaps 21,000 social-rent homes a year could be built. That suggests raising output to 75,000 homes a year would cost the government an extra £10bn annually (equivalent to more than a penny on every rate of income tax).

Finding such sums will be difficult given the pressures on spending. Another option would be to increase the share of homes that developers are required to set aside for affordable tenures in return for planning permission for private projects. Developers complain that these obligations—amounting to 15% of homes, on average—slow the building process and impair viability. Sir Sadiq Khan, London's Labour mayor and a social-housing enthusiast, reluctantly reduced the obligations in the capital from 35% to 20% to unlock stalled schemes.

Mr Burnham has said that he can reduce the costs of his ambitious plans by making use of "vacant public land". That seems fanciful. The 2015 Conservative government tried something similar, with a target of building 160,000 homes over five years on public land. In practice, the state had little understanding about the land it held and much of it required expensive remediation. Only a fraction of the target was reached before being quietly dropped.

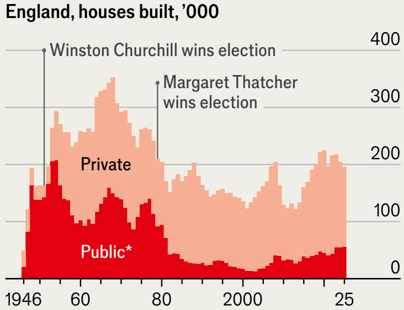
And then there are concerns about whether local authorities can even deliver all these houses. They have not built at scale since the 1970s and no longer employ the armies of architects and structural engineers to do so. Outsourcing that expertise is likely to be expensive and hiring their own experts will take councils time, which Mr Burnham does not have.

The most defensible part of his ambitious council-housing push concerns the loss of the existing stock. In 1980 Thatcher gave tenants the "right to buy" their homes at a generous discount; and nearly 2m have since been sold on the cheap. The current government already intends to make the discounts less generous (capping them at 15%). Mr Burnham, who laments the sale of council housing, will probably push this policy through.

But when it comes to building new homes, he needs only to look north to see the fruits that a housebuilding programme led by the private sector can bring. Under his watch as mayor of Greater Manchester housing supply increased by 61% over nine years thanks to better local co-ordination, a pragmatic approach to high-rise building and not burdening the private sector with excessive affordable-housing obligations. Indeed Sir Richard Leese, the former leader of the city council, said in 2021 that if the council had tried to impose such requirements, "It would have delivered no housing at all, zero." If Mr Burnham wants to solve the housing crisis he should practise Manchesterism. ■

A private affair

England, houses built, '000



*Local authorities and housing associations

Sources: Ministry of Housing, Communities and Local Government; *The Economist*

Social housing

The rent is too damn low

Britain's social housing subsidises the wrong people and hurts growth

LOOK FOR a house on HomeSwapper, a property-comparison website, and the deals seem too good to be true. Three-bed houses in leafy London postcodes are being rented for less than £800 ($1070) a month; on other sites similar properties go for well over three times that. Try to put in an offer, though, and you will probably be blocked. HomeSwapper is a service that lets existing social-housing tenants swap their homes. Anybody living in the private sector doesn't get a look-in.

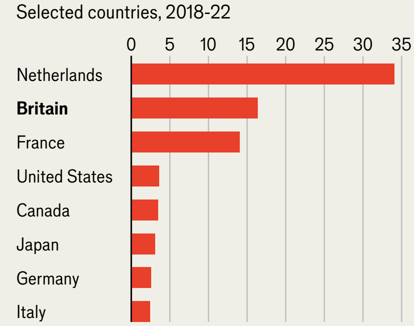
Many private-sector renters, used to handing over a third of their pre-tax income to landlords, look enviously at social-housing residents. These homes are owned by local councils or charities and let at sub-market rates. Although England already has one of the highest levels of social housing in Europe (see chart 1), over 1.3m households are on waiting lists for a social home. Andy Burnham is clamouring to build more. The probable next prime minister has made a major council-house building programme a cornerstone of his platform.

One problem with his plan is that it would be expensive: we estimate it could cost as much as £10bn a year. The other is that it keeps intact England's broken system of housing support, which rests on two overlapping subsidies. Social housing gives over 4m households (16% of the total) discounted rents. Means-tested benefits meanwhile provide cash to those on low incomes or out of work, to cover some or all rent. Two-thirds of social-housing tenants draw on both, using the cash to shrink their rent further. In addition, more than 1m households in private accommodation (24% of all private renters) get cash alone. ▸▸

Land of hope and subsidy 1

Social housing as % of total housing stock

Selected countries, 2018-22



Source: OECD

Rich social-housing tenants win from this messy system. Applicants for social housing tend to be hard-up. But they mostly get lifetime tenancies, and fortunes can improve. The unemployed teenage mum can become a well-paid empty-nester, yet her rent stays cut-price. In some cases her children would be able to inherit the tenancy. Eleven per cent of all social homes are lived in by the country's richest 40%. Around 1.4m tenants don't claim housing-related benefits, often because they are too rich to pass the means test. The media periodically work themselves into a fury about extreme cases, from union barons on six-figure salaries to Sierra Leone's first lady.

Social rents across England are typically 50% of market rent, but in London the discounts are steeper. Newly let social houses in Kensington and Chelsea went for 21% of market rent in 2024-25 (a £32,000-a-year saving). A crude calculation comparing average social and private rents suggests that the government in effect subsidises English social-housing tenants by as much as £20bn a year. This probably overstates the true cost, since social-housing stock tends to be less desirable than equivalent private properties. Yet it shows the spending to be far from small change.

When the Conservative government tried to charge market rents to high-earning tenants in 2015, it backed down in the face of furious objections. But the counter-arguments were weak. Some tenants claimed they weren't subsidised because their rent more than covered their property's maintenance costs. However, this ignores the opportunity cost. The government owns an asset for which it could charge significantly higher rates and use the extra money on more deserving causes, like tackling homelessness.

Others worried that driving better-off tenants away would turn social housing into ghettos. Yet the proposal was never to evict anyone, just to charge market rates. True, a sharp rent increase would be difficult for tenants to navigate and should be phased in slowly. Again the opportunity cost is significant. Housing benefits for private renters are particularly stingy. In some areas, allowances cover the full rent in fewer than 5% of local properties, forcing tenants to skimp on food or heating. Prioritising subsidies for wealthy social tenants over that group makes no sense.

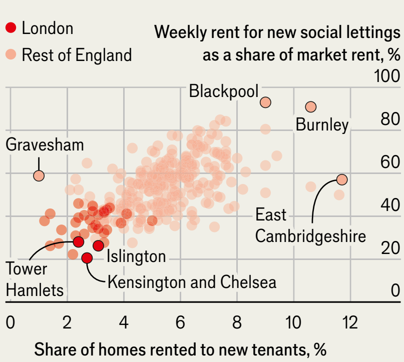
The system is also bad for growth. The subsidies are so big that they stop people moving for better-paid jobs elsewhere. Others are incentivised to cling to homes in city centres despite not working (over half of social-housing residents don't work). The problem is acute in London, where the turnover of social housing is particularly low (around 3% a year), partly because the subsidies there are so high (see chart 2). With social housing making up nearly 40% of the stock in inner boroughs like Islington, the result is a serious misallocation of the capital's housing.

Mr Burnham claims that new council homes will cut the benefits bill. But this holds only if they go to people on benefits who would otherwise be privately renting or homeless and in emergency shelter. Fewer than half of new social-housing tenants fitted that description in 2024-25. A quarter were previously living with friends and family. Housing them might be kind (living with one's parents can be painful), but if it creates a fresh benefits claim, it will cost the exchequer more, not less.

Britain's system of housing subsidies is like a leaky pipe, spraying cash out to those who don't need it. Rather than turning up the pressure with new council homes, Mr Burnham should fix the holes. ■

Postcode lottery 2

England, social housing by local authority
2024-25



Source: Ministry for Housing, Communities and Local Government

The weather outlook

A hot topic

Why Britons' faith in weather forecasters has grown

CHATTING ABOUT the weather is a national pastime in Britain—and successive heatwaves have recently given Britons lots to discuss. In the past, the obsession did not translate into faith in weather forecasters. Memories lingered of the "great storm" of 1987, a deadly cyclone. The BBC's best-known forecaster, Michael Fish , said on air that a woman had called in worrying there might be a "hurricane" approaching Britain. "If you're watching, don't worry, there isn't!" he quipped. Hours later the storm struck.

YouGov, a pollster, found in 2017 that barely half of people trusted forecasters to give them accurate information about the weather. But that has changed. A recent YouGov survey finds that now 62% of Britons trust them and just 25% are sceptical—still far behind trust in nurses (86%), but well ahead of economists (37%), let alone politicians (a mere 4%). The change is partly because forecasts are more accurate than ever thanks to advances in technology, suggests Alex Deakin of the Met Office. It also helps that fewer people today remember the 1987 storm.

Indeed, that storm prompted investment in weather-forecasting tech and communications protocols. Liam Dutton, a weather presenter for Channel 4 News, says the model he relies on divides Britain into squares of 2km (1.2 miles) a side, whereas a decade ago the highest resolution possible was 12km. The average accuracy of a forecast four days into the future is comparable to that of a one-day forecast in the 1990s. Under-25s, who grew up in an era of reliable forecasts, are by a large margin most likely to trust forecasters.

Climate change has raised the stakes by causing more extreme, sometimes life-threatening shocks such as prolonged heatwaves and sudden heavy downpours. "Being more accurate when it comes to those extreme events builds trust," says Mr Deakin (though climate change also makes forecasting trickier). Since 2015, following the practice in America since the 1950s, the Met Office has given names to the biggest storms. The most recent was Storm Dave, in April. The agency believes this has helped engage the public. There are also colour-coded warnings for heat. A red alert in June was Britain's second, after one in 2022.

Though it is now easier to predict the British weather, dealing with it remains a challenge. Older houses are built to hoard heat in the chilly winter; regulations mean that even most new-build homes lack air conditioning. The government has at least started to offer grants for homeowners to install heat pumps that also have a cooling function, which had previously been excluded from the most popular subsidy scheme. Nonetheless, when the mercury passes 30°C most Britons will continue to lose their cool.

BAGEHOT

Theresa May: Britain's first—and last—woke prime minister

That whooshing sound was the Overton window hurtling by

On July 13th 2016 Theresa May strode to a podium in Downing Street and launched an assault on the "burning injustices" of Britain. Under her government, young black men would no longer fear the police; women would no longer endure lower pay than men. Social concerns would trump economic ones. Their systemic causes would be eradicated. It was a hymn to identity politics. It was, in short, woke.

Mrs May—now Lady May—was Britain's first and probably last woke prime minister. It is a strain to accept this, at first. The thought makes both her allies and enemies wince. The MP who in 2000 voted against the repeal of Section 28, which forbade the "promotion" (or rather acceptance) of homosexuality in schools? The authoritarian home secretary, rigidly in favour of the Conservatives' attempts to reduce immigration at any cost? The prime minister who railed against "citizens of nowhere"? How can Mrs May, a creature of curtain-twitching suburban England, be woke?

If the idea seems absurd, it is because Britain has drifted so far from the ideas and ideologies that dominated the country barely a decade ago. The policies Mrs May pursued—from trans rights to hammering the police for anti-black racism to pursuing "net zero" and eliminating "modern slavery"—are now seen as excesses from a different era. Mrs May is Britain's only woke prime minister in the same way that Richard Nixon—responsible for environmental reforms and affirmative action as well as the carpet bombing of Cambodia—is probably America's last truly liberal president. Mrs May was right-wing and right-on. An iron fist wrapped in a Pride flag; Britannia in a rainbow lanyard. Mrs May was woke.

Consider the way she treated the police. During one speech at the Police Federation, the de facto trade union for coppers, she in effect labelled them racist for unfairly targeting young black men and misogynistic for calling a domestic-abuse victim a "slag". "It is an attitude that betrays contempt for the public," said Mrs May, the then home secretary. She had entered the stage to polite applause. She left it to silence.

A decade on, and such a speech by almost any politician would be impossible. The police are racist against black people? Britain in 2026 is a land where the police are seen on the right as, if anything, racist against white people. Nigel Farage, the leader of Reform UK, which tops the polls for now, has attacked the police for an "obsessive commitment to anti-white discrimination" in a 7,000-word screed decrying "two-tier" Britain. It is woke means, with group identity and systemic injustice shaping everything, for unwoke ends.

In her moral crusade against the mistreatment of British ethnic minorities, Mrs May in 2016 commissioned a "racial-disparity audit", which would reveal the everyday inequities against ethnic minorities. "There isn't anywhere to hide," she said. "If these disparities cannot be explained, they must be changed." Now prejudice against the majority is of utmost political concern. "Anti-white racism is embedded into the heart of the state," wrote Mr Farage.

What Mrs May sees as her crowning achievement, her successors now see as a pain in the neck. The Modern Slavery Act was a world first, rolling various anti-exploitation laws into a single act. Mrs May shone a light on the miserable existence of people forced to work in brothels, nail bars or building sites and car washes. Now, in British politics, claims of "modern slavery" are painted by each major party as little more than a ruse to dodge deportation.

In Downing Street Mrs May was a staunch advocate of trans rights. She considered adopting self-ID, allowing trans people to change gender without the say-so of a doctor. At the time, her position was mainstream. Today such views leave her on the fringe of British politics. A decade on, and a vociferous backlash to Mrs May's proposals has left Britain with a de facto "bathroom ban" for trans people. Front-rank politicians who once baldly declared that "trans women are women" now cower when it comes to the subject. Cynical they may be, but it is probably for their own good: Mrs May's views would likely bar her from high office today.

When politicians rail against the excesses of woke in 2026, they are often railing against the May government. Sweeping changes were adopted unthinkingly. In one of Mrs May's final acts in office, Britain bound itself to being "net zero" by 2050, the first big economy to do so. There was a quick 90-minute debate, marked by broad consensus—a sharp contrast with the Brexit rows that curtailed her tenure in Downing Street. Now "net zero" is a fundamental fracture, with even Labour split on it.

Woke whiggery

Social change is not a ratchet. The woke world over which Mrs May briefly ruled has collapsed. "Who would not want to be woke?" she asked in her 2023 memoir "The Abuse of Power: Confronting Injustice in Public Life". Well, all her successors for a start. Boris Johnson's government started a "war on woke". Rishi Sunak promised to "take on this lefty woke culture". Sir Keir Starmer shuddered at the accusation that he, a human-rights lawyer, was in any way woke.

Politics is downstream of culture. In office Mrs May reflected society; she did not shape it. The shibboleths of her era were accepted with little introspection. Perhaps progressivism provided an oasis of political calm compared with the hysterical rows about Brexit, which defined her premiership. Now society has shifted and Lady May cannot move with it. Out of office, prime ministers become frozen in time, stuck in the period they ruled. In the House of Lords Lady May appears only occasionally to defend her modern-slavery reforms or to despair at racial disparity in the Mental Health Act, little more than an ermine-clad ghost from an era that is now long gone. ■

International

The age of guilt

Not so minor offences

Child criminals are being prosecuted at younger ages. That may backfire

"I'LL GUIDE YOU," wrote a user called Akon on Signal, an encrypted messaging app. "Pick up the guns and then take a taxi and go straight there. Like a soldier." In October 2024, court records show, a 13-year-old boy in Gothenburg, Sweden had agreed to do a job in exchange for SKr200,000 (about $19,000 at the time). At around 7am on October 10th the boy received a YouTube tutorial on how to load a gun. Shortly after that he strode past a police car and shot at the entrance of Elbit Systems, Israel's largest defence contractor, in broad daylight. News reports suggest the attack had been orchestrated by a Swedish drug gang with links to Iran, a year into Israel's war in Gaza.

The boy was arrested almost instantly. But he was never charged, probably for the same reason he was recruited in the first place: he was below Sweden's minimum age of criminal responsibility (MACR) of 15—the threshold at which people are deemed able to grasp the consequences of their actions, and thus punishable for them. Swedish officials are pushing to lower the MACR to 14 for serious crimes ahead of parliamentary elections in September, as voters demand a response to a spate of gang violence in recent years. In 2022 the country had one of the highest rates of gun homicides in Europe. Last year there was a wave of bomb explosions and shootings, a number of which involved children.

Politicians in other countries from Brazil to the Philippines and South Korea are trying to lower their MACR, often for similar reasons (see chart on next page). The Maldives may soon lower it from 15 to 12. Argentina this year has lowered its MACR from 16 to 14 at the behest of Javier Milei, the president. Last month Northern Ireland blocked a proposal to raise the MACR from ten, the lowest in Europe (along with England, Wales and Switzerland), to 14.

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Governments are also moving to impose tougher punishments on the children they do prosecute. Mr Milei has championed his changes with the slogan "adult crime, adult punishment". In 2024 Queensland, Australia, passed its own "Adult Crime, Adult Time" law (then expanded it twice). Children there as young as ten can be sentenced to life in prison for murder. And starting this month in Sweden convicts as young as 15 will be imprisoned, ending a long-standing policy of detaining them in youth homes. If Sweden's change in MACR goes through, 14-year-old criminals will go to prison, too.

Officials in many of these countries are responding to rising public pressure over high-profile incidents of youth violence. In the Philippines, a 14-year-old boy was one of two teenagers accused of carrying out a school shooting in June that left three dead, prompting some politicians (though not yet Ferdinand Marcos, the president) to call for lowering the country's MACR from 15. One of the killers was a player of GoreBox, a first-person shooter game, which the government has now banned.

In Argentina in 2024, prosecutors say, someone inside a prison hired a 15-year-old ▸

gunman for 200,000 pesos ($200 at the time) to murder a petrol-station attendant—a crime that was captured on CCTV footage and shocked the country. The teen was too young to be prosecuted, provoking an outcry. Julio Burdman of Isasi/Burdman, a pollster, found 68% of people favoured lowering the MACR. "Public opinion is quite convinced that young people are the drivers of crime," Mr Burdman says. "And that's why politicians go after it."

The actual data on youth crimes across countries are more murky than the perception. In some countries, including Germany and Sweden, there have been reported spikes in serious crime among young people. And in South Korea the number of crimes among children under 14 nearly doubled in four years, to 21,000 last year.

But such rises have generally been from a relatively tiny base; in many rich countries rates of juvenile crime declined from the 1990s (when there was a previous round of get-tough-on-crime changes in law) to the 2010s. The Swedish National Council for Crime Prevention reported that in 2023 some 3,500 offences by children under 15 had been serious enough to be investigated formally, up from 1,500 in 2015. Assault was the most common offence, followed (in the case of boys) by robbery and rape. In 2025, 52 Swedish children under 15 were linked to a murder or a murder-related plot—around a third of them under 14.

How young is too young to hold a child responsible? The UN Committee on the Rights of the Child recommends a MACR of at least 14, and urges against lowering a MACR once established. Critics of lowering the age say children may not fully understand the consequences of their actions. Studies show children aged 12-14 are more impressionable, impulsive and prone to risk-taking. The brain's pre-frontal cortex is still developing during adolescence.

But politics shapes criminal-justice systems—and often that means tough-on-crime politics. England's MACR of ten has been on the books for more than 60 years. But in 1993 the torture and murder of a two-year-old by two ten-year-old boys prompted calls to tighten the screws further on young offenders. In 1998 Tony Blair's Labour government abolished a common-law presumption—which prosecutors had to rebut—that children aged 10-13 are *doli incapax*, or incapable of wrongdoing. Australia still adheres to the same prosecutorial hurdle for suspects aged 10-13 (even while Queensland seeks to punish such children like adults). In other countries high-profile crimes similarly produce constituencies for lowering the MACR; rarely does pressure go the other way.

Politicians pushing to lower the MACR say they are motivated in part by the recruitment of youths into gang violence. In the Maldives, the government says that gangs in Malé, the capital, use children as young as 11 to carry out serious crimes. In Colombia authorities reported that 409 children were recruited by armed groups in 2024, up from 342 in 2023 (and probably a severe undercount, experts say).

In June last year, a 15-year-old Colombian boy shot a senator and presidential hopeful who died from his injuries two months later. Prosecutors said he was probably recruited by a criminal network. He was sentenced to just seven years in juvenile detention, provoking criticism that such lax punishments encourage the exploitation of minors by gangs. The UN says the longstanding problem in the country of drug-traffickers using *soldaditos*, or little soldiers, has been getting worse.

A report in 2025 by the European Parliament says gang recruitment is getting worse in a number of European countries as well (while noting that hard data are scarce due to shortcomings and inconsistencies in record-keeping on youth crime). The report attributes much of the rise to growing demand for recreational drugs, and finds that youths are taking part in more types of organised crime in more geographic areas than before in places like France and the Netherlands.

Inevitably this has meant more violence, too. In Marseille, where gangs are hiring adolescents as police-spotters, the report says, there have been cases of children "harming innocent bystanders or killing each other with Kalashnikovs".

In Sweden, like in Argentina, the Maldives and elsewhere, government officials argue that lowering the MACR will let police not only improve public safety, but also help children who have gone astray by intervening earlier in their lives. To the extent that their age made them targets for recruitment, the argument goes, it may also spare some children from organised-crime recruitment.

But those who oppose lowering the MACR—including, in Sweden, the prison service, the bar association and an independent body of senior judges—fear the opposite will happen instead. In England and Wales, where the MACR is just ten, gangs recruit children as young as seven. "Gangs are going lower and lower," says Gabriel Wessman, director of Rosersberg prison north of Stockholm.

Lowering the MACR can also do lasting harm to the children who get locked up. In 2010 Denmark, which was then enduring a wave of gang-related violence similar to Sweden's, experimented with lowering the age from 15 to 14. Two years later the change was reversed under a new government. Authorities determined that lowering the MACR had actually led to an increase in crime: criminalising younger children increased the likelihood of their reoffending within 18 months of release. (Similarly, in England and Wales two-thirds of children aged 10-17 who served custodial sentences of under a year end up reoffending within a year of their release.)

Insta-gangs

However governments tweak their laws, gangs will find a way to hire young shooters like the 13-year-old in Gothenburg. Narcos in Latin America and gangs in Britain alike target children on Instagram and TikTok, massively widening their pool of recruits. "They can take the children that we recruit, but in one second I will put something new on Instagram, and I will recruit hundreds of children again," one recruiter told Evin Cetin, a co-author of "Child Soldiers: How Gangs Kidnap Our Future".

Sweden is an example of how shrewdly—and quickly—criminals can adapt to changes in the law and inflict the consequences on the young. In 2022, as gang crimes hit their peak, the government toughened a measure that gave anyone under 20 years old a "discount" on their prison sentence, lowering that threshold to under 18. Gangs quickly accelerated the recruitment of younger people online, asking them to send a photo of their passports or of their relatives' passports before they carried out a crime. That locked them in for fear of reprisals if they got cold feet.

The case of the Elbit Systems shooting remains a telltale example of who gets punished and who often does not in organised crime. Four other teenagers, ranging in age from 15 to 19, were eventually sentenced to prison for their roles in the crime, including the recruitment of the 13-year-old boy. But not "Akon", the person who appears to have been the mastermind. He was never identified. ■

How low can you know?

Minimum age of criminal responsibility
Selected countries

*12 in Scotland
Sources: "The minimum age of criminal responsibility internationally—history, systems and the future", by E. Delmage et al., *Criminal behaviour and mental health*, 2026; CRIN; CLT; government statistics; press reports; *The Economist*

THE TELEGRAM

If ludicrous Trump-flattery can save NATO, bring it on

The NATO chief Mark Rutte is quite annoying. It is in a worthy cause

Taking his seat at a NATO summit must be a bittersweet moment for Mark Rutte, the alliance's secretary-general. For among the 32 national leaders at the top table, several find the Dutchman insufferable.

It grates on some governments when Mr Rutte praises President Donald Trump and—far from rebuking him for calling NATO a "paper tiger" and demanding that members show him "loyalty"—thanks him for strengthening the alliance. Worse, Mr Rutte seems to enjoy playing Mr Trump's enforcer a little too much. A former Dutch prime minister, he reminds some of a finger-wagging preacher when he scolds Europeans to spend more on their defence. Or while chiding them to avoid "empty" talk about deterring Russia without American help. Southern Europeans, in particular, remember lectures from Prime Minister Rutte to spend less. Now, as NATO boss, he wants them to borrow and rearm. Mr Trump calls Mr Rutte his friend and a man "respected all over the world", setting colleagues' teeth a-grinding once more.

Against that, Mr Rutte can be confident that many allies want him in the room. He soothes Mr Trump's rages as few other Europeans can. Mr Rutte is willing to call Mr Trump "Daddy" and hail him as leader of the free world, if that stops America's president storming out of summits like an angry old king.

Mr Rutte was at it again on July 6th at a press conference in Ankara on the eve of a potentially fraught NATO summit in the Turkish capital on July 7th and 8th. A reporter noted Mr Trump's claims that European allies failed to support his war in Iran, and asked whether that might dampen the mood. Mr Rutte went big. With a straight face, he compared Mr Trump to Dwight Eisenhower, the former Supreme Allied Commander who defeated Hitler and was later elected president. In the secretary-general's telling, after 60 years of trying, at last an American leader had matched Eisenhower's powers of persuasion.

Now, due to a combination of Mr Trump's "extremely forceful" leadership and the threat posed by Russia, NATO members are spending their fair share on defence. Mr Rutte added a tribute to Ukraine for taking the fight to Russia, leaving Vladimir Putin "desperate". Yes, Mr Trump had shared his "disappointment" about the role played by some partners in the Gulf, he conceded. But actually almost 5,000 American planes flew sorties from Europe to support Operation Epic Fury. What is more, he enthused, Britain, France and other allies had announced their willingness to help defend shipping lanes in the Strait of Hormuz.

The performance helps explain why Mr Rutte inspires complex emotions among his peers. Alongside outlandish flattery for Mr Trump and a soothing acknowledgment of his impatience with allies, the Dutchman can be heard pushing back on current Trumpian obsessions, with the help of actual facts. Such praise-and-reality sandwiches are required. Diplomats relate that as recently as the G7 summit in June, Mr Trump greeted fellow leaders with a growling assertion that Ukraine was losing and that its war with Russia needed to stop, though he was talked down from this position by the end of the meeting. Lately, Mr Trump has been fulminating to all who will listen that Europeans tried to thwart his war with Iran. In search of scapegoats for his debacle in the Gulf, he exaggerates the extent to which allies imposed legal restrictions on bombing runs and missions over Iran.

Actually, Ukraine is doing well, Mr Rutte has told Mr Trump repeatedly, in both public and private. What is more, Europe provided lots of help in Iran, and is generally an indispensable platform for American power projection in the Middle East and beyond.

Other Western leaders and officials are aware that Mr Trump calls the Dutchman often, sometimes several times a day, to vent or consult him about his European peers. They are shocked, though, when Mr Rutte privately admits to rather liking Mr Trump, whose company he finds fun. Many allies are quietly livid with Mr Trump. Exhaustion is setting in among many governments, especially after America's adventure in the Gulf wreaked havoc with their public finances. When European officials mutter about Mr Rutte's obsequiousness, this is, in part, transferred resentment of America's president, a man few dare to cross.

Taking one for the team

Mr Rutte's sense of fun runs counter to lessons from history. Sir Thomas More, counsellor to King Henry VIII, an extravagantly vengeful English monarch, wrote that having the king's ear is like playing with a tamed lion: a thrill until "he roars in rage for no known reason", when "suddenly the fun becomes fatal". More was eventually beheaded by his king. Though NATO bosses need not fear that fate, defenders of Mr Rutte say that he knows Mr Trump may turn on him one day, just as he has savaged such allies as Georgia Meloni of Italy and Britain's Sir Keir Starmer. Until that day, he is convinced that it is objectively in America's interest to preserve the alliance, and that Europe is not ready to defend itself. So he will do what it takes to keep Mr Trump onside.

Critics accuse Mr Rutte of blocking European efforts to plan for a post-American order. Supporters say that Mr Rutte opposes Europe openly working on its own defence structures because he fears they would hollow out NATO and make America's departure a self-fulfilling prophecy. His is a big bet on America staying in the alliance. Without any planning, Europe would be vulnerable if America leaves. That said, his lion-taming buys Europe time to rearm. His readiness to defend reality also shows up the cowardice of Trump courtiers, many of whom slavishly endorse the president's most absurd beliefs. If a mix of flattery and candour can stop Mr Trump from turning on Ukraine, or roaring out of the alliance, the shredding of Mr Rutte's dignity is a small price to pay. ■

THE CHAOS THEORIST

After training as a physicist, Andrey Melnichenko became Russia's biggest industrialist. Now, he tells Arkady Ostrovsky, he has a plan for the existential challenge facing his country

The clock on the Kremlin tower had already struck midnight on May 28th 2025 when Andrey Melnichenko was finally summoned. The building was largely empty but its most important occupant was still awake. Vladimir Putin greeted his guest and invited Melnichenko to sit beside him, offering him tea. "Move closer, Andrey," Putin said kindly. Melnichenko's gaze landed on a red folder which lay in front of Russia's president—he guessed it was a dossier about him supplied by the security services.

Melnichenko, a slim, tall man with a gawky bearing, is one of Russia's richest men. He had met Putin before in the company of other Russian businessmen. But this was the first time he had asked to see *nachalstvo* ("the leadership") one on one. He began by introducing himself. Over the past 35 years he has built up an industrial empire with vast holdings in fertilisers, mining, energy and logistics. Yet he had always kept a low profile. Even Putin seemed surprised to hear about the scale of Melnichenko's operations, which account for nearly 1% of Russia's GDP.

Melnichenko began to talk about his public role, including the brief on climate policy he held with the Russian Union of Industrialists and Entrepreneurs, a club of businessmen. Putin began to lose interest. Melnichenko thought he could read a question in Putin's eyes: "Why are you here? What do you want from me?"

"Is someone bothering you?" Putin asked.

"Vladimir Vladimirovich, honestly, I understand that people usually come to you for one of two reasons. Either they're afraid, there's some problem. Or they want something—a position, a favour...As for fear, of course I'm afraid, 100%, like everyone else. Why deny it? I'm not afraid of anything specific, unless there's something in your folder. But if there is, please tell me so at least I know what to fear."

Putin smiled. Melnichenko's directness had grabbed his attention.

"As for ambition," Melnichenko continued, "my ambition was to build a global fertiliser company, one of the largest in the world, operating in every market, independent of any one country...I wanted to build a global company simply because it was interesting."

But then "all this happened"—by which he meant the war with Ukraine, the sanctions, the unpredictability of geopolitics. "The world turned out not to be what I thought. There is no global world. There are no global rules...You understood it before we did."

Melnichenko, who was placed under sanctions in the first days of the war, told Putin how he was forced to hand his wife ownership of EuroChem, then the world's second-largest fertiliser firm.

"Who is your wife?" Putin enquired.

"She is a Serb," Melnichenko told him.

"Well, Serbs are decent, honest people," Putin said. "They won't steal it."

Melnichenko then turned to the purpose of the visit. He wanted to become more involved in public life and to work for the good of his country. The mistake of the elite, Melnichenko told Putin, had been to separate their own fate from the fate of Russia. The supposed guarantee by the West of their property rights had nearly cost them their fortunes. "You cannot have one country for making money and another for security, your family's future and real life," said Melnichenko, and thanked the Russian leader for helping him see the light.

Putin was pleased. For years he had warned Russian oligarchs that they were not truly welcome in the West. Now, one of the foremost among them had admitted that he was right. The meeting lasted over an hour, far longer than Melnichenko had expected.

Melnichenko spent just five minutes telling me about his visit to the Kremlin during nearly 60 hours' worth of conversations we have had over the past three months. He wouldn't give any more details of the meeting with Putin, but he did share, with startling frankness, the story of his own rise, his diagnosis of the existential challenge that Russia faces and his vision for the country's future which could change Russian history if he manages to realise it.

He is nothing like most businessmen whose ambition leads them to believe they can run for office. He arrived at our first meeting in Istanbul after a 28-day fast to purify his body and mind. He does not pontificate. Rather, I could see the effort he put into wrestling his thoughts into words, using his entire body to draw them out. He seemed interested in using dialogue to test and shape his ideas.

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Melnichenko studied quantum physics at university, and he carries with him the discipline's seemingly contradictory impulses. He thinks in systems like a physicist. But he thrives on the fundamental uncertainty of the world around him. Each of those traits is useful and together they have propelled him to the top of global business. They may yet equip him to play a role in restructuring Russia and its place in the world.

As we talked, Melnichenko's ideas took shape. Our conversations inspired him to write an essay laying out his vision of Russia's future, which *The Economist* is publishing online this week. At the heart of that vision is the idea of sovereignty—not just of the state but also of the elites and citizens who, under Putin, have been excluded from participation in their country's politics.

The security establishment sees any independence as a threat. An outsider taking the initiative—a rich businessman no less—may be perceived as a direct challenge. Melnichenko is well aware of the dangers. "Any move beyond silent compliance poses risk," he told me. "It would be natural to keep one's head down. But the stakes are too high and if you don't participate, you exclude yourself from your own future."

Melnichenko is a latecomer to Russian statecraft. Despite being the richest man in Russia when Putin invaded Ukraine in 2022, he is not a household name inside or outside the country. For the past 20 years, he has treated Russia as a foreign investor would, flying in for a few weeks a year to inspect his businesses. The rest of the time he either lived in Switzerland or cruised round the world on his yacht. This was partly because he wanted to live like other international billionaires. He has cultivated relationships with tech titans such as Larry Ellison, the leaders of the UAE and the court of Muhammad bin Salman, the crown prince of Saudi Arabia.

But it's also because of the agreement Putin struck with the oligarchs when he came to power: stay out of politics and you can keep your fortunes and enjoy your life abroad. The country was instead dominated by the *siloviki*, alumni of the security services.

When Putin invaded Ukraine, the world waited for Russia's rich and powerful to speak against the war. But they stayed quiet. The West imposed sanctions on them, partly to make them apply pressure on Putin. But this betrayed a lack of understanding of how power worked in Russia—the business elite had long given up trying to influence politics.

Putin himself was worried the oligarchs would betray him. Instead sanctions pushed them back into his embrace. Yet when they returned, they repatriated their interests and ambitions along with their money. Melnichenko's opening gambit when our conversations began three months ago was: "For the first time I feel I have no other country but Russia." Given the reticence of his peers, it is astonishing that Russia's most enigmatic oligarch, while living in Moscow, is willing to put his head above the parapet and lay his views on the record.

Melnichenko is not a dissident. He is neither an anti-war hero nor a pro-war zealot. The businesses he runs help sustain the war economy. Ammonia produced by his plants is used in munitions. He works with the armed forces to defend his factories from

drone attacks and co-operates with the security services to avert sabotage. He avoids ideological and moral judgments, because he thinks they are a distraction from the task of designing a system that works.

He is not seeking to challenge the existing power structure. Rather, he is offering his services to the government and hopes to become an architect of change. The course of his career suggests that he is not interested in wielding direct control. He served as a non-executive director on the boards of his companies, at times allowing his chief executives to overrule him. His skill has been in bringing together disparate interests to construct systems that transform natural resources: building ports and railways, synthesising fertiliser, generating electricity. Hard-won mastery over the physical world, he believes, gives him a clear-eyed perspective that ideologues lack.

The war with Ukraine has now gone on longer than Russia's involvement in the second world war. Melnichenko is stepping up as Moscow finds itself under military assault for the first time since 1942. Ukraine's attacks on Russia's refineries has caused a massive fuel shortage. Drones are striking industrial and military facilities deep inside Russia, stripping the Kremlin of its aura of invincibility. The economy is under strain. For some time, elites have felt that the country has reached a *tupik*—a dead end. Now, the arrival of war on the home front has added a fresh layer of discontent (see Europe section).

This means the conflict may escalate dangerously. "The war in Ukraine is unequivocally seen as a war between Russia and the West," said Melnichenko. He thinks there is a worryingly high chance that it will spill over into other countries. He does not rule out the use of nuclear weapons. That is an outcome he is desperate to avoid. "Whatever the reasons that brought us here—whether these people were right or those people were wrong—we have to recognise the reality: we're now in uncharted territory."

The security establishment sees any independence as a threat. An outsider taking the initiative may be perceived as a direct challenge

Melnichenko is not scared of chaos—he sees it as a laboratory to test himself as a builder of systems. His fortune was created as modern Russia emerged from the carcass of the Soviet Union. He has always been a step ahead of change, identifying value which is underpriced. Today there is a heightened demand for order, predictability and an idea of a future. "People are not afraid of freedom. People are afraid of chaos," Melnichenko said. From the outside, the regime seems impregnable. Yet that had also seemed the case in 1913 and in 1986. Those governments fell a few years later.

It is important to understand Melnichenko's story for two reasons: first, because he is likely to become a force who cannot be ignored; second, it shows him to be a meticulous strategist, who plans patiently and acts decisively. So far, he has always got what he wants.

Melnichenko was born in 1972 in Gomel, the second-largest city in Belarus, into a family of Soviet intelligentsia. His father was a physicist and a semi-professional basketball player; his mother, an ethnic Ukrainian, taught Russian language and literature in a local music school.

In the spring of 1986, when Melnichenko was 14, the nuclear plant blew up in Chernobyl, 160km from Gomel. He experienced Chernobyl as both a catastrophe and a liberation. He and his classmates were evacuated to an empty military base in Lithuania that had recently stored short-range nuclear missiles. "It was the freest and most interesting summer of my childhood: no parents, no school supervision, total freedom. You could crawl through missile silos, many of them not sealed up yet, wander through underground passages: it was risky, exciting and girls liked it."

Chernobyl was also a catalyst of *glasnost* (openness) in the Soviet Union. As attempts to conceal the scale of the disaster failed, the pervasive culture of secrecy and fear began to melt away. Magazines started to publish previously banned writing about Stalin's repressions, "I watched teachers quite literally rewrite their interpretation of history on the fly." Foreigners and goods were starting to trickle over the Soviet border. As a teenager, Melnichenko would buy Western clothes and electronics from Poles and Hungarians and sell them in street markets in Gomel.

Melnichenko was clever and placed in a stream for advanced maths and physics. At 15 he went to the leading Soviet school for mathematics, which was attached to Moscow State University (MSU). Unlike most other parts of the Soviet education system, it was genuinely meritocratic. Students who did well, like Melnichenko, studied physics at MSU. Others trained as cryptographers at the KGB academy.

His studies at MSU shaped Melnichenko's perception of the world. He specialised in quantum statistics and field theory, which deals with sub-atomic particles and their behaviour. "In the quantum world, nothing is certain and everything is probable. Reality is fluid," he explained. "If something disproves your view of life—some event, phenomenon, whatever—it is not a tragedy, it is an opportunity. I'm not rigid. Tomorrow I may believe something different from what I believed the day before yesterday." This mentality was perfect for a country in upheaval.

In the spring of 1989 he attended political rallies and rock concerts by Western bands such as the Scorpions, whose song "Winds of Change" became an anthem of freedom. He and a friend bought tickets for Pink Floyd's gigs via employees at theatre box offices—prices were still set by the state—and resold them through a network of students at a huge mark-up.

At MSU, Melnichenko met a woman called Larisa, his first love. "She was beautiful, intelligent and she was five years older." Larisa had studied music and sang jazz. Though he was certain she loved him back, Larisa suddenly disappeared in the spring of 1990. Later, one of her friends told Melnichenko that she had married a rich Muscovite and was expecting a child.

He was devastated but there was a twist in the tale. "Two years after her wedding, I met Larisa again. By then I was a different person. I had money, status, confidence." He resumed the relationship—but only because he wanted to hurt her. Melnichenko got his revenge. "It was probably the most shameful thing I did in those years, and I can find no justification for it."

The story of Larisa taught him two lessons: revenge, however tempting it may be, humiliates the perpetrator more than the target. The second was that Moscow was obsessed with money.

The collapse of the command economy and rapid impoverishment of the population created an enormous appetite for magic shows and gambling as people sought a miracle. Card games, shell games and lotteries, run by con artists, sprung up everywhere. Melnichenko and a friend sensed an opportunity. "We observed it, rationalised parts of it, simplified it rather cynically, and basically made it efficient." Melnichenko's game favoured the house, but it did allow people to win—he realised that for the business to endure he needed his customers to share in the benefits.

The game was simple. The player drew ten sticks from a set of 60. Each stick was marked with a number from one to ten, and the total was then checked against a payout table to determine whether they had won. "We made sure our operators stuck to the rules. The hope we were selling was genuine." This increased the game's popularity, even though "I understood who was profiting from whom."

To avoid getting shut down, Melnichenko needed to square the authorities. He acquired permits to operate the lottery by pretending it was a charitable foundation. (Later it was registered as a charity—the cause supported was named as "strengthening relationships with those who issued permits".)

A far bigger problem was thugs shaking down businesses. To prevent this "injustice", Melnichenko relied on a friend whose father headed a police academy in Volgograd. "Why negotiate with gangsters when there are plenty of half-trained policemen around?" Hiring them made paying off a protection racket unnecessary and the cops also helped to manage the crowd "which may become disappointed with its financial result and punch you in the face".

Through his business, Melnichenko acquired a network that has risen along with him. Many of the MSU students who operated the lottery became government officials and businessmen who are still in his orbit. The police cadets now occupy senior positions in the security services.

Melnichenko got another student to manage day-to-day operations while he went to lectures and "thought about things". This was the role he has always preferred. "I was always a leader but almost never in the foreground." His low-key style was honed at the summer camps he had attended as a child, where the strongest boys were the most popular. "The moment you try to advance your own agenda, however admirable it may be, you inevitably provoke the desire of some less reflective but physically stronger boy…to punch you in the eye."

He learned how to be diplomatic. "I have never liked violence as a way of achieving an objective. The best option is to attract people by proposing objectives they either had not seen themselves or did not believe were attainable."

It is astonishing that Russia's most enigmatic oligarch is willing to put his head above the parapet

By the end of his first year of university, Melnichenko was driving a Lada. By the end of his second year, he had upgraded to a Mercedes. He had 40 lottery stands operating across Moscow. The lottery generated a steady flow of roubles, but these were losing value by the day as inflation shot up. He converted his earnings into dollars—then an activity that was still illegal outside official channels. He obtained these through Chinese and American students who had access to greenbacks through expat connections. These contacts turned into friendships—one became a senior official in the Chinese government and his son heads Melnichenko's Shanghai office. The American became a congressman. Any excess dollars he had were sold to other aspiring entrepreneurs. He opened his first informal currency exchange in a dorm room at MSU.

Melnichenko spent the summer of 1991 in Crimea. Not far away, Mikhail Gorbachev was being detained by the KGB in a last-ditch attempt to preserve the Soviet Union. Melnichenko sensed that these were the death throes. He felt "neither fear nor euphoria—just a sense of an inevitable process accelerating".

When he returned to Moscow, he did something unthinkable a few weeks earlier. Betting that the old system was hollow, he advertised his illegal foreign-currency exchange in a newspaper. The risk paid off and the business grew rapidly. He finally dropped out of university and folded the lottery.

What he wanted now was to make his operations official—not easy if you're a 20-year-old without government connections. What he did have, though, was chutzpah and a knack for winning the trust of older men of his grandfather's generation. He had two guardian angels. One was David Kruk, a 70-year-old war veteran who ran Premier, a co-operative bank. Melnichenko found him through the yellow pages and made Kruk an offer. Premier would receive a fixed fee for bringing his exchanges under its roof; any additional profits would be kept off the books.

After six months Melnichenko poached Kruk's staff and set up on his own, but he managed to stay friends with his mentor until Kruk's death at the age of 96. He called the new bank Moskovsky Delovoy Mir (Moscow Business World, or MDM for short).

Meanwhile, Russian politics was breaking down. In 1993 the country suffered a constitutional crisis when communists and ultra-nationalists led an insurgency against Boris Yeltsin, the president. There was shooting on the streets. Melnichenko picked up a gun and headed out—not to get involved but to observe.

To consolidate his position in foreign-currency dealing, Melnichenko needed to find a regular supplier of dollars. His other guardian angel was an American banker called Richard Spikerman, the head of international relationships at the Republic National Bank of New York, the main importer of American bank notes into Russia.

Melnichenko won him over. "We stood outside in the snow and grilled steaks. I was 60. He was 22. He reminded me of my son," said Spikerman, who worked with him up until last year. Now Melnichenko had a direct line that bypassed the official Russian exchanges.

Republic National would fly up to $300m-worth of notes a day from vaults in Europe to Moscow. Melnichenko arranged the transport and security for his share. He rented a disused nuclear shelter near Moscow for storage. Trucks drove two storeys underground, where dozens of people sat counting cash.

"Russia in the 1990s was an engine of acceleration: it destroyed people and created them at the same pace," Melnichenko said. Rules were flexible and success or failure depended on one's agility. "If you could think a little faster than others and formulate things a little better, things worked out for you."

In 1992 the government began the biggest privatisation in history. Many of Melnichenko's friends became owners of companies that were previously state-owned; he served as their banker. His big clients included the Chernoy brothers, who assembled a metals empire with the help of political connections and underworld muscle. The turf war they fought over Russia's aluminium left hundreds dead in the smelter cities of Siberia.

In 1996 the Chernoy brothers' empire fell. They were succeeded by a select group of tycoons, who were handed control of Russia's natural resources by Yeltsin's government in return for political support. After Yeltsin's re-election in 1996, Boris Berezovsky, one of the most prominent of these oligarchs, declared, "now we have the right to occupy government posts and enjoy the fruits of our victory." Melnichenko was not of their number. He observed from the side, as they scrapped with each other to expand their personal fiefs instead of investing their wealth and energies in improving the public realm.

Melnichenko is not scared of chaos—he sees it as a laboratory to test himself as a builder of systems

In 1998 Russia defaulted on its debt and devalued the rouble. Many of the oligarchs were exposed and lost vast sums of money. Melnichenko, who had converted his earnings into foreign currency, came away not just unscathed but stronger. As other Russian banks went under, he scooped up some of the country's biggest firms as clients. One of these was owned by Roman Abramovich, who had worked his way into Yeltsin's inner circle. "He made a big impression on me. For the first time, I saw a strategist—disciplined, patient and systematic."

Melnichenko "came to understand how power in Russia really worked". It did not derive from official positions of authority, he realised, but ran through informal networks, where only trust and loyalty mattered. Melnichenko saw how Abramovich had built up contacts everywhere—from regional governors to Yeltsin's family—and wielded influence without displays of dominance. "People who made up his 'collective' did not realise they were part of a single plan...that existed in his head. Abramovich seemed to be nowhere, yet soon he was everywhere. From a certain moment", around spring 1999, "there were no oligarchs in Russia. There was just Abramovich."

Melnichenko did not want to be part of someone else's system, nor was he interested in politics. Instead, he wanted to create an industrial empire. In 1999 he hired Alexander Mamut, a plugged-in figure, as chairman of his bank. "Within a year I got to know absolutely everyone who one needed to know."

Abramovich was instrumental in managing the transition from Yeltsin to Putin. Melnichenko also recognised this marked the end of an era. He offered hundreds of thousands of dollars to lure opposition candidates to Putin's party and received a letter of gratitude from Putin himself after he was elected president in 2000.

Early that year Melnichenko went to the Himalayas. "I wanted to think everything through, calmly." He had money, political connections and a clear goal: to consolidate some of the largest industrial resources in the country. He had his eye on three sectors: making metal pipes, making fertiliser and mining coal. "Everything was part of a unified strategy."

Each target was, on the face of it, unpromising. Export prices for Russia's commodities were in the basement, agriculture was in a dire state and domestic tariffs for electricity and gas were set artificially low. Many domestic consumers simply did not pay at all, safe in the knowledge that they would not be cut off.

But Melnichenko had a hypothesis: that China's economic growth would create new demand for coal, and require food from North and South America, which would therefore need fertilisers. Internal reforms would establish fair energy tariffs, and consumers would begin paying in full. Rising oil and gas prices would create domestic demand for pipes. And scrap metal, the raw material for making them, was cheap and plentiful.

Melnichenko started with coal: sweeping up undervalued mines, and connecting them to railway hubs, ports and power generators. In the east of the country, he built an export terminal at the end of an underutilised railway line—a 2,700-mile-long (4,345km) Soviet mega-project that ran from Siberia to the Pacific.

The main consumers of coal inside the country were electricity producers. Anatoly Chubais, the architect of privatisation, had been appointed in 1998 as head of RAO UES, the electricity monopoly, with a mission to break up one of the last remaining pillars of the centralised economy and promote competition. Melnichenko paid a call to introduce himself. "I believe that your reform will work out," he told him.

Chubais was used to dealing with bolshy minority shareholders or oligarchs demanding favours. The man visiting him was so polite that "he looked like a schoolboy walking into the staff room during break," Chubais recalled. There was one more thing, Melnichenko added. "We raised $2.5bn and we bought 15% of your shares."

Chubais was so stunned he thought he had misheard. This would make Melnichenko the largest individual investor in RAO UES. Chubais waited for the new owner's demands. None came. As Melnichenko prepared to leave, Chubais could not help asking: "Why did you come, Andrey? Do you have any wishes?" "No, I just came to inform you," Melnichenko replied. Then he left. For the next seven years, he did not make a single request. "It was my dream come true," Chubais said. "He was a new kind of industrialist."

It took just two years for Melnichenko, whose name had previously been barely known outside business circles, to emerge as one of Russia's top industrialists. "Everything was done very quickly. And nobody could understand what we were doing. Only once everything was finished did it become clear." In 2002 *Nezavisimaya Gazeta*, a Russian newspaper, quoted one Western businessman who said of Melnichenko, "He's 30 years old, and he wants to rule the world."

By 2004 his plan was complete. MDM Group had merged 50 enterprises into three companies: the Pipe Metallurgical Company (TMK), EuroChem, a mineral and chemical company, and the Siberian Coal Energy Company (SUEK). The power plants served Russia, his coal exports were sent to Asia and EuroChem looked West. He had, as his old friend Spikerman said, become "a globalist by design".

While Melnichenko was consolidating his industrial assets, Putin and the security services were establishing control over the elites and eliminating independent power bases. The new leader sidelined most of the oligarchs. In 2003 he arrested Mikhail Khodorkovsky, the politically ambitious owner of Yukos, Russia's largest oil firm, and seized his company.

Moguls were told that "you don't need to be involved in anything other than your business," Melnichenko recalled. "In fact, you are explicitly expected not to be involved." He did not mind this arrangement and neither did his peers. By the early 2000s they were looking outwards. "The same impulse that had once led me from Gomel to Moscow was now pushing me to New York, London and Paris," said Melnichenko.

Part of this shift was his decision to get married. He approached his personal life as systematically and deliberately as his business affairs—like "Chinese dynasties. There was no randomness in it, absolutely none." He chose his future wife before he actually met her.

"In the quantum world, nothing is certain. If something disproves your view of life, it is not a tragedy, it is an opportunity"

Aleksandra Nikolić, known as Sandra, was five years younger than him. She had been raised in the former Yugoslavia. Her father was a Serbian architect, her mother a Croatian artist. As the most popular singer in the Balkans and a model with a degree in international management, she was beautiful, famous and clever. She was also his entré into European society.

At their first meeting in Antibes, Melnichenko told her straight away he was planning to marry her. She was taken aback, but he was confident. "The moment I saw her, I knew that everything I'd heard about her before was true—and much more besides. I fell in love with her immediately."

Six months later they moved in together and, two years after that, they got married. The wedding cost $30m. The 300 guests were fed by Alain Ducasse, a Michelin-starred chef, and entertained by Whitney Houston, Christina Aguilera and Enrique Iglesias.

By the time of their wedding, Melnichenko was no longer a Russian tax resident. In 2004 he moved to France, and later to Switzerland, and stepped back from the day-to-day operations of his companies. A life apart suited him. "I had worked very hard, essentially, since childhood. I just wanted to live…I had no interest in improving the world, let's put it that way."

Until then his knowledge of Western business was mostly theoretical. There was only one way to turn it into practice: "start living the way the people you aspire to become actually live, spend time how they spend it, see how decisions are really made."

Melnichenko commissioned a yacht from the designer Philippe Starck, whom he gave complete freedom. It was 119 metres long and weighed 6,000 tonnes. The prow was shaped like the beak of an eagle and it glided stealthily through the sea with barely a ripple, "like a whale". The boat, called *A* after his and his wife's shared initial, set sail in 2008. It served as his calling card and an expression of life unconstrained by borders or nationality. He surveyed the globe, spending eight months a year on board. "We were building a global Russia integrated into the world economy and Western institutions."

From the deck of his yacht he began devising a global investment strategy. In 2011 he conceived a plan to spend $35bn over 15 years, picking up assets across the world, and building new plants in Russia. "I did not receive much in the way of dividends, I was investing in the long term." The plan succeeded—but the world for which it was made would fall apart.

Two conflicting tendencies began to emerge inside Russia in 2008, the year that Putin took a four-year hiatus as president. Following years of growth and high oil prices, the country was modernising socially and economically. The first post-Soviet generation was coming of age. They wished to be citizens rather than subjects and were receptive to international influences.

But Putin, who continued to wield power as prime minister, realised integration with the West would upend Russia's political system. This would undermine his power and that of the *siloviki*, and his desire to recreate the Soviet empire by asserting a Russian sphere of influence. His return to the Kremlin in 2012 was greeted with mass protests by Russia's middle class. At that point he made a deliberate choice to set the coun-

try on a path of confrontation.

While Melnichenko was expanding his horizons, Putin began to isolate Russia and restore the symbols of empire. None was more potent than Crimea, which he annexed in 2014. Sanctions followed as Putin began to turn Russia into a fortress—self-reliant, hardened against pressure, its population on a leash.

That year Melnichenko moved the headquarters of EuroChem to Switzerland, where he lived. He did not recognise the magnitude of the tensions between Russia and the West. He saw crises in business terms, where matters are resolved when the costs grow too high. "I didn't think it would go as far as it did. It shouldn't have gone that far." Melnichenko now sees his error. "While I was continuing to build an international company, the world in which such companies could exist was already coming to an end."

Then in 2022 his world imploded. On the day that war broke out, Melnichenko was in Moscow to attend a long-scheduled engagement with Putin, alongside other Russian business leaders. Putin projected confidence. "Unfortunately, our meeting is taking place in unusual conditions, to put it mildly, but we planned it in advance," he told the stunned gathering. None of those present had expected the Russian president to pull the trigger. They had persuaded themselves that war couldn't happen because it would be a disaster. Nonetheless, none of them spoke against it.

Melnichenko was put under sanctions on March 9th. The EU claimed that this was because he was part of "the closest circle of Vladimir Putin". EuroChem itself was exempted from sanctions, so as not to endanger the world's food supply. Melnichenko later challenged the sanctions in the European Court of Justice, but his arguments were dismissed.

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He had already taken countermeasures. On March 8th, his 50th birthday, he resigned as the beneficiary of the trusts that held assets used by the family—houses, planes, yachts—and transferred them to Sandra, an EU citizen who had never lived in Russia and had no Russian passport. A few days later the Italian government seized his newest yacht. The EU bureaucracy was not his only source of trouble. Business partners in Europe tried to exploit his predicament, he says.

Melnichenko's initial strategy was to sit out the war and wait for things to return to normal. "There was a period in 2022-23 when I tried to play by the old rules because it seemed to me that this whole story was temporary." He based himself in Dubai and made friends with the Emirati elite. The tipping point came in a conversation with Tucker Carlson, then a MAGA tribune, in a hotel in Dubai in the build-up to the 2024 American election. "It left me with a clear impression that if Trump wins, he would embrace fragmentation."

At around that time he and other businessmen realised that the war would not end soon. With no reprieve from sanctions in sight, they started to repatriate themselves back to Russia, where they faced a different kind of threat to their assets.

Property rights in Russia had always been conditional. But the war unleashed a rapacity that hadn't been seen for decades. Since 2023, assets worth $60bn have been nationalised or handed over to loyalists. It was the biggest redistribution of property since the mass privatisations of the 1990s.

In August 2023 prosecutors sought to confiscate Sibeco, a Siberian power plant, from Melnichenko, arguing that his purchase of it had involved fraudulent collusion with the previous owner. Two weeks later, the prosecutor-general's office backed down in return for Melnichenko making a donation to a "charitable organisation". According to people familiar with the settlement, the sum was 32bn roubles ($335m)—the same amount that Melnichenko had originally paid for Sibeco. The charitable organisation was Sirius, a school for gifted children favoured by Putin.

Melnichenko now knew that he needed to establish property rights in Russia. The only way to do this was to work his way into the system, understand the competing interests and help shape its objectives. "If you want a seat at the table, you have to do something."

As always he began by observation. "In 2023 I started to spend more time in Russia and was getting to know it in a much deeper way." He talked to anyone who had a stake and a viewpoint: "politicians, journalists, thinkers, liberals, nationalists, communists". He could be found having breakfast with Dmitry Muratov, the Nobel prizewinner and founding editor of *Novaya Gazeta*, a liberal newspaper, who was ostracised by the government and branded a "foreign agent". In the evening he might have tea with Alexander Dugin, a nationalist philosopher who glorifies the war.

Conversation by conversation, he found a way to imagine what Russia ought to become. "Everybody has different interests, but there is a consensus that a clear idea of the future has been lost." To much of the world, no serious discussion of Russia's future is possible until after the war. To Melnichenko, the end of the war in Ukraine is contingent on imagining that future—which hardly anyone in either Russia or the West is prepared to do.

Melnichenko's vision is set out in his online essay. It is not ideological. He does not think in terms of democracy and autocracy, good and evil, friend and enemy, defeat and victory. His most important goals are building consensus, restoring stability and working for Russia's long-term interests.

He explained to me four scenarios, all of which he thinks are grim. In the first, Russia is brought in from the cold and reintegrated into the Western order while being confined to its periphery. To Melnichenko that sounds like vassalage; he thinks a humiliated and defeated Russia would almost certainly generate aggressive revanchism.

A second is for Russia to be permanently drawn into China's orbit as a buffer zone and supplier of natural resources. China may have little interest in this scenario: it would be responsible for Russia's problems and face a backlash from humiliated Russians. "China is happy to benefit from asymmetry in the relationship but is in no hurry to formalise it," he argues. To him, the only difference between these two scenarios is the identity of the feudal overlord.

The two other scenarios are more alarming for being entirely plausible. Russia could descend into civil conflict with different warlords vying for scarce resources. A fragmenting country with a nuclear arsenal was America's worst nightmare when the Soviet Union collapsed and it remains so today. "A broken Russia may be an attractive image in political speeches," Melnichenko says. "It is far less attractive from the standpoint of risk management."

The fourth scenario, promoted by the security services and subject to serious discussion in the Kremlin, poses a direct threat to Melnichenko and the Russian elite: a North Korea-style lockdown sustained by militarism, repression, isolation, rationing and the export of instability. "A Russia trapped in the mentality of a permanent fortress would transform external confrontation into a permanent instrument of domestic politics," he says.

The only alternative to these scenarios, as Melnichenko sees it, is for Russia to become what he calls a "sovereign" country, one that places the comfort of its people first and whose behaviour is predictable to the outside world. The word "sovereignty" has had varying meanings in Russian politics over the past three decades. Yeltsin invoked sovereignty to show that the new democratic country was distinct from the Soviet Union. One astute Russian philologist thought the idea was absurd. "Who is Russia seeking sovereignty from, the polar bears?" she wrote in her diary.

Putin, who argued that modern Russia shared characteristics with the Soviet Union and the Russian empire before it, invoked sovereignty to justify the domination of the state over its people. Sovereignty became a synonym for Russia's resurgence as a great power—one opposed to the Western liberal order. It was also a byword for Putin's personal rule and his right to impose his will on former Soviet republics.

Melnichenko uses the word "sovereignty" differently: to refer to the agency of the elites with a stake in the country. Citizens too "may come to understand the importance of agency as well—provided they are offered not a simulation of participation but an opportunity to discuss real alternatives honestly". A country's greatness, Melnichenko argues, has nothing to do with sloganeering. It depends on whether it protects citizens' freedom and property "not as an act of good will but as an obligation".

"While I was continuing to build an international company, the world in which such companies could exist was coming to an end"

Melnichenko is convinced that the challenges that Russia faces are so severe that wider participation is needed. Businessmen, leaders of civil society, nationalists, technocrats ought to get involved. These people have different, sometimes opposing interests but would agree on a compromise not because they like each other, but because alternatives would be worse. Such a polity would be an oligarchy in the classical sense of the word—rule by elites. The "internal debate about what Russia should become is unavoidable—and it will be intense."

The main aim is to make the country "a place where people are drawn to because they genuinely like it, because life there is better: safer, more secure, more predictable, more prosperous—and because they feel they can realise themselves." For Melnichenko, attracting people from former Soviet republics and tempting back those who fled the country is the only way of making Russia economically viable.

This vision is strikingly close to the one advocated by Tsar Fedor Ioannovich—the son of Ivan the Terrible and the titular hero in one of Russia's most popular history plays: "We should make Russia so pleasant that people would not prefer living abroad. Then there will be no reason for them running away from us."

"This Russia does not have to be convenient to the West or to China," Melnichenko argues. "It has to care primarily about its own citizens and be predictable and rational to the outside world. It might be a difficult partner to the West, but it is not a black hole. It might be less amenable to China than a client state, but it is safer than a large and volatile vassal."

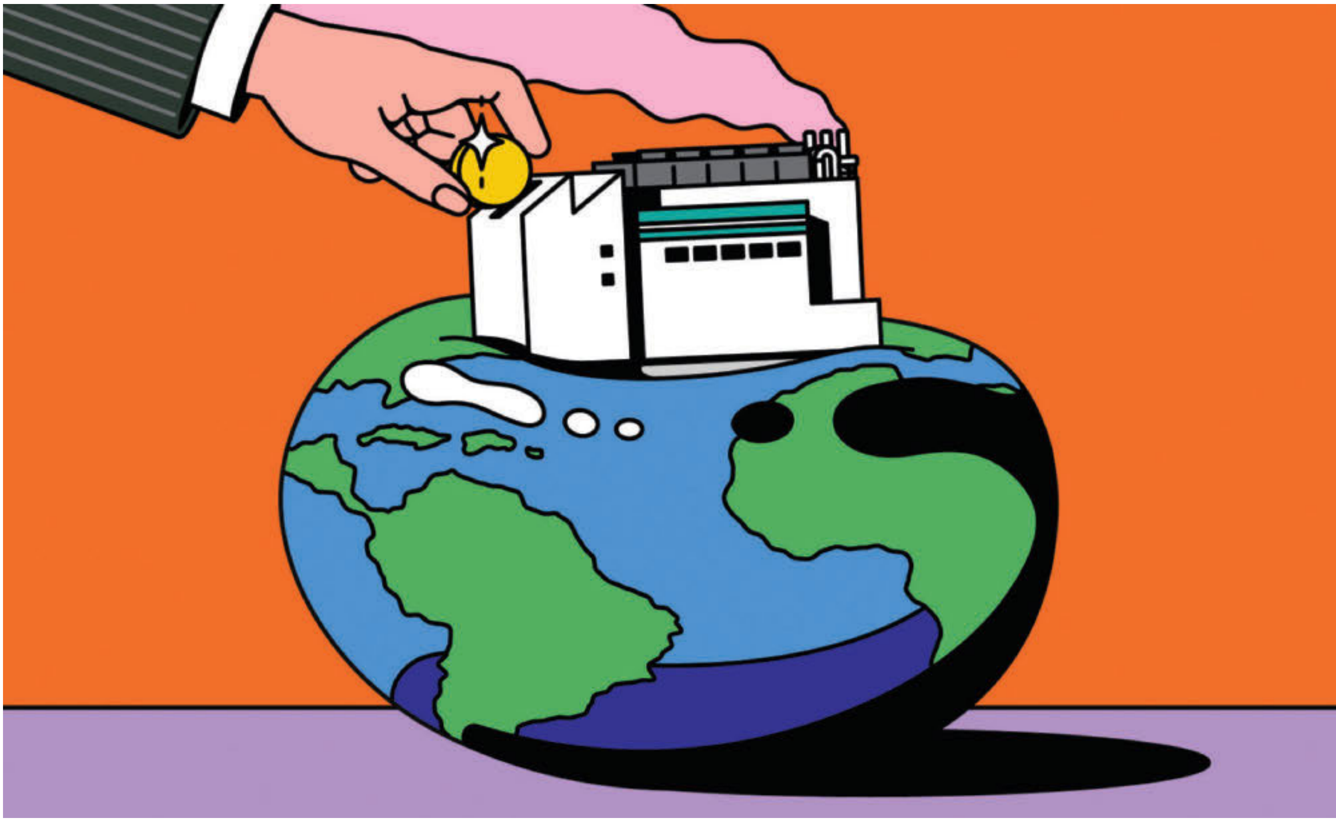
His proposals are self-serving, obviously. He clearly wants Russia to become a place where there is a role for him. If the country turns into North Korea, his children will not have a future there. If it descends into civil war, his fortune will not survive.

It is far too early to say if Melnichenko's idea of Russia's sovereignty can become reality. The odds against it are high: veterans returning from the front will increase social tensions; the frustrations of a population that feels it has been put under a state of emergency for no benefit are already blatant. The security services will not give up power easily and they are so universally despised that collaboration with them may not be possible.

Yet Russian history rarely follows a script. There is certainly a yearning among the elite for someone to say what everybody already thinks. It might only take one man to break the silence for the floodgates to open. And the lesson of the past is that epochal shifts begin at the top. As Yegor Gaidar, Russia's former prime minister said, big changes in Russia happen later than we think, but earlier than we expect.

Melnichenko knows this, too. He told me that "the moment of change cannot be predicted. There are moments in history that just happen. Trying to accelerate is usually a mistake. All you can do is observe and be ready for it." He cannot foretell which way the country will turn. All he can do now is increase his standing and clout. Melnichenko's mind still thinks in terms of quantum physics, where the mere act of looking alters the nature of things. "It is only the appearance of an observer that brings sense to the world." ■

Arkady Ostrovsky is *The Economist*'s Russia editor.
Photographs: Nanna Heitmann



Corporate concentration

The top-heavy economy

Supersize capital flows are reshaping business—and building risk

NOWADAYS IT IS easy to get desensitised to big numbers. Every week stonking deals are announced. Only four days after SpaceX, Elon Musk's rocket-maker, raised $86bn in the largest ever public listing on June 12th, it said it would buy Cursor, an artificial-intelligence coding startup, for $60bn. The same day DeepSeek, a Chinese AI lab, said it had raised $7bn in the fourth-biggest venture-capital (VC) round ever in the country.

So far this year mega-mergers worth over $10bn have accounted for 48% of total deal value, the highest level on record, according to Dealogic, a data provider (see chart 1 on next page). Bets on startups are also concentrating: investment rounds larger than $1bn have accounted for 61% of total VC funding this year, with four-fifths of those rounds involving a corporate investor, according to PitchBook, another data provider (see chart 2).

The trend towards supersize capital flows is visible everywhere you look. Greenfield foreign direct investment (FDI) projects worth over $1bn have made up 42% of the total since the start of 2024, up from 28% from 2016-18, reckons fDi Markets, which tracks projects (see chart 3).

Much of this activity centres on America. Last year the country was the largest destination and source of greenfield FDI projects worth over $1bn. It is also home to 14 of the 15 startups that have received the biggest cheques since the start of 2024. For the 71 mega-mergers since the start of 2025, 44 of the buyers come from America.

But the pattern has also spread to other regions. Last year Taiwan was the second-biggest source of jumbo FDI deals, followed by the UAE and China. Large VC deals are being struck outside America too. DayOne, a Singapore-based data-centre operator, raised $4.5bn in June; Nscale, a British rival, received $2bn in March.

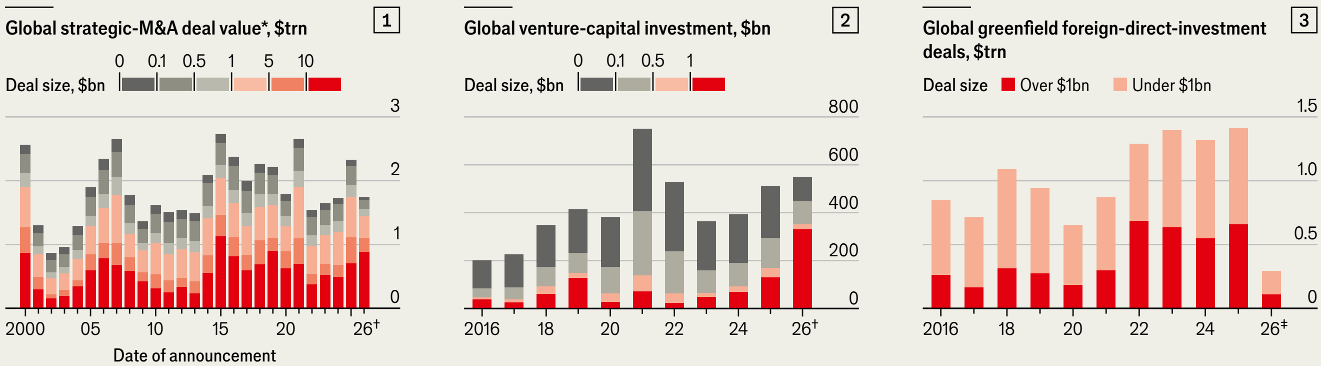
Big transactions come and go in waves. Yet it is rare for these cycles to be so synchronised, and so dependent on a small number of giant firms. That brings dangers.

The trend towards supersize investments is the result of a combination of various undercurrents in global business. First is the availability of capital, despite interest rates having risen from unusually low levels. The cash holdings of companies in America's S&P 500 index have reached $2.2trn. These firms are also earning more than ever. In America corporate profits are near an all-time high when compared with GDP. That, in turn, has helped push market values to record levels, which gives firms yet more scope to perform takeovers and raise additional debt or equity. On June 1st Alphabet said it would sell $80bn-worth of stock—a rounding error for a company whose market value has soared to $4.4trn.

Much of this cash is being used to fund the AI boom—the second factor behind ▸▸

→ ALSO IN THIS SECTION

Concentrated firepower



Sources: Dealogic; PitchBook; fDi Markets

*Excludes deals where the stake in the target firm is less than 50% †To June ‡To April

the trend. Five hyperscalers—Alphabet, Amazon, Meta, Microsoft and Oracle—are expected to shell out perhaps $800bn in capital expenditure this year as they race to erect data centres around the world. At the same time, they are among the biggest financial backers of AI startups. The AI boom has also encouraged a number of big corporate tie-ups, including the merger of Dominion and NextEra, a pair of American power utilities, and the acquisition of CyberArk, a cyber-security company, by Palo Alto Networks, the market leader.

The third factor behind the wave of giant capital flows is politics. In America, the current administration has proved far more relaxed than its predecessor about big mergers. The European Union, fearing that its corporate champions will be left behind, has also recently revised its merger guidelines to make tie-ups easier.

Meanwhile, protectionist governments are pressing companies to reshore manufacturing with tariffs and subsidies. As a result, many big firms are spending huge sums on additional facilities overseas, such as the chip plants in Arizona constructed by TSMC, a Taiwanese semiconductor giant, or the new car factory in Hungary for BYD, a Chinese electric-vehicle colossus.

Technological change and political

Winners take more

Sources: Bloomberg; *The Economist*

meddling have resulted in a more uncertain business environment, and bosses are increasingly concluding that greater scale will offer greater safety—a fourth factor behind the investment frenzy. "In a lot of boardrooms I have heard that it is better to be bigger," says Jake Henry of McKinsey, a consultancy. Investors appear to agree. *The Economist* looked at non-financial American firms in the Russell 3000 index and split them into quintiles by market value. In 2019 the median price-to-earnings ratio (a measure of how highly investors value a company's profits) for the largest quintile was 18, compared with 14 for the lowest. Today those figures are 26 and 15, suggesting that the market is valuing the profits of big firms more richly than in the past (see chart 4). The overall result is unchanged when technology firms are excluded.

Companies' race to scale also poses risks, however. Academics reckon that the chance of a big merger paying off is no different from that of a smaller one (that is, roughly 50-50). Yet the consequences can be catastrophic when things go wrong. Bain, another consultancy, calculates that in almost half of mega-mergers last year the target's value was over 50% of the buyer's market capitalisation. Vast amounts of debt are often required.

It is not only mega-mergers that are a cause for concern. Until recently the huge data-centre outlays by America's hyperscalers were mostly paid for with cash generated by their other businesses. Now they are borrowing heavily, causing a surge in the ratio of their debt to their annual free cashflow. Amazon's ratio has fallen from below that of the S&P 500 average in 2019 to more than four times the average today.

All this has ramifications for the wider economy. The top decile of listed firms by value now account for over three-quarters of total market capitalisation in America, the highest share in a century, according to Deutsche Bank. An increasingly top-heavy structure means that the failure of just one debt-laden corporate giant could cause significant disruption to financial markets.

Growing corporate concentration may also prove malign in other ways. Consumers, employees and small suppliers could be squeezed and governments unduly swayed by the many lobbyists employed by corporate colossi. That could further fuel the rise of populists on both sides of the political spectrum. According to Gallup, a pollster, the share of Americans who say they trust big business has fallen roughly by half since 2000, to 15%. Scale may confer many advantages, but public adoration will not be one of them. ■

Video games

Pac-Woman

LOS ANGELES

Xbox's new boss is overhauling Microsoft's gaming strategy

IT IS NOT yet the PayPal mafia, but the Instacart matriarchy is making its mark. Not long after Fidji Simo, ex-head of the online grocery store, became Sam Altman's product-focused sidekick at OpenAI, Asha Sharma, Instacart's former chief operating officer, became Satya Nadella's Ms Fix-it at Microsoft Gaming. Groceries are a tricky, low-margin business. So is Xbox—and Ms Sharma has wasted no time in getting to work. On July 6th, less than five months after becoming the division's boss, she launched what she called the biggest reset in its 25-year history.

Ms Sharma has gone about her overhaul with a candour that is rare in the mealy-mouthed world of big tech. Declaring that Microsoft's gaming arm is "not healthy", she announced that 3,200 employees would be axed over the next 12 months, and that up to five loss-making studios would be shed. Her diagnosis makes two things clear: first, Mr Nadella's gaming strategy has misfired badly; second, the entire console industry is in a supply-chain crisis. No hard-core gamer herself, the battles ahead will test Ms Sharma's mettle.

With Mr Nadella's attention focused on the artificial-intelligence boom in recent years, Xbox has suffered from neglect. Under previous management, it sought to reduce its reliance on the Xbox console and focus on its multi-platform subscription service, called Game Pass, intending to become the "Netflix of gaming". To fuel demand, Microsoft invested what insiders say was upwards of $20bn on games and studios, in addition to the $70bn-plus it spent buying Activision Blizzard, maker of "Call of Duty", in 2023.

Alas, Game Pass, which was meant to have 77m members this year, has fewer than 30m. Meanwhile, the multi-platform approach has undermined Microsoft's own console business by making content available on other platforms, such as Sony's PlayStation, which kept its own games off Xbox. Microsoft's quarterly gaming revenue has been in decline since last autumn. Xbox's operating margins are a meagre 3%. It has been losing market share to Nintendo, another console-maker. Bureaucracy has ballooned; in parts of the company, Ms Sharma says, work passes through 14 layers of management. Just like a real-life Pac-Woman, she intends to chomp those down to as few as three.

Her strategy is bold. The year of lay-offs will be the biggest in Xbox's history. Her disposal of studios will end Microsoft's attempt to hoover up indie game-developers. Yet it is not all cost-cutting. Insiders say Ms Sharma intends to invest in "Minecraft", a hit game that was used as a cash cow rather than a growth engine and has lost significant ground to Roblox, a stable of games that competes for youngsters' attention. She also plans to double down on mobile gaming using untapped expertise in King, creator of "Candy Crush", which was bought with Activision.

The trickiest part will be rescuing the console. When Ms Sharma took over in February she promised "the return of Xbox". Sales of gaming hardware have long been in decline, but insiders say Ms Sharma considers Xbox users to be her core customers, spending far more on games and services than PC players.

Yet as Ms Sharma tries to win them back, the ground is moving under her feet. When she took control of the business, AI-related demand for memory chips and other components had already caused costs to surge across the consumer-electronics industry. Within her first 50 days, input costs rose by 50%, a source at the company says. All three console-makers have been forced to announce price increases at a time when growth in the industry (excluding China) is sluggish.

The component crunch will have long-term consequences. Microsoft had hoped to increase production of consoles to support the eagerly awaited release of the latest version of "Grand Theft Auto", made by Take-Two, a listed studio, which is rumoured to have cost a staggering $2bn to develop. The supply constraints will make it harder to increase production of consoles to meet the expected demand.

In 2028 both Microsoft and Sony are expected to launch the next generation of devices, which could also be hampered by the supply-chain chaos. Piers Harding-Rolls of Ampere Analysis, a consultancy, says Microsoft may be hit harder, because Sony, as a consumer-electronics company, has stronger relationships with suppliers. On July 1st Sony said it would stop selling physical discs in 2028, a decision that Mr Harding-Rolls says was long in gestation but might help offset rising costs.

Some think Microsoft's best response to both the strategic blunders and the hardware crisis would be to spin off the gaming business. Gil Luria of D.A. Davidson, an investment firm, reckons that the lumpiness of revenue as a result of seven-year console cycles is better suited to private-equity investors than to public ones.

There are still rich seams of potential growth within Xbox that Ms Sharma will hope to mine before a final decision about its future is made. But as Ben Thompson of Stratechery, a popular newsletter, puts it, "Sometimes it's Game Over." ■

Chinese manufacturing

Breaking the cycle

Could a Chinese bike win the Tour de France?

CHINESE CYCLING enthusiasts casting their eyes over the start-line of the Tour de France in Barcelona on July 4th would surely have felt disappointed. In 2014, Ji Cheng, the first from China to compete in the race, collected the questionable distinction of the *lanterne rouge*, awarded for last place. China has not returned to the Tour since. Even so, the country is playing an increasingly important role in the sport.

Roughly 60% of the world's bikes are made in China. Yet although it supplies parts for many Western brands, including premium ones such as Pinarello, its own models have frequently been dismissed as low quality. That may soon change. In recent years Chinese companies have been launching their own high-performance bikes, which cost around 40% less than models with similar specifications from the incumbents.

Influence pedalling

Chinese bikes appeared in last year's Tour de France for the first time, with Kazakhstan's team riding models from X-Lab, a division of XDS, a Chinese carbon-fibre manufacturing giant (and the team's new title sponsor). "A Chinese bike has won the Tour de France many times," argues Patrick Pan of X-Lab, just not under a Chinese brand. Quick Pro, a competitor, made its World Tour debut in March this year. Pardus, ridden by the Chinese team at the Paris Olympics, announced in May that it was expanding into Europe.

The ultimate prize is the consumer market. Accordingly, these brands are establishing a retail presence abroad. X-Lab has signed with around 300 dealers in America since its launch there in April. The growth of Panda Podium, an e-commerce site for Chinese bikes and parts, also helps. And many brands are building direct-to-consumer channels.

Out-performing Western brands will not be easy. China is unlikely to collect many gongs from the Tour this year; Kazakhstan's team has already had a crash in the first stage. But as Chinese bikes become a more common sight in such tournaments, their credibility will grow. The wheels are in motion.

Chip wars

Node by node

TAIPEI

China's semiconductor industry is advancing rapidly—but bottlenecks remain

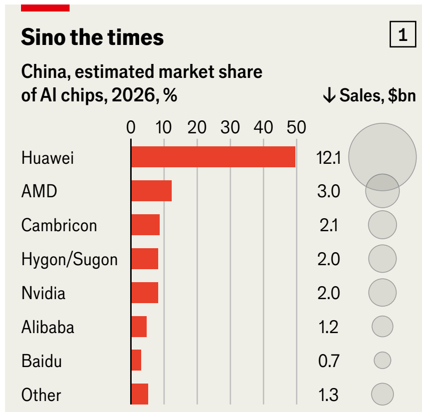
When last month the chip industry's elite descended on Taipei for Computex, an annual trade show, two topics dominated discussions. The first was artificial intelligence, which has turned semiconductors into one of the world's most profitable industries. The second was China. Its chipmakers were absent from the event, but their shadow was long.

The fascination with China is easy to explain. A week before Computex, Huawei, the country's tech-hardware champion, unveiled a technique that stacks layers of circuits onto a chip to get better performance without relying on the latest Western manufacturing tools (see Science section). Investors are also signalling confidence. The share prices of semiconductor firms on Hong Kong's stock market has risen by 140% over the past year, beating a comparable American index. Alibaba and Baidu, two Chinese internet giants, intend to spin off their chip-design businesses. CXMT, a maker of memory chips, is preparing a public listing.

China's potential for self-sufficiency in chipmaking is one of the industry's biggest questions. The answer matters because "compute"—the processors and memory that train and run AI models—has become the currency of technological power. At the end of 2025 China had only around one-seventh of the compute capacity of America. Closing the gap requires mastering two very different activities: designing chips and manufacturing them. China has made remarkable progress in the first. In the second, it has much further to go.

China used to be miles behind in chip design. Until 2023 Nvidia, which dominates the market for AI chips, met around 90% of China's demand. Export controls changed that. Since America restricted sales of advanced chips to China in October 2022, Uncle Sam's policy has oscillated. But China's response has been steady: regulators have consistently steered domestic firms away from foreign chips, even when they are legally obtainable.

The result has been a protected home market. Alibaba and Baidu are designing processors in-house, while upstarts such as Cambricon have flourished with limited competition. Domestic designers are projected to capture around four-fifths of spending in China on AI chips this year (see chart 1). Qingyuan Lin of Bernstein, a broker, jokes that America has done more to strengthen China's semiconductor industry than the country's own government.

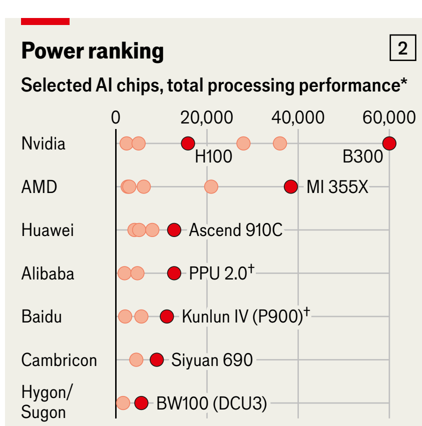


Source: Bernstein

China's market is big enough to sustain an industry. Local cloud giants are expected to spend more than $400bn on AI infrastructure over the next three years, much of it on compute. The government is said to be planning another $295bn of spending on data centres over five years.

China has plenty of people with the right skills too. Many Chinese chip designers cut their teeth working for American firms like Nvidia and AMD. Kyle Chan of the Brookings Institution, a think-tank in Washington, argues that the pool is now deep enough for even small startups to recruit entire design teams.

Talented designers are finding ways round sanctions. One approach is to use brute force. Huawei's CloudMatrix system links 384 of the company's Ascend processors to challenge Nvidia's latest AI systems (though it consumes four times as much power). Another is tighter integration of hardware and software. In April DeepSeek, a Chinese AI lab, released a large language model tuned to Huawei's silicon. Chinese designers are also embracing FP8, a lower-precision data format that helps models run efficiently on less powerful chips. Huawei is also working to undermine the advantage Nvidia enjoys from its widely used CUDA software. Its own platform, CANN, is designed to make switching from Nvidia's chips easier. The founder of one Chinese AI startup says that the software gap, once enormous, is starting to close.



Source: Bernstein *Measure of compute power †Estimate

But such resourcefulness can take China only so far. Bernstein notes that Huawei's top chip, the Ascend 910C, delivers just four-fifths of the performance of Nvidia's H100, released almost four years ago. Homegrown chips compete mainly with the degraded processors Nvidia is allowed to sell in China (see chart 2). They are also mostly confined to "inference"—running existing models—rather than the far more demanding task of training frontier AI from scratch.

The remaining gap is less in designing chips than in making them. The fastest processors require the most advanced production lines. Chinese designers are barred from using the latest processes from foundries such as TSMC, a Taiwanese contract manufacturer. Domestic foundries, cut off from purchasing extreme-ultraviolet (EUV) lithography gear from ASML, a Dutch toolmaker, cannot reliably mass-produce chips with transistors less than seven nanometres across (the cutting edge is 3nm and below). Even for less advanced chips, capacity is constrained.

Consequently, China's demand for AI processors far outstrips what it can procure. Zephyr, a pseudonymous analyst at Citrini, a research firm, notes that Chinese companies make up for the shortfall by renting cloud capacity abroad or by smuggling chips into the country. Advanced memory is another bottleneck. Almost all the high-bandwidth memory (HBM) needed for AI is made by three firms: Micron of America, and Samsung and SK Hynix of South Korea.

China is spending heavily to catch up. Since 2019 annual imports of chipmaking kit have tripled, to $39bn, accounting for some 40% of global demand. Much of this is to produce older chips, but some is being used for advanced fabrication. At the same time, local firms like Naura and AMEC now offer competitive alternatives for tools in critical steps like chemical deposition, etching and wafer cleaning. China is even making headway in HBMs. SemiAnalysis, a research firm, expects CXMT's share of global HBM production to rise from almost nothing today to around 12% by 2028.

For all the progress, however, China's ▸▸

self-sufficiency drive hits a wall with EUV lithography, essential for printing tiny circuits. Despite years of access to ASML's older deep-ultraviolet (DUV) machines, China has yet to produce a domestic equivalent. Most industry estimates put a Chinese-made EUV at around a decade away, though America's commerce department believes the country may have obtained one machine illicitly (see China section).

Without these advanced printers, Chinese chipmakers are pursuing workarounds to extract more performance from DUV machines. One is "multi-patterning", which repeatedly exposes a single silicon wafer to multiple passes of a lithography tool. This etches smaller features, but adds cost, slows production and increases the chance of defects. Another is advanced packaging, which links multiple chips made using older technology into a single system. Huawei's announcement before Computex signalled that the company was seeking to get closer to leading-edge performance using older DUV tools.

Although China is still some distance from chipmaking's technological frontier, its progress should not be ignored. Consider Apple. Amid a worsening shortage of memory chips, the iPhone-maker is seeking permission from the American government to buy older-generation memory from CXMT. If it wins approval, an American business will be helping to bankroll the very industry its government has spent years trying to contain. ■

BARTLEBY

Ask for more

The secret to good questions

Some professions are defined by questions. Detectives ask them, and suspects have the right not to answer them. A phrase like "I'm the one asking the questions" sounds appropriate when coming from a journalist, and pretty weird from the lips of a plumber.

But questions are crucial in every organisation. They sharpen thinking and extract information when things go wrong. They are central to forging relationships: according to research by Karen Huang of Georgetown University and her co-authors, people who ask more questions tend to be better liked. Questions are a crude way to measure career progression. As you get more senior, you spend less time doing the work and more time asking about it. By the time you reach the boardroom, your principal output is questions.

An absence of questions may indicate a culture that does not brook them. Even easy questions can be a warning sign. A paper by Elliott Ash of ETH Zurich and his co-authors trawls through interview reports posted to Glassdoor, a workplace-review site, and finds that candidates are more likely to turn down high-wage job offers when they rate the interview process undemanding. By analysing free-text posts about interviews, the researchers find that candidates view softball questions as a signal about the quality of future colleagues. Tough questions are not just a way for employers to screen for able candidates; the reverse also applies.

What makes a good question obviously depends on the context. The "five whys", a succession of "why" questions that are meant to lead to the root cause of a problem, originated in Toyota and has spread from there. But what works well as an investigative technique in a specific environment is not going to help with forging relationships. ("Why were you absent yesterday?" "I was at a funeral." "Why?" "What do you mean, why?")

Still, some rules of thumb work across different settings. Paying attention to the answer is always a good idea. Lots of people ask questions in order to supply their own piece of information, a phenomenon christened "boomerasking" in a recent paper by Alison Wood Brooks of Harvard Business School and Michael Yeomans of Imperial College London.

If you ask someone where they are going on holiday in order to tell them that you are heading to Bhutan for the trip of a lifetime, you are boomerasking. Unsurprisingly, it doesn't land well: the researchers find that questioners are seen as insincere if they are not interested in the other person's answer. (Some people don't even bother with an interlocutor, conducting a Q&A session with themselves while others watch in puzzlement: "What kind of questions do I like? Rhetorical ones. Do I want anyone else to answer them? No. Do I struggle to make friends? Yes.")

If you are making comparisons, the consistency of questions matters. Unstructured interviews make it harder to judge between candidates and easier for bias to creep in. Take, for example, the funding gap between male and female founders. Investors tend to ask different questions of entrepreneurs depending on their gender: men are more likely to be asked about their startups' growth potential and women are more likely to be quizzed about risks. By systematising the evaluation framework used by an early-stage investment platform, Amisha Miller of New York University and her co-authors eliminated, and even reversed, investors' preference for all-male teams over female-founded ones.

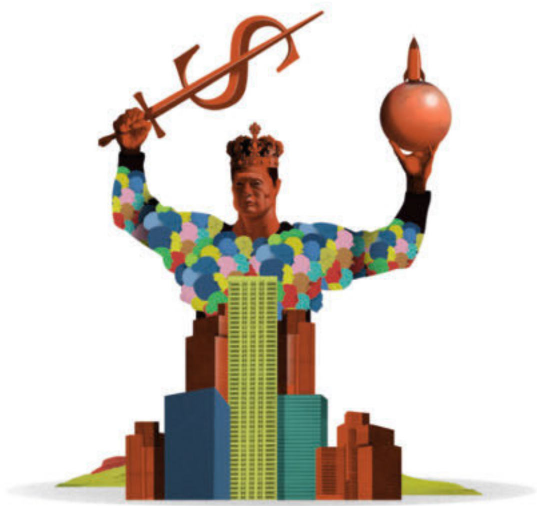
Yet asking the same bad question of everyone is not particularly useful. Another paper, by Nandil Bhatia and Wei Cai of Columbia University and Sameer Srivastava of the University of California, Berkeley, identifies the ingredients of a good question. The authors trained a large language model to identify what they call "curveball" questions, which they define as questions that are difficult to predict, and therefore hard to prepare for, but also relevant to what has come before, and therefore tough to dodge.

They then analysed earnings-call transcripts at listed American firms, and found that curveball questions from analysts were associated with larger share-price movements and rating changes, presumably because they were likelier to elicit new information than other questions. The researchers also found that star analysts and analysts who were new to covering the firm were more likely to ask curveballs. The stars can draw on expertise. The newbies are not yet immersed in conventional wisdom. Both lead to better questions.

SCHUMPETER

Corporate leviathans

For the world's largest companies, the normal rules of governance no longer apply



IN 1989 Francis Fukuyama famously and prematurely wrote that the world was seeing "the total exhaustion of viable systematic alternatives to Western liberalism". A decade later Henry Hansmann and Reinier Kraakman, two American law professors, made a similar argument about the way companies are run. The world was converging on a superior model of shareholder capitalism, they argued: firms subordinating the interests of capital to managers, workers and states would soon crumble like the Berlin Wall.

Like Mr Fukuyama's work, "The End of History for Corporate Law" takes a beating every time liberal capitalism fails, as it did in 2008, or its elites announce that firms should serve all of society rather than just their shareholders, as they did most energetically around 2020. Yet the essay's thesis has by and large proved correct. Governments in Europe and Asia have been endeavouring to make their corporate rules more "shareholder friendly" in the image of America. The ascent of private equity is but a vast exercise in imposing shareholder supremacy.

Look to the giants of the corporate world, however, and the picture is very different. Above a certain size the ordinary rules of governance apparently cease to apply. Some firms reach a kind of escape velocity where the disciplining force of finance becomes too weak and the stakes for governments too high for ordinary rules. Among their ranks can be spotted not one stable vision of what companies are for, but four warring ones.

Of the 16 listed firms worth more than $1trn, seven are shareholder fundamentalists. None of Nvidia, Apple, Microsoft, Amazon, Broadcom, Eli Lilly or Micron is beholden to a government owner, though they put plenty of effort into staying in Uncle Sam's good books. With a median age of 50, none bar Nvidia is run by its founder, and Jensen Huang owns only a small stake in the chipmaker. None has an elaborate statement of corporate purpose, since they are mostly content making heaps of money. All are American. Their adventures abroad are often held up as examples of the profit motive pushed too far. Eli Lilly pays much of its tax in Ireland. Apple has helped cement China's dominance in manufacturing, while Nvidia has helped it remain in the artificial-intelligence race.

Next are the corporate paternalists, who believe that the problem with shareholder democracy is that its voters do not know what is best for them. Berkshire Hathaway's shareholders submit to Warren Buffett, the conglomerate's super-voting patriarch, because they believe he is a better judge of how to use (or, more recently, not use) their cash. Google, too, is controlled by largely benign founders. Shareholders of Meta suffer rather than celebrate Mark Zuckerberg's iron grip on the firm. Little else could explain the vast amounts of cash it wasted on the metaverse, or its creepy camera glasses. (Snap, a much smaller social-media firm, also makes specs, and is controlled by its founders too.)

Meta and Google, which are constrained only by solvency, are competing to out-spend Microsoft and Amazon, which must ultimately appease all shareholders. Much of the capital is flowing to SK Hynix and Samsung, two South Korean chipmakers which recently joined the trillion-dollar club and make up the remaining paternalists. Their sudden and enormous success has led to a sudden and frantic debate about who is owed what. (In America this debate remains theoretical, because the profits mostly are.) Workers have extracted massive concessions, in the form of bonuses, by threatening to go on strike. Politicians have dreamed about what handouts could be funded by the firms' profits. The domestic scramble to buy shares in the firms, often with borrowed money, has caused something like a moral panic.

The South Korean chipmakers also have much in common with TSMC and Saudi Aramco, the national champions that constitute the third corporate tribe. Any firm worth more than $1trn is strategically important. But this pair represent the totality of their home nations' geopolitical significance. To most world leaders, Taiwan is a chip factory and Saudi Arabia an oilfield.

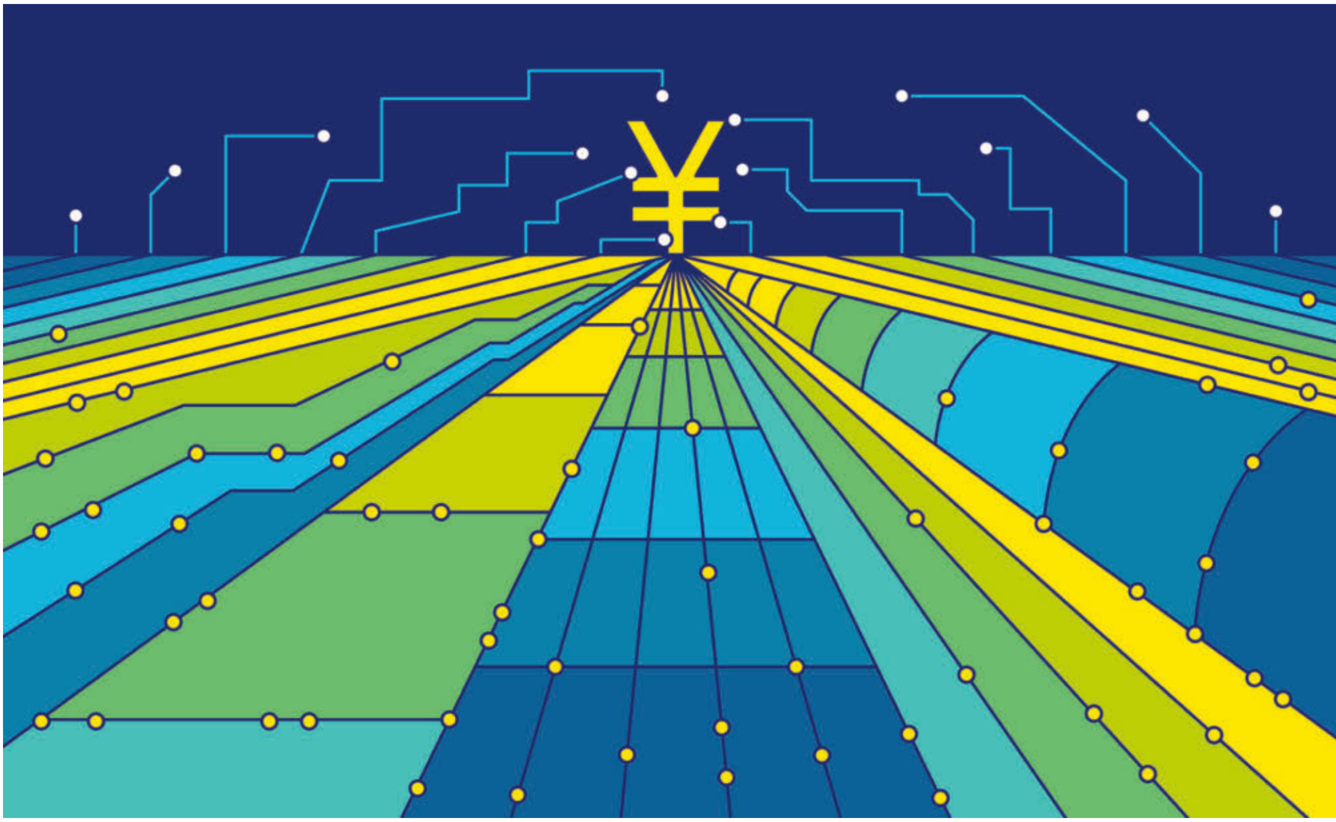
The final pair presents the strongest argument against the end of corporate history. SpaceX and Tesla, the rocket and car businesses run by Elon Musk, are governance inventions of a Hobbesian design: individual shareholders consent to hand over all of their rights to the world's richest man, who then governs as he sees fit. Its boss sees profit as a means to visiting Mars, instead of a worthy end in itself. SpaceX shareholders' votes count for nothing. The firm makes it hard for them to sue. And for many it is hard to sell: the early inclusion of SpaceX's shares in major indices means most investors are passive supporters of Mr Musk's enterprise, whether they want to be or not.

Almost nothing about Mr Musk's corporate empire can be understood in the language of shareholder capitalism. That leads to discordant results when the analysts who speak it are required to express a view. This week Wall Street banks released their initial reports on SpaceX. "Not [free cashflow] positive on our forecasts before 2035, requiring, on average, $84bn of external capital needs per year from 2027-2034," wrote Morgan Stanley, before saying the firm should be worth twice as much as it already is.

This is the end. My only friend, the end

Soon the ranks of giant public companies will grow. With which tribe are OpenAI and Anthropic likely to identify? Certainly not the fundamentalists. Both have a paternalistic strain and have supported redistribution, which makes the South Korean firms potential models. Yet they have none of their profits. Maybe the pair will become national champions, giving away a stake to the government, as OpenAI has reportedly floated. Or maybe the allure of absolute Hobbesian power will prove too great. ■

Finance & economics



Technology finance (1)

How to fund the future

SHANGHAI

China's capital markets take on Xi Jinping's tech ambitions

CHINA'S LEADERS rarely namecheck individual companies. It is rarer still for them to talk up a group's valuation while it prepares a highly anticipated initial public offering (IPO). That did not stop Li Qiang, the country's premier, from recently mentioning Unitree, a robotics firm, and the explosion in its valuation from 10m yuan to 42bn yuan ($6bn) in a decade.

Unitree, which on July 2nd received approval to list, is just one of thousands of companies behind the Communist Party's plan to take the lead in a long list of frontier technologies over the next decade, from artificial intelligence and humanoid robots to fusion power and digital brain implants. The businesses behind these technologies now need copious amounts of capital to make them work at scale. China's AI data centres alone will cost 2trn yuan over the next five years. Robotics and high-end manufacturing could require a similar amount over the next ten. As America's stock market welcomes one mega-IPO after another and its bond market catches AI fever (see next article), can China's punier capital markets keep pace—and live up to the party's ambitions?

Part of China's technology bill will be footed by established companies' reinvested profits and by China's state-directed banking system. But public and private equity investors will need to pick up a chunk of the tab. To nudge them along, in the past two years Xi Jinping, Mr Li's paramount boss, has eased an earlier crackdown on tech and "disorderly" investing. He has also made it clearer where he wants capital to flow.

As a result, the first five months of 2026 saw the launch of over 9,500 new equity funds, half as many again as in the same period last year. Much of this activity has been driven by venture-capital funds set up by large corporations, both private and state-owned. At the end of 2025 state-directed funds raised 230bn yuan in new capital to invest in tech, up from 11bn yuan a year earlier. Slow credit growth in a slowing economy has freed up banks to lend more to private investors.

DeepSeek, China's hottest AI startup, is said to be raising capital at a valuation of nearly $60bn from Tencent, a digital titan, and CATL, the world's largest battery-maker. Unitree owes its soaring valuation to similar investments. Hurun, a consultancy, counted at least 80 startups surpassing $1bn in value in the first half of the year, up from 22 in the whole of 2025.

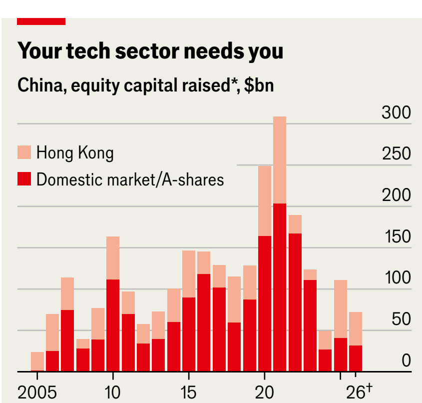
Public markets are astir, too, after a period when officials hit the brakes, fearful that IPOs sucked capital away from other stocks in a sagging market. Chinese firms have raised around $32bn this year, double the comparable figure for 2025 and triple that for 2024 (see chart on next page). Big ▸▸

deals are back. CXMT, a maker of memory chips, is eyeing a $4.3bn listing, one of the biggest in recent years. Another ten tech firms are planning multibillion-yuan flotations. Shanghai's tech-heavy STAR market, which had barred profitless startups from listing in 2024 and 2025, has let them back in. Unitree got its IPO approved in 100 days, not the year or more it used to take.

Insiders welcome the revival of Chinese capital markets. But some also remember the early days of Chinese capitalism in the 1990s, when these served chiefly to funnel money to state firms rather than seek rich returns. Now it is often state firms funnelling capital to startups. SMIC, a state-owned chipmaker, has launched a fund that now owns stakes in more than 400 semiconductor firms. When private companies get involved, they often team up with the state. Xiaomi, which now makes electric cars as well as smartphones, has created a fund with the local government of Hubei province that has made more than 100 investments.

For the asset managers who receive the state's capital, and its private co-investors, government involvement comes with strings. The money must go to companies that fit in with the party's tech plans. Many are not particularly innovative; some may be working on problems solved years ago in other countries. Bank-backed investment firms, for example, rarely invest in startups younger than five years, preferring companies that had already received some sort of government recognition, according to a review of such deals by Gavekal, a consultancy. That could mean limited upside.

At the same time, straying from favoured sectors has big downsides. Less state capital dampens valuations. A lack of state backers may also make it harder to get IPOs approved, even as SMIC's fund, for example, has listed at least 48 portfolio companies and is preparing to float another 50. Regulators are reserving listing privileges almost exclusively for top hardware makers, such as Unitree, and for those that, like CXMT, are helping the country break away from reliance on foreign tech.



*Includes IPOs, follow-ons and convertibles †To July 6th
Source: LSEG Workspace

The job of the China Securities Regulatory Commission (CSRC), the main markets watchdog, is now not just to vet companies, prevent bubbles and manage liquidity, but also to ensure that capital flows towards Mr Xi's policy goals. However, striking a balance between industrial policy and market stability is tough. The CSRC's aim of maintaining a "slow bull" market that rises gradually rather than a Pamplona-like run is hard to accomplish when top leaders talk up individual tech firms. Listening to such pronouncements, hundreds of millions of Chinese retail investors are pulling money out of boring but important industries like consumer staples (down by 15% this year) and into tech (up by 20% going by Shenzhen's tech-nology-heavy ChiNex index).

Such considerations make professional investors with the real money more nervous than they might be in a freer market. That in turn makes them stingier with capital. Instead, state banks with a record for inefficient capital allocation will end up investing more than they should. This is what happens when the central government's policy goals come first and greed is secondary, observes one veteran of the Chinese market. Far from helping China fulfil its techno-designs, a hands-on state may make them harder to attain. ■

Technology finance (2)

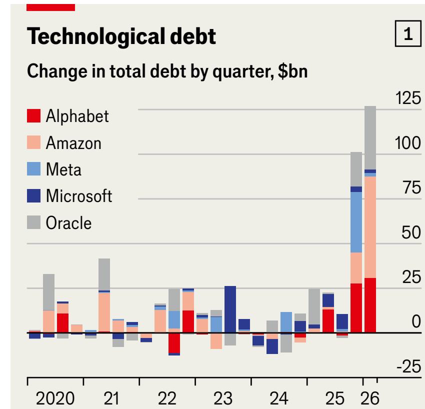
Tokens and coupons

NEW YORK

AI has taken over the stock market. The bond market is next

THE RAPID spread of new technological infrastructure is usually accompanied by booms in bond markets. The emergence of a liquid market for corporate credit on both sides of the Atlantic in the 19th century reflected the express growth of the railway industry. Before the arrival of railway operators with their vast investment needs—to buy land, lay tracks and ship goods—corporate finance was the province of small banks. Afterwards it became coupled with bond markets, at first nationally, then internationally.

The latest techno-infrastructure frenzy, this time over artificial intelligence, is likewise stoking a bond-market boom (see chart 1). Since January Meta, Nvidia and Oracle have launched individual bond offerings worth $25bn apiece to fund their AI ambitions—more than any of them has ever raised in equity. So has SpaceX, which added the same sum to the $86bn that Elon Musk's rockets-to-robots business



Source: Bloomberg

raised from stock-market investors last month. In March Amazon, whose computing cloud hosts lots of AI workloads, sold $37bn in bonds. Alphabet issued a rare 100-year bond worth £1bn ($1.4bn) in Britain in February as part of a £5.5bn debt sale, plus more paper in Swiss francs, days after it raised $20bn at home.

Last year issuance of corporate bonds in America was not far off the all-time high set in 2020 (see chart 2 on next page, top panel). This year that record will almost certainly be broken, thanks in large part to AI. Morgan Stanley, an investment bank, expects $350bn-400bn in AI-related investment-grade issuance this year in American bond markets. That would be nearly a fifth of the $2.3trn in high-quality dollar-denominated bonds which companies are forecast to sell there in 2026. Another $50bn may come from junk bonds linked to AI projects (out of total high-yield issuance of $440bn).

Such sums explain why the Bank for International Settlements, central banks' central bank, recently warned that AI projects may not make enough money to repay the debt that financed them. If bond investing is the "negative art" of choosing what to avoid rather than what to buy, as it is sometimes described, how much avoiding must bond investors do?

In some ways, the AI-issuance bonanza makes the corporate-bond market appear a little safer than it was. The total debts of America's five "hyperscale" cloud giants—Alphabet, Amazon, Meta, Microsoft and Oracle—climbed by $228bn in the six months to March. That is nearly five times more than any such two-quarter increase in the past.

The first four of the hyperscalers have for years churned out more profits than they know what to do with, and so enjoy strong credit ratings. Microsoft's debt is considered safer than Uncle Sam's. Only Oracle, the smallest and least profitable of the five, receives a middling "B" grade from big credit-rating agencies (though so do the issuers of about half of American ▸▸

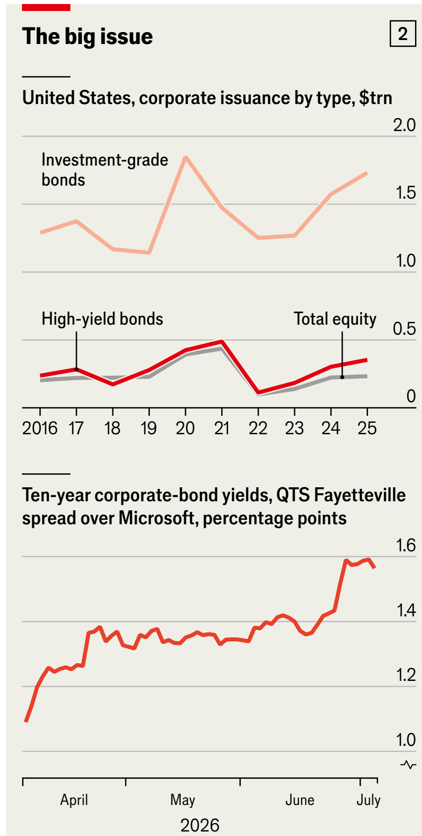
corporate bonds these days).

You might expect a debt-raising boom to raise the spreads on corporate bonds, a measure of their riskiness relative to safe Treasuries. But thanks to the creditworthiness of the largest big-tech issuers, average spreads remain at around 0.8 percentage points, close to the narrowest they have been in a quarter of a century.

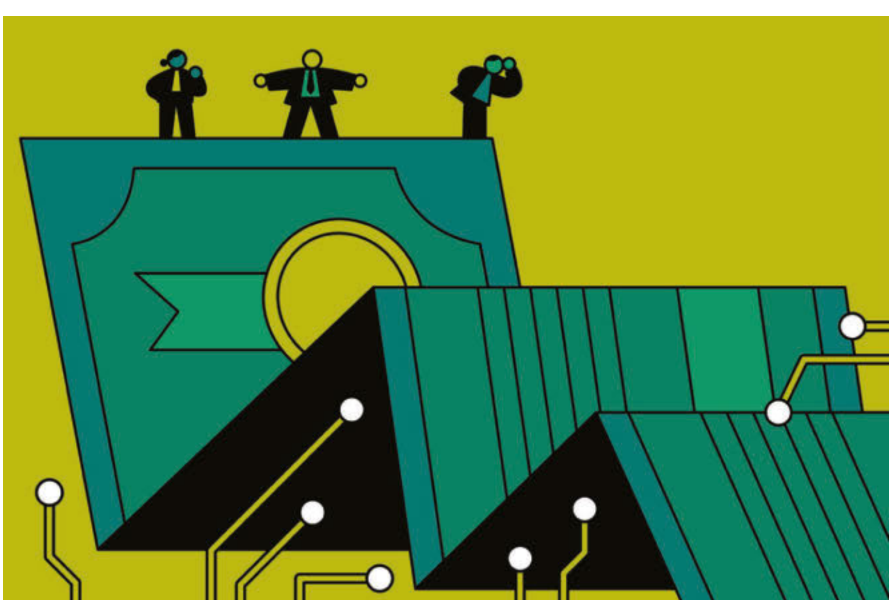
Investors are also beginning to be more discerning between the safe debt of the hyperscalers and bonds funding some of the riskier projects with which the tech giants are associated. In April QTS Data Centers, a firm owned by Blackstone, a giant manager of private assets, issued $4.6bn in bonds to fund an immense server farm in Georgia, of which Microsoft will be a client. Initially the bonds' yield was 1.1 percentage points higher than for the equivalent Microsoft debt. Since then the spread has widened to 1.6 points.

On the surface, the ballooning issuance of riskier debt looks like a bigger cause for concern. The wave of junk bonds, set off last May by a $2bn bond offering from CoreWeave, which rents out top-tier chip capacity, is swelling. In addition, CoreWeave and fellow "neoclouds" like Nebius and Iren have all issued billions of dollars in convertible bonds this year, which investors can swap for a certain number of the issuer's shares. The division between safer and riskier debt may be misleading, however. Historically, financial instability has tended to build up around assets that investors believe to be safe, not those they already see as sketchy. In this light, the junk bonds are a sign of market adaptation.

When railway defaults surged in the wake of the financial panic of 1873, this eventually led to a worldwide depression. No such cataclysm looks imminent today. It is clear, though, that avoiding duds will be harder than ever. The AI revolution is proceeding at such a blistering pace that some early winners have already turned into losers, then, occasionally, back into winners—and vice versa. Divining which companies will come out on top, and be able to redeem their bonds when they mature in ten, 30 or, in Alphabet's case, 100 years' time, will require bond investors to be at their most negatively artful. ■



Sources: SIFMA; Bloomberg



Climate finance

Fallen leaves

The World Bank has ditched its climate targets

In June 2023 the world's biggest development bank seemed to be undergoing a transformation. At a summit in Paris, the president of the World Bank, which for 70 years had focused only on tackling global poverty, announced plans to reserve a large portion of lending for projects to alleviate climate change and its effects.

The bank's then newish boss, Ajay Banga, had been hired in part for his green credentials, having pledged to plant 100m trees in his previous job as the chief executive of Mastercard, and he was proving popular. The crowd, which included Emmanuel Macron, the French president, and Abiy Ahmed, the prime minister of Ethiopia, celebrated with a standing ovation. As Mr Banga left the stage, he was diverted by Mr Abiy's aide for a selfie. A year later the World Bank ponied up $43bn, or 44% of the year's lending, nearly hitting its formal target of channelling 45% of its loans to such causes.

Now the party is over. Last month, under American pressure, the 45% target was formally ditched. Bank officials have barely mentioned climate since Donald Trump returned to office in early 2025 (Mr Trump thinks climate change is a hoax and wants more fossil-fuel use, not less). European countries, with more environmentally minded electorates, fought hard for the target to stay.

The sudden drought in climate finance could, it is true, slow the developing world's decarbonisation efforts. However, for the world's poorest countries, the World Bank's climate reversal could yet turn out to be good news.

The green shift was always controversial. A split soon emerged between development types, inside and outside the bank. One group believed that spending on things like wind turbines (for renewable power), electric vehicles (to reduce pollution) and mangrove forests (to stop flooding) were vital to prepare developing countries for rising temperatures. Another lot believed that this diverted money from clinics, schools and roads that immediately helped the poorest places.

To sharpen the division, Mr Banga's big climate push happened just when rich countries were falling out of love with development assistance. As aid budgets and contributions to the World Bank froze in real terms, climate commitments would require budget cuts elsewhere. Bank offi-


Browner pastures on the other side

cials demurred, saying that projects that alleviated poverty also protected the planet. Mr Banga argued that there was little difference between spending on one or the other. If that were true, many officials in the poorest countries wondered, why ring-fence climate spending at all?

At the end of 2024 the bank increased its climate pledges again, promising to provide $120bn annually by 2030, along with other international institutions. However, Mr Trump's return to the White House stopped the momentum. America's concerns ran deeper than the president's reflexive dislike for green do-goodery. In October 2025 Scott Bessent, the treasury secretary, proclaimed that focusing on climate was distracting from helping poor countries grow. He hinted that the bank needed to pull back or lose American support—a stark choice, since America is its biggest shareholder.

By April Mr Bessent's officials had begun a quiet campaign to scrap the targets. Little that Mr Banga did to appease Mr Trump helped, including joining the Board of Peace, the committee supposed to oversee the reconstruction of Gaza. The protests of many European countries were weakened when war in Iran was making net-zero commitments that raise the price of petrol less popular at home.

Less greenery, more greenbacks

The question now is what happens to the balance of the bank's lending. The climate push meant more aid ended up with middle-income countries, which pollute more than the poorest and therefore find decarbonising costlier. So policymakers in the world's poorest countries are relieved at the prospect that the needle swings back.

Yet some at the World Bank think that ditching climate targets will make no difference to the institution's portfolio. New climate projects could simply be repackaged and approved as development loans. If so, many staff will consider that to be a victory stolen from a meddlesome America. At the same time, however, it may also show that the sceptical development types were right—and there was little need for targets to start with. ■

Gender and work

Lean years

After the "Lean In" generation, are women leaning out?

WOMEN HAVE made extraordinary gains in the past few decades across the rich world. They now outnumber men on university campuses in virtually every wealthy country. At work, many have been enthusiastically "leaning in", as Sheryl Sandberg, then Facebook's second-in-command, urged them to do in a book in 2013. Their representation among the highest-paying professions, including medicine and the law, has nearly tripled in America since 1980. At the turn of the century a British patient was twice as likely to see a man. Last year the number of female physicians exceeded those of men for the first time, according to Britain's General Medical Council, a public body.

Recently, however, the most highly qualified cohort of women in human history has often appeared to be leaning out. In 2024 a study by S&P Global, a compiler of indices, found that women's share of executive positions in listed American companies fell for the first time in 2023 after nearly 20 years of uninterrupted growth. In 2025 women secured 38% of new board seats at companies in the S&P 500 index of large American firms, down from 42% the previous year and prolonging a retreat from their peak in 2020.

In its last round of partner promotions, in 2024, Goldman Sachs named a smaller share of female partners than in the previous round, for the first time in more than a decade. A year later the share of new female managing directors at the Wall Street bank fell, too. Last month Marianne Lake, a female frontrunner to succeed Jamie Dimon at JPMorgan Chase, was relegated and another, Jennifer Piepszak, bowed out last year, leaving an unusually pale and male lineup for the top job.

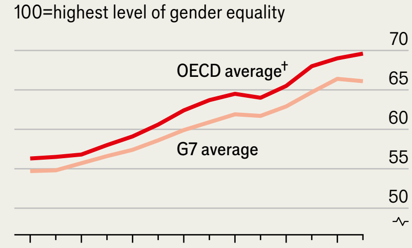
It is not just at the top that the progress of women in work is stalling or even going into reverse (see chart 1). Across 33 members of the OECD, a club of mostly rich countries, the share of employed women in full-time work declined from 78.1% in 2023 to 76.8% a year later—a small dip but also the first one since PwC, a consultancy, started tracking the data 15 years ago. In March 78.5% of American women aged 25-54 were in the labour force, an all-time high. Since then their participation has fallen by almost a percentage point, a much sharper fall than seen among men.

University-educated American women with young families appear to be leading the retreat. Their labour-force participation rate took a turn in 2023 after decades of improvement, and has fallen every year since. Last year marked the sharpest drop in participation by mothers with young children in four decades.

After consistently closing for years, the gender pay gap is opening up again, too. In America it widened in both 2023 and 2024, the first consecutive two-year decline in 60 years. In 2024 it also widened (on PwC's slightly different measure) in other rich countries, including Canada and France (see chart 2 on next page). For British women in their 40s, who were starting their ca- ▶▶

Glass divide 1

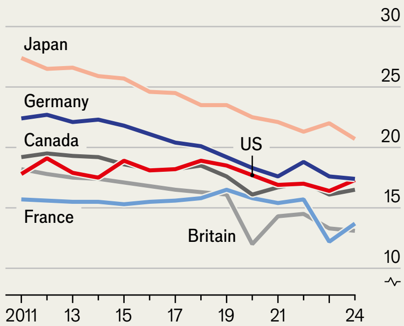
Women-in-work index*
100=highest level of gender equality



*Based on gender pay gap, female labour-force participation, participation-rate gap, female unemployment rate, female full-time employment rate †33 countries
Source: PwC

Waging war of the sexes 2

Gender pay gap*, %



Source: PwC *Male minus female wages, divided by male wages

reers when Ms Sandberg was telling them to lean in, the gap likewise increased.

It also seems that women's professional aspirations no longer match men's. An annual survey published in December 2025 by McKinsey, a consultancy, and Lean In, a non-profit founded by Ms Sandberg and named after her book, asks respondents to indicate their interest in climbing up the corporate ladder. Between 2019 and 2023 the share of both men and women keen on a promotion rose from seven in ten to eight in ten. By 2025 it had risen to nearly nine in ten for men but remained flat for women. For female entry-level workers it was just 69%. PwC also finds a persistent gap in men's and women's intentions to ask for a bigger job.

One reason for some of these reversals may have to do with the arithmetical aftermath of the covid-19 pandemic. Labour economists caution that disproportionate numbers of low-wage female workers lost their jobs during the lockdowns, artificially narrowing the gender pay gap. Some of the recent widening may reflect those women returning to the labour market. Still, the gap's expansion half a decade after lockdowns ended suggests something else could be at play.

Difficulty finding child care is another potential culprit. Although nurseries have become more affordable in some rich countries lately thanks to subsidies, supply is often constrained. That means frequent long waiting lists and staff shortages. Germany, considered to have affordable child care, still lacks more than 300,000 nursery places for children under three.

At the same time, especially across swathes of Donald Trump's America, diversity, equity and inclusion have become dirty words. The federal government is proudly dismantling DEI policies. So, more subtly, are many companies that do not want to cross the alpha-male-in-chief. A few years ago Mr Dimon, then a champion of progressive causes, would probably not have dreamed of an all-male shortlist of names to succeed him. ■

Liquefied natural gas

Boiling over

Three ways the LNG market could crack before Europe's winter

On June 28th the *Hlaitan*, a tanker laden with liquefied natural gas, set off for France from Freeport, Texas. Almost immediately it changed course. TotalEnergies, its charterer, had received a better offer from Asia. According to Kpler, a data firm, the *Hlaitan* is due at its new destination on August 1st.

Such stories have become common. Buyers in Asia, where a scorching summer is turbocharging demand, are outbidding Europeans for American cargoes at every turn. LNG tankers are being diverted in record numbers (see chart, left panel). In sidelined Europe, gas storage, drained by a cold winter, is only 47% full—the lowest in 15 years at this point of the summer (see chart, right panel).

Behind this is a lack of supply from Qatar, usually Asia's main provider. Since America and Iran agreed in mid-June to reopen the Strait of Hormuz, 11 LNG tankers have traversed the waterway—better than none, but just three days' normal traffic. On July 7th America began striking Iran, in retaliation for Iranian attacks on tankers (including a Qatari LNG one a day earlier). President Donald Trump also revoked a waiver which allowed Iran to sell its oil and declared the ceasefire with the Islamic Republic to be "over".

Unlike oil prices, which despite an uptick amid the latest hostilities are well below their war-time highs, gas prices remain 55% higher in Europe, and 73% higher in Asia, than in February. Analysts expect Qatari flows to be back to normal by September, just in time for Europe to restock before winter. But a more malign scenario is still uncomfortably plausible.

The war in Iran has deprived the world of a fifth of its LNG flows. It has also knocked out 17% of Qatar's export capacity, which will take years to rebuild. Restarting surviving plants takes time. Despite extra supplies from Africa and Australia, lured by rising prices, and lower demand owing to Asian countries' power-saving measures, industrial users' deferred purchases and the restarting of coal-fired plants, the world will be short of a cumulative 40m tonnes of Qatari LNG this year. That is almost a tenth of last year's supply.

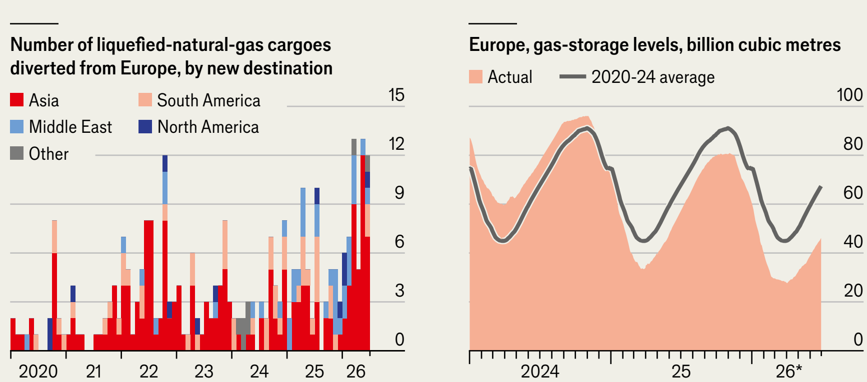
And that is before Asian and European importers start replenishing their winter stocks. Most are waiting as long as they can. One reason is that prices remain high; another is that prices for winter deliveries are no higher than today's. If Qatari supplies return by September, Asian demand for American cargoes should ease, spot prices fall and European buyers restock. By November EU stores would be some three-quarters full—low, but enough for a normal winter. Prices ought to stay under control.

But the market is so tight that a succession of small shocks could precipitate a crunch. Three risks stand out. First, Gulf supplies may not return on time. Hours after the Qatari gas tanker was hit near the entrance of the strait on July 6th, another heading for Hormuz turned around. A dozen ballast tankers are waiting near Ras Laffan to load. But repeated skirmishes, let alone a collapse of the ceasefire, could rattle buyers and push Asia to bid even harder for American cargoes.

A second risk is extreme weather. In June Europe suffered record temperatures, which pushed up demand for cooling and so power. In Asia El Niño—a climatic phenomenon that brings hot, dry weather to the region—is also pushing the mercury abnormally high, forcing countries such as Bangladesh and Pakistan back onto the spot market. More sizzling weather in either continent will mean more buying.

China's unpredictable purchases add ⏩

Hard to starboard



Sources: Kpler; S&P Global Platts *To June 29th uncertainty. The world's largest LNG importer mostly buys under long-term contracts. It does not stockpile gas as it does oil. What it does not need it resells, as it did in March and April. But when heatwaves struck in May and June, it resumed large imports; when welcome rain fell in late June, it retreated. Scorching temperatures might again cause it to buy in a hurry.

The third danger is that infrastructure fails. Prolonged dry spells drain hydropower reservoirs. Power prices in Switzerland have already jumped as it imports electricity from neighbours that use fossil fuels, notes Gillian Boccara of Kpler. If rivers are abnormally warm, nuclear reactors, which need cold water, may throttle back.

Then there are unknown unknowns. A big LNG terminal could break down, as when the Freeport plant, then accounting for 4% of global supply, caught fire in 2022. Strikes, like those in Australia in 2023, can disable facilities for weeks. Russia—which supplied record volumes to Europe this spring—could turn off the taps.

Several of these shocks at once could turn the manageable into a nightmare. "When bad news accumulates," says Anne-Sophie Corbeau of Columbia University, "the effect on prices can turn exponential." There is little scope left for switching fuels. South Asian countries will surely have to cut back. China, Japan and South Korea are rich enough to keep bidding. Europe will not freeze this winter. But it could face an enormous heating bill. ■

BUTTONWOOD

The unloved continent

Europe's economy is a mess. Its stock markets are a steal

"THE STOCK MARKET is not the economy" might be a cliché, but it is still jarring to see quite how far the two can part ways. Surely economic growth should be good for shareholders? Yet study after study has suggested the opposite. One by Jay Ritter of the University of Florida, for instance, compared the returns on 16 countries' stock markets with their GDP growth per person between 1900 and 2002. The two appeared, if anything, to be negatively correlated—meaning that the faster a country became richer, the worse its investors tended to do.

Mr Ritter's results are worth bearing in mind when contemplating some of the world's most underloved shares. Brief flirtations aside, it has been a long time since Europe's big markets have thrilled international investors, and there are no prizes for guessing why. The IMF reckons GDP growth in the euro area will be just 1.1% this year, compared with 1.8% for advanced economies the world over and 2.3% for America. Some of Europe's peripheral and emerging bourses are buzzing; the mainstays are not.

Worse, Europe appears increasingly ill-equipped for the 21st century. It has neither artificial-intelligence giants to compete with those in America and China nor enough data centres to host their models. Its electricity grid is strained even without them. So is its power supply, since Europeans import nearly 60% of their energy—a vulnerability laid bare by wars in Ukraine and Iran.

In spite of all this, European shares deserve a lot more affection than they are getting. More than anywhere else in the world, the old continent's stock markets are not its economy. Even as GDP growth languishes, their fundamentals look surprisingly good.

For a case study, consider what happened after the Iran war closed the Strait of Hormuz. Until then, one European equity strategist says, she had spent much of her time fielding calls from international investors who worried they were overexposed to America and wanted to diversify. Capital was flowing into European equity funds more quickly than it had been for some time. When the bombs began to fall, the phone calls stopped and the capital flows all but dried up. Share prices tanked pretty much everywhere, but those of European firms then recovered far slower than American ones. It was only last month, when Hormuz tentatively reopened, that European shares began to catch up.

The irony is that the strait's closure probably boosted Europe's corporate profits, even as it threatened the continent's economy—and may do so again as the war resumes. Morgan Stanley finds that 20% of the earnings underlying the MSCI Europe share index come from firms that would have benefited from the spike in commodity prices, such as energy and chemicals producers. The investment bank also estimates that only 10% of European earnings (from car- and food-makers, for example) would have been harmed by the supply-chain disruption. Investors nevertheless see the war as a cue to shun European stocks en masse.

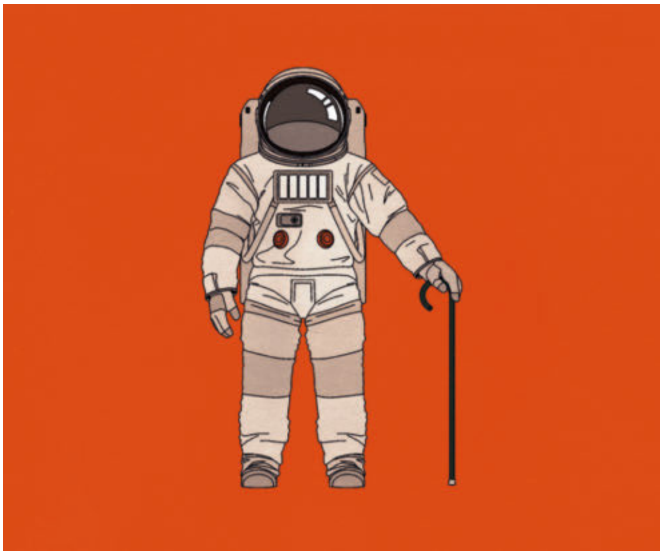
Europe's sclerotic growth, similarly, need not condemn its firms' bottom lines. Taken in aggregate, over half their revenue comes from outside Europe's developed economies; weighted by firms' market value (as share indices tend to be) this rises to 60%. No other similarly sized region has stock markets that are so exposed to countries beyond its borders. Investors in European share indices are betting more on the rest of the world than they are on Europe.

Even the burst of inflation brought on by the Iran war should be no bad thing for European shares. Around 40% of them by market value represent firms that derive earnings from real assets, from commodities and machinery to the semiconductors that power AI. Such assets tend to perform well when consumer prices are rising. Another 20% or so of Europe's stock market is made up of banking shares, which also do well when prices (and hence interest rates and lending margins) are on the way up.

Equity analysts, therefore, are feeling more and more bullish about Europe's corporate profits, estimating that earnings per share will grow by 17% in 2026. This is admittedly only two-thirds of the growth pencilled in for American stocks, but well above the 9% consensus of two years ago. After a quiet few months European strategists might soon find their phones ringing again. If they do, it may be an idea to remind the investor on the other end that Europe's stock market is nothing like its economy.

FREE EXCHANGE
Dystopia averted

An ageing society might not cost too much



THE YEAR is 2100. It is a grim time to be of working age. Not only must you put up with rising sea levels, rampant rogue AIs and colleagues who, 80 years after the pandemic, still do not know how to mute themselves on a video call, but your take-home pay is meagre. Taxes to finance state support for the vast grey population take an ever-larger chunk of your wage. After a century of health-care spending growing faster than the economy, there is little for anything but pills, hospital beds and nurses.

Economic theory lends support to science fiction. Spending on health care depends on how much it costs to provide and how much treatment is needed. Generally, the former has increased over time. Economists attribute this to Baumol's cost disease, diagnosed by William Baumol, an American economist. Technologically intensive sectors (think of manufacturing or software development) get more productive. Labour-intensive service sectors do not. A doctor's consultation takes roughly as long as it did a century ago. Yet physicians' pay must match increases in faster-growing skilled industries, or all the doctors will go to work in tech. (Baumol pointed out that a string quartet still took 45 minutes to perform a Schubert work, but was paid vastly more than when the composer was alive.)

As for the volume of health care, there is a debate over whether "expansion" outweighs "compression". As medical knowledge improves people live longer but not for ever. Eventually they fall ill and die. The question is whether the total time spent poorly expands as the population ages, becoming more decrepit and needing more complex and expensive care, or whether the same sort of advances that keep them alive also keep them healthier. Sickness would become compressed into just a few years before death.

Two new papers from the National Bureau of Economic Research, a repository of economic thought, suggest that the vision of health care gobbling up tax revenues may not come to pass. In the first, David Cutler and Lev Klarnet, both of Harvard University, observe that in 2024 America spent $1trn less on health care than official forecasts from 2010. The second is by Liran Einav, of Stanford University, and Amy Finkelstein, of the Massachusetts Institute of Technology (MIT). Using a survey of users of Medicare, America's system of health insurance for the old, they find that, whereas expected lifetime spending on Social Security (ie, pensions) rose by 14% between 1993 and 2017, the expected cost of Medicare increased by only 6%. That is partly because elderly Americans have been collecting their pensions for longer but spending less time seriously ill.

The papers point to improvements on both sides of the equation. Start with the cost of providing health care in hospitals. Messrs Cutler and Klarnet point out that, between 2000 and 2010, it consistently rose by around 2.3 percentage points above inflation—but that later something changed. Between 2011 and 2024 hospital costs rose by only 0.5 percentage points more than overall prices. Technology has played a role. Technological improvements in health care come in two types: some are adopted because economies get richer and can afford to treat new things; others make it cheaper to provide the same outcomes. For much of the past century, the first type dominated the second. Now, it seems the second type has taken over. Baumol's cost disease turned out to be curable.

On top of that, less health care is needed than was once expected. Health-care systems may have become more efficient at targeting treatments, and insurers better at saying no. The old are also getting healthier. Mr Einav and Ms Finkelstein point out that since 1993 Americans' life expectancy at age 66 has risen by 2.4 years, which are (on average) entirely healthy. They can expect an extra three years of healthy life. The amount of time spent in the severest mental and physical distress has declined by 0.6 years. That means less spent on extremely pricey residential care or home help for the infirm.

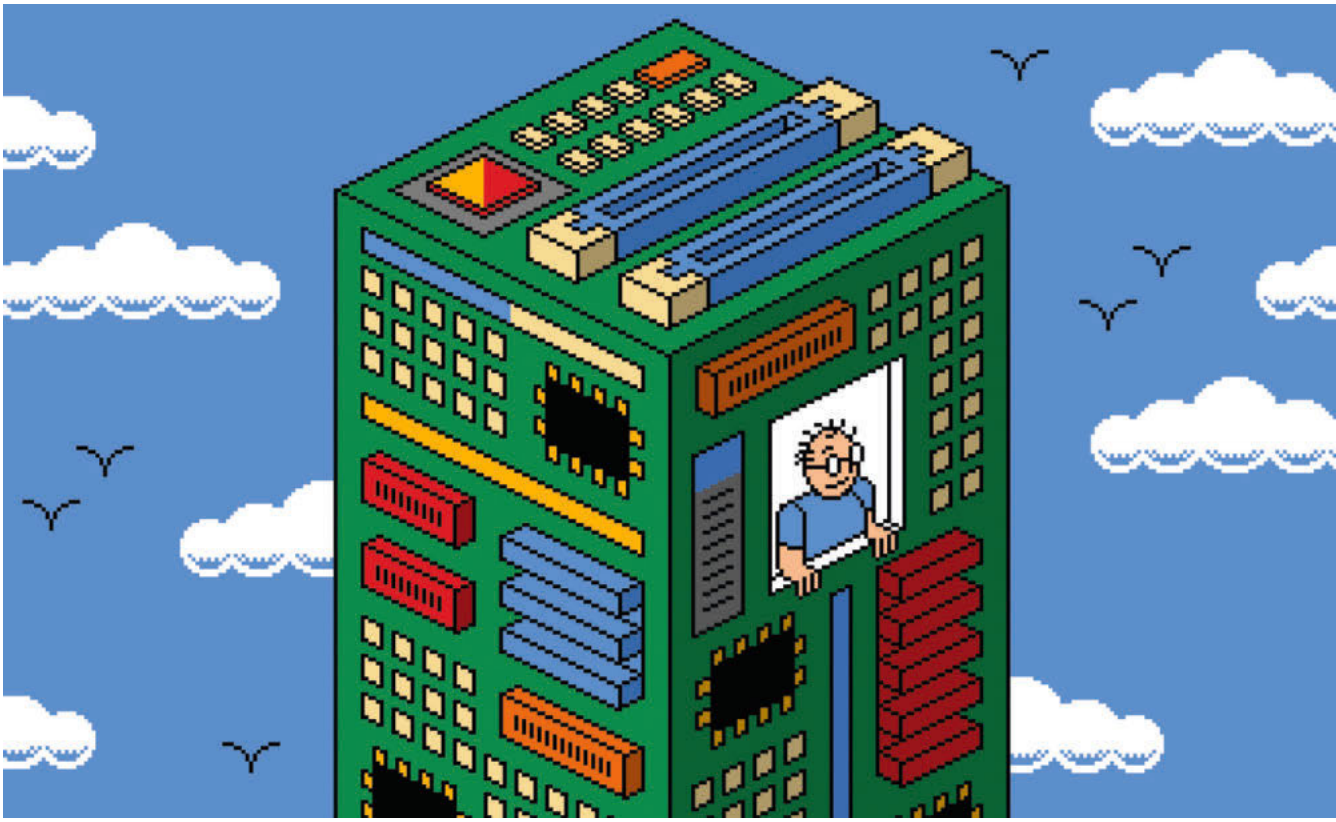
Improvements are not limited to America. As this newspaper pointed out three years ago, health-care spending has slowed (as a share of GDP) across the OECD, a club of mostly rich countries. Another new paper, by Sheila Diane Smith and Joseph Newhouse in the *American Journal of Health Economics*, makes the same point—and predicts that spending per person will grow by around 2% over the next decade in the OECD (excluding America), compared with 4% before 2009. Spending on health care as a share of GDP will rise by only a tenth of a percentage point each year.

Silver linings

The good news for the grandchildren does not end there. Another new working paper, by Daron Acemoglu, of MIT, and others, finds that ageing societies are no poorer. Much of the demographic transition has happened already, the authors note, allowing economists to estimate the effect on growth of declining birth rates. Looking across America they find that in areas with steeper falls in fertility, productivity growth among people of working age is higher. That, they theorise, is because such places have been far better at adopting labour-saving technology. There may be more old people in 2100 but the workers supporting them may have fusion-powered quantum-AI colleagues sharing the burden.

This does not mean all is well. Pensions will remain a pricey problem. Still, they are not an insurmountable one. According to a study by the Congressional Budget Office, a fiscal watchdog, raising the American retirement age by three years, from 67 to 70, would pay a large chunk of the extra costs of Social Security by 2100. Getting that reform, or others to defray the cost, through a polarised American politics will be hard. Yet the economics literature offers hope: demography need not be destiny after all. ■

Science & technology



Chipmaking

Manhattan on my mind

Constrained by physics and politics, chipmakers are building upwards

DRIVE AROUND Silicon Valley and you will see surprisingly little skyline. The landscape is dotted with low-rise offices, bungalows and malls. The microchips that gave the region its name are built in much the same way. Millions of low-rise transistors—the electrical switches which instantiate a binary 1 or 0, and thus form the basis of computing—are plonked next to each other on a wafer of silicon.

Over the past half-century, in pursuit of higher performance, chipmakers have learned to shrink their transistors and pack them together ever more tightly. But that trick is running out of road. To keep progress going, firms are starting, at last, to build upwards. The industry's future will look less like Californian sprawl and more like the vertical cityscape of Manhattan.

On June 16th, at a conference in Hawaii, Samsung Electronics, a South Korean firm, said it had managed to stack two types of transistor on top of each other, allowing it to make significant savings on space. A few days later IBM, an American firm that carries out research into advanced chipmaking, announced a vertical transistor of its own. Intel and TSMC, two other incumbent giants, are pursuing similar technology, which the industry hopes may turn up in commercial products early in the 2030s.

China's tech champions are chasing similar ideas, but for slightly different reasons. American export controls have cut them off from the manufacturing tools necessary to build the tiniest transistors, forcing them to look for alternative ways of doing things. On May 25th Huawei, the country's leading chipmaker, announced a technology called "Logic Folding", which aims to stack entire circuits rather than individual components. Whether to escape the constraints of physics or of American sanctions, it seems the only way to go is up.

Start with physics. Making transistors smaller helps in two ways. One is simply that cramming more of them into a given area allows for more sophisticated chips. The other is that, thanks to a quirk of the device, the smaller a transistor becomes the better it performs—at least, up to a point. Smaller transistors switch on and off more quickly and consume less power while doing so. In 1965, Gordon Moore, who later co-founded Intel, predicted that the number of transistors that could fit on a piece of silicon would double roughly every year (later revised to two). The industry organised itself around what came to be known as Moore's law.

But by the mid-2000s the transistors started misbehaving. They had become so tiny that current would flow even when they were meant to be switched off, wasting power and generating unwanted heat. Redesigning them bought a bit more time. Flat transistors gave way to slightly more vertical designs called FinFETs, which helped control leakage. FinFETs were followed by gate-all-around (GAA) transis-

→ ALSO IN THIS SECTION

tors, the current state of the art.

The redesigns kept shrinking going, but broke its economics. For decades firms could deliver more computing power at a lower cost per transistor. No longer. Bloomberg Intelligence, a data provider, estimates that, in 2024, a billion transistors on TSMC's N3 process, then the state of the art, cost roughly 40% more than on the previous N5 process (see chart).

One target for the great shift upwards is logic gates, devices built up from transistors. The simplest, an inverter or "NOT" gate, turns a 1 into a 0 or vice versa. It is made of two connected transistors placed side by side. Engineers must leave a gap to prevent the two transistors from electrically interfering with each other.

IBM reckons that by stacking transistors instead, by using a device called a "complementary field-effect transistor" (CFET), it can cut by half the area required for logic gates, while delivering either 50% more performance or 70% better energy efficiency. A CFET stacks one GAA transistor directly on top of another, with an insulating layer ensuring the two play nicely together.

The firm builds its CFETs using a method called sequential manufacturing. The bottom transistor is built first. Then a second silicon wafer is flipped over and bonded to the first, a process rather like putting the top slice of a sandwich onto the bottom. The upper transistor is then built on this second, transferred layer. Intel, Samsung and TSMC, by contrast, favour a "monolithic" approach for their CFETs, in which the two transistors are built above one another on the same silicon substrate.

Serge Biesemans of IMEC, a semiconductor research organisation based in Belgium, says the monolithic option is a better fit for existing manufacturing methods—though it requires modifying tools so that they can handle the unusual geometry of stacked transistors. IBM's sequential CFETs avoid the need to fiddle with tools, at the cost of extra manufacturing steps.

China's push into the third dimension is driven by politics. Since 2019 America has barred ASML, a Dutch toolmaker, from selling its extreme-ultraviolet (EUV) lithography machines to China. This makes it very hard for Chinese firms to make chips with the tiniest possible components. So Huawei is trying a different tack.

The firm argues that a chip's speed depends on two things: how fast its transistors can switch on and off, and how long it takes for a signal to zip through the system. The switching speeds of modern chips are so high—billions of times each second—that designers account for the time it takes for an electrical signal, which moves at a significant fraction of the speed of light, to propagate across one.

Because sanctions have limited the first variable, Huawei is focused on the second. "Logic Folding" splits what would normally be a single chip across two bits of silicon. Those two wafers are then placed face-to-face and joined using ultra-precise bonding. Muhannad Bakir, a professor of engineering at the Georgia Institute of Technology in Atlanta, uses the analogy of two dots on a sheet of paper. Fold the paper so the dots touch and the distance between them almost disappears. Done *in silico*, that cuts the distances electrical signals need to travel, improving speed.

Huawei reckons Logic Folding can improve energy efficiency by around 40% while also increasing performance. It claims to achieve a transistor density of roughly 238m per square millimetre—mimicking the density of TSMC's N3 process—despite using older manufacturing tools. Such comparisons should be treated cautiously, since transistor densities are difficult to compare directly across manufacturing processes. They nonetheless illustrate the company's ambition.

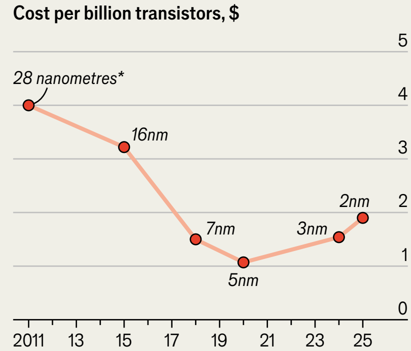
And still I rise

Building tall solves some problems while creating others. One is heat, already one of the biggest limiting factors in chip design. Since the heat-generating volume of a 3D chip will rise more quickly than the surface area available to remove it, the problem is likely to get worse. Chip-design software was written for largely flat layouts and must be rethought. Wafer-to-wafer bonding demands extraordinary precision; defects in either layer can sharply reduce yields. Huawei does not expect large-scale production before around 2031.

For rivals such as TSMC the benefits of adopting Huawei's approach are not quite worth the costs today. The company reckons it can squeeze one or two more iterations out of the old, low-rise model. Huawei has no such option. The slowing of Moore's law has made the old ways of doing things less attractive for everyone. For Huawei, as the company itself admits, politics has meant those constraints have arrived earlier, and are more pressing. ■

The price of power

Cost per billion transistors, $



Source: Bloomberg Intelligence *Fabrication process type

Anti-drone technology

Hiding in plain sight

In Ukraine, anti-drone tactics are producing bizarre forms of camouflage

In recent months Russian military lorries in Ukraine have begun sporting a striking new colour scheme of vivid black-and-white stripes. As camouflage goes, it is not much use against human observers. But then, it is not intended to fool biological eyes. Its aim is to frustrate the machine-vision systems that are fitted to the Ukrainian drones that zip around battlefields looking for prey.

The stripes are reminiscent of the "dazzle camouflage" used by the Royal Navy in the first world war. But whereas dazzle camouflage was intended to break up a ship's silhouette, making it difficult to judge its speed and heading, the new variant aims to fool machines into thinking that a lorry is not, in fact, a lorry at all.

Machine vision is based on pattern-matching. A model is trained by exposing it to images, some of which contain lorries (or tanks, or aircraft) and some of which do not. Over zillions of exposures, the computer deduces rules that allow it to identify the things its trainers want to teach it about. Because zebra-striped trucks are unlikely to appear in the training data, says Todd Humphreys, an engineer at the University of Texas at Austin, an AI that encounters one in the real world may not realise what it is looking at.

Computers often rely on very specific features to recognise an object. That leads to a problem known as "brittleness", in which small variations can cause bizarre misclassifications. "Adversarial examples" designed to exploit the quirks of computer vision, have been around for years. One, developed at the Massachusetts Institute of Technology in 2017, featured a plastic turtle. Misled by the pattern on its shell, a computer confidently classified it as a rifle. In another project, researchers produced stickers which, when attached to roads, caused a Tesla's self-driving software to steer into oncoming traffic.

Dr Humphreys says that efforts to counter machine vision in the Ukraine conflict work on the same principle, obscuring expected features with unexpected ones. Parked Russian aircraft have been seen with rows of old tyres on their wings to confuse image-matching software on drones. Some Russian drones also now have dazzle camouflage of their own, presumably to make it harder for Ukrainian interceptor drones to identify them.

These tactics are likely to become more

common. Presently most battlefield drones are still flown by a remote human operator, who is unlikely to be fooled by the markings. But as the drones proliferate—Ukraine aims to produce 10m this year—and technology improves, AI will take on more of the work.

The probable result will be an arms race pitting increasingly sophisticated machine vision systems against cleverer and cleverer methods for fooling them. The advantage from any particular camouflage pattern is likely to be temporary. After all, once zebra-striped lorries are common enough they will start to turn up in training data, and models will start to see them for what they really are. A spokesman for Brave1, an arm of the Ukranian government that aims to accelerate military technology, acknowledged that the Russians were adapting—but said Ukraine was adapting faster. ■

Tennis

Hitting winners

A statistician's guide to Wimbledon

ROGER FEDERER won 20 major tournaments during his career. Wimbledon, which started this year on June 29th, was his happiest hunting ground: he won eight times, a men's record. Yet as Mr Federer himself has noted, he won only slightly more than half of the thousands of points he played during his career.

This year Mr Federer, who retired in 2022, has been watching Wimbledon from the crowd. But those less familiar with the game than he is may wonder how he—or the current crop of top players—manage to convert such a narrow advantage into a winning record.

Much of the answer lies in tennis's scoring system. Stringing points into games, games into sets, and sets into a match gives plenty of time for a small advantage to compound into a convincing win. Analysis by *The Economist* of data from major tournaments between 2014 and 2025 shows that, in the men's game, a player that is just 1% more likely to win the average point is 12.5% more likely to win the match. For women, the figure is about 10.5%.

But there are quirks. One is the serve: a player is more likely to win a point when serving. Wimbledon's fast grass courts enhance the advantage, reducing the returns to non-serve skills by around 2.5% compared with other surfaces. Another oddity arises from the fact that men play up to five sets, while a women's match is capped at three. Our analysis suggests this reduces the returns to skill in the women's game by 25% compared to the men's—which makes Martina Navratilova's nine Wimbledon trophies look even more impressive.

Tennis enthusiasts have suggested more efficient ways of doing things. In 1992, Graham Pollard, a statistician then at the University of Canberra, suggested replacing the current game-set-match structure with what would be essentially a pair of tie-breaks. Players would alternate serve until one managed to pull ahead by a certain number of points (in existing tie-breaks a two-point lead is enough to win, but a higher number would reduce the effect of luck). If one player wins both games, he is the victor; if not a new pair is played. Dr Pollard reckoned his scheme could identify the better player in half the time of a typical match.

Since many fans enjoy tennis for its own sake, that might not be a popular selling point (it would also leave broadcasters with a lot of dead air to fill). So how can a player make the most of a slim edge under the current rules?

Being able to rise to the occasion is one important ability. A paper published in 2001 by Franc Klaassen and Jan Magnus, a pair of economists, found that serves at Wimbledon lose some of their power on break points. The serving player is 0.8% less likely than usual to win any break point, and 4.6% less likely when the score is 5-5 in the final set. Some players keep their heads better than others. A 2012 study by Julio González-Díaz, a statistician, and his colleagues found that only about half of the top 25 players by ranking were also in the top 25 for this critical ability. Mr Federer was one. As his fans have always known, part of the recipe for his success was his grace under pressure. ■

Statistics in action

Dendrology

A tall order

Clever engineering lets the tallest trees survive droughts

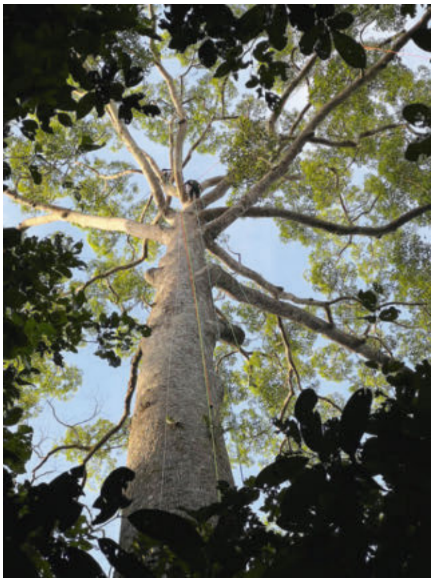
TOWERING OVER 100 metres above the forest floor, the dipterocarp—named after its winged seeds, which spiral away in the wind—is the tallest tropical tree in the world. For a plant, being tall is an advantage: if your neighbours cannot overshadow you, that leaves you with the lion's share of the sunlight.

But trees need water as well as light, and here being tall presents a problem. The physics of moving liquid through thin channels means that the taller a tree gets, the harder it is to pump water from the soil to the leaves in the crown. Scientists had assumed that would leave big trees, like dipterocarps, more vulnerable than their more diminutive competitors when water was scarce. But in a paper published on July 2nd in *Science*, a team led by Paulo Bittencourt of Cardiff University have shown that, thanks to some clever evolutionary engineering, that is not true.

A tree's trunk contains a network of tubes known as xylem whose job is to ferry water from the roots to leaves. While many animals pump fluid around their bodies with a heart, trees rely on evaporation to keep the liquids flowing. As water in the leaves escapes into the air, it creates suction in the xylem. That draws more water up to fill the space. That process is aided by the properties of water itself. Water molecules tend to cling to their neighbours, so that as one is drawn up, others follow. The molecules also adhere to the walls of the xylem, helping to counteract the downward pull of gravity.

This plumbing system, clever as it is, poses two problems for tall timber. The first is due to gravity. As the height of a tree increases, so does the tension towards the top of its xylem. If that tension gets too high the links between water molecules can break, allowing pockets of air to form and blocking the flow. The second is the length of the tubes themselves. It is harder to sip orange juice through a long straw than a short one. For the same reason—friction between the liquid and the walls, mostly—the greater the distance between a tree's roots and leaves, the harder it is for water to flow up its xylem.

These challenges had led to a prediction among dendrologists: giant trees ought to have a harder time getting water up to their leaves, leaving them more at risk of drought. And yet, says Dr Bittencourt, actual data was lacking. That is per-



Thirsty work

haps not surprising, for collecting it is hard work. The tallest trees can be scaled only by specialist climbers.

Fortunately, some of Dr Bittencourt's colleagues were experienced tree-climbers. The team chose as test subjects a collection of dipterocarps in a rainforest in north-eastern Borneo. Over the course of three months in 2022, the researchers measured 38 different trees. The team then monitored how fast 27 of those trees grew over 770 days from 2022 to 2024.

"What we found is that [the trees] were adjusting some key parameters so they could be very tall and still keep their leaves hydrated," says Dr Bittencourt. Each tree's water-transporting xylem widened as they ran from tip to base, which helps reduce resistance in the parts of the xylem closest to the ground. For the tallest trees, the widening was more pronounced than would be expected if they were simply scaled-up versions of their shorter relatives.

Gravity meant that the pulling power of leaves declined as trees got taller, as expected. But the dipterocarps had accounted for that too. Their highest leaves sported higher concentrations of osmolytes—chemicals that help cells hold their shape when water is scarce. That meant they were no more susceptible to wilting than those lower down. Thanks to such clever engineering, the researchers found no relation between a tree's height and a reduction in its growth rate during a six-month drought that began in December 2023.

By virtue of their enormous size, the tallest 1% of trees store over half of the carbon in Earth's forests. The assumption that these giants will be the most severely affected by droughts is factored into some climate-change models. The dipterocarp's clever plumbing suggests those models may need pruning. ■

Well Informed

How little exercise can you get away with?

Even very small amounts might be more beneficial than you think

FEW THINGS are as unambiguously good for you as exercise. Besides making you fitter and stronger, it cuts your risk of heart disease, strokes, diabetes, many types of cancer and more.

But how much of the cure-all do you really need? The World Health Organisation (WHO) recommends at least 150 minutes a week of moderate activity, such as easy jogging or cycling, and two sessions a week of strength training. Many still fall short. In America, for instance, less than half of adults meet the minimum recommendations for just cardiovascular exercise alone.

Those who hate pounding the pavements need not despair, though. Even a little exercise is better than none. And a growing pile of evidence suggests that might be true even with very small amounts of exercise indeed: potentially just a few minutes a day.

Scientists have long known that the returns to exercise are not constant. The biggest benefits come from doing any at all. Doing lots is better than doing just a little, but the relative improvement is smaller. A meta-analysis published in 2015 pooled data covering around 660,000 people in America and compared the amount of exercise participants claimed to do with the number who died over the following years (the average follow-up period was 14 years).

Compared with those who did no exercise at all, people who reported doing less than the WHO's minimum had a 20% lower chance of dying over the follow-up period. Those who did between one and two times as much as the WHO guidelines saw their risk fall by 31%. The truly keen, who did two to three times more than advised, saw a drop of 37%—a much smaller jump than those who went from nothing to just a little.

One problem with such studies is that they rely on self-reporting, which is often unreliable. Newer studies use wearable sensors, which are more reliable and which allow more granular measurements. They suggest that even tiny, irregular spurts of exercise can have powerful health benefits.

In 2022 a group of researchers published a study that crunched data from 25,000 British people who did no organised exercise. The researchers were interested in "vigorous intermittent lifestyle physical activity", or VILPA—short bursts of relatively intense exercise undertaken in daily life, such as running for a bus or climbing steep stairs.

Few of the participants did much VILPA—the median was just 4.4 minutes per day. But even that was associated with a reduction in the chance of dying, from any cause, of up to 30% in the following seven years for which the average participant was monitored. The correlation persisted even after the researchers tried to account for the idea that causality might run the other way, with only the already healthy capable of performing VILPA.

Exactly why VILPAs seem to be so good for you is not yet clear (one theory is that they work in essentially the same way as high-intensity interval training, a quick but demanding method of getting into shape). But inspired by the results, some academics have started advocating "exercise snacks": short bursts of activity that even the most gym-shy or time-pressed should be able to manage. Do some bodyweight squats while waiting for the kettle to boil, say, or knock out some star jumps during a dull Zoom meeting (but don't forget to turn the camera off first). As the old saying goes, every little helps. In fact, it may help much more than you think.

Culture

Inside the fantasy world of Donald Trump

Game of phonies

An eye-popping report on "the most powerful man that the planet has ever known"

Regime Change. By Maggie Haberman and Jonathan Swan. *Simon & Schuster; 496 pages; $34 and £28*

Pundits often say that Trump World resembles "Game of Thrones" because it is a place where horrid people do horrid things in pursuit of power. Fiddlesticks. The main reason why Trump World is like a dragons-and-zombies saga is that its protagonists live in a land of make-believe.

Especially President Donald Trump, whose understanding of reality seems to be based on snippets he once heard and wishes were true. "Regime Change", an account of his second term by two *New York Times* journalists, Maggie Haberman and Jonathan Swan, brims with examples.

America was at its richest "from 1870 to 1913", when it was "a tariff country", claims Mr Trump. Actually, Americans are six times richer now than they were in 1913, even if you ignore the full benefits of new inventions such as GPS and antibiotics. The president thinks global trade means foreigners screwing Uncle Sam. So when his commerce secretary showed him that Chinese and Indian tariffs on American goods were not very high, he called the numbers "fucking bullshit" and ordered Natalie Harp, a young blonde aide whose job is to print out positive news for him, to Google up "the real numbers". Ms Harp, "despite her best efforts", could not find "the numbers that didn't exist".

Much of the federal government continues to operate normally, responding more or less rationally to old-fashioned facts. But in the White House, fantasy reigns. The Philippines has no drug problems because President Rodrigo Duterte kills drug dealers without fussing about "due process", Mr Trump told his advisers. Actually the Philippines continues to have a huge drugs problem, and Mr Duterte will face trial in The Hague later this year for crimes against humanity.

Some courtiers are grounded in reality, but they keep quiet about it. Marco Rubio, Mr Trump's secretary of state, "never lectured the president or flaunted his own knowledge", Ms Haberman and Mr Swan write. When facts fail to fit the message, they are memory-holed. For example, the message after the murder of Charlie Kirk, a conservative activist, was that America was being overrun by left-wing terrorists. So the Justice Department website quietly took down an official study showing that far-right terrorists in America kill many more people than left-wingers do.

All of Mr Trump's aides must profess to believe that the election in 2020 was stolen. One candidate was rejected simply for praising Mike Pence, the former vice-president, who refused to pretend his boss had won. This filter lets Mr Trump select ▶▶

staff who are prepared to lie for him—and perhaps break other norms, too.

Another crucial tool for manipulating reality is to redefine words. The Democratic Party "is not a political party. It is a domestic extremist organisation," says Stephen Miller, one of Mr Trump's most extreme advisers. A terrorist is not, as the dictionary says, someone who uses violence for political or ideological ends. The label can be applied to peaceful protesters and even to groups that do not exist, such as the "Cartel de los Soles" in Venezuela. An emergency need not be a sudden crisis but can include the trade deficit, which America has coped with just fine since 1976. An "invasion" can mean drug-smuggling or even foreigners crossing the border to clean hotel rooms.

Fake newspeak

It is not nit-picking to complain about Mr Trump's abuse of language. Laws consist of words. So when the president asserts the right to change their meaning, he is asserting the right to change the law. If protesters are terrorists, then federal agents who shoot them may be justified. If drug-smugglers are invaders, they can be bombed. If the war on Iran is not a war, as Mr Trump has claimed, then he does not need Congress's permission to wage it. If he can declare "emergencies" at will, he can wield emergency powers whenever he feels like it. America's courts have struck down some of these outrageous power grabs, but not all.

Ms Haberman and Mr Swan offer little original analysis. Instead, they offer something that will let readers draw their own conclusions: dogged, meticulous reporting that illuminates how exceptional this White House is. Trump-sceptical readers will love it: already "Regime Change" has shot to first place on the *New York Times* bestseller list and quickly sold out in bookshops and on Amazon in America.

Some of the book's details are trivial: Mr Trump thinks he is a better interior decorator than anyone else; an aide saw him supergluing fancy gold decorations to an Oval Office fireplace. At other times, his vanity has global consequences. The head of the CIA told him that a plan for quick, easy regime change in Iran, as presented by Binyamin Netanyahu, Israel's prime minister, was "farcical". But Mr Trump had "a good feeling". What would the head of the CIA know about intelligence?

Mr Trump has made billions of dollars from being president. Gulf states that need America's protection just so happen to invest huge amounts of money in his family's crypto ventures. Countries that wish to avoid punitive tariffs race to greenlight Trump golf courses or hotel projects. "Neither the president nor his family has ever engaged—or will ever engage—in conflicts of interest," declare his flacks, week after week, with impressively straight faces.

The authors add depth to this familiar tale of shamelessness. Boris Epshteyn, a lawyer who had helped Mr Trump stay out of prison, was accused of demanding fat pay-offs from prospective second-term appointees to whisper a good word in the boss's ear, and of bad-mouthing those who refused, such as Scott Bessent, now the treasury secretary. The White House counsel urged Mr Trump to cut ties with Mr Epshteyn (who denies the allegations). Mr Trump said no. Another adviser "explained that Trump...valued lawyers he thought would do anything for him" and hated making enemies of those privy to his secrets. He had been burned before.

One of Mr Trump's positive qualities is that he often gives interviews. He spent an hour with the authors, despite knowing them as critics. It was on the 17th day of his war with Iran, Brent crude was more than $100 a barrel—and he was keen to show them plans for his White House ballroom. Then he quoted "a historian" who wrote that "Donald Trump is, without question, the most powerful man that the planet has ever known." Alexander the Great and the Caesars did not have aeroplanes. Hitler, Mao and Stalin did not have Mr Trump's global reach. The "historian" who wrote this, it turned out, was a golf caddy. ■

Pilates

The resistance movement

An old exercise method is newly trendy

ATTENDING A PILATES class means reckoning with your own feebleness. The Reformer machine—a moving carriage attached to various springs and straps—looks rather like a torture device (and, depending on your instructor's inclination, it can be). The idea is to perform slow, controlled movements such as lunges using springs as resistance; it does not sound too bad. But then, out of nowhere, you are dripping with sweat and your knees are shaking as if you are performing a bad Elvis impersonation.

Perhaps it is cool to be humbled, because Pilates—which can be performed on a mat as well as a machine—is absolutely on fire (emphasis on the abs). It was the fastest-growing workout type worldwide in 2025 on ClassPass, a fitness-session booking platform. Earlier this year Google searches for Reformer Pilates hit an all-time high. On social media videos often go viral—particularly ones of muscly men struggling and cursing through a session.


Looking strapping

MMCG, a property consultancy, has estimated that Club Pilates, America's largest studio franchise, grew from fewer than 50 branches in 2015 to more than 1,100 in 2024. "People are opening Pilates studios the way they opened frozen yogurt places and car washes," says Maria Leone of Bodyline, a studio in Los Angeles, a city renowned for toned, beach-ready bodies.

This is not to say Pilates is new: in fact, Joseph Pilates (pictured) opened the first studio in New York in 1926. A German fitness fanatic, he devised the system while interned in a British camp during the first world war. He initially dubbed his exercises, which strengthen muscles but minimise stress on the joints, "Contrology". Unsurprisingly the name did not stick.

The appeal of Pilates, then and now, is its emphasis on power and flexibility. The rewards of strength training are widely known and this format appeals to women who may not enjoy pumping iron in the gym, reckons Bethan Dando, a Pilates instructor. Its reputation for improving mobility, aiding muscle recovery and strengthening joints also makes it an effective complement to weightlifting, which could explain the rising interest from men. It has been endorsed by athletes including LeBron James, an American basketball player, and George Ford, an English rugby player, who reckon Pilates helps with injury rehabilitation and keeps them supple.

Can the craze stretch further? Jeff Bladt of Playlist, ClassPass's parent company, says that in some markets supply growth is outpacing that of demand, so a saturation point may be near. Many tremble at the cost: in New York, a single Reformer class will set you back around $50. But the market is not hamstrung yet. Its fans may feel weak, but the Pilates brand is strong. ■

Art

In with the old

PARIS

Why Old Master paintings are back in vogue

Would you have duked it out for him?

ON FIRST GLANCE the painting—by an unknown Dutch artist in the 17th century—seemed unlikely to spark a bidding war. It depicts two skulls and a handwritten note asking "Uter dominus, uter servus?" (Which is the master, which is the slave?) Yet on June 30th heady bidding at an auction at Christie's in London pushed the painting's price to £431,000 ($575,000), about four times the estimate. There is a "yearning for the unusual", explains Andrew Fletcher, head of Christie's Old Masters department, who has seen a surge of interest in "the weird and wonderful".

Old Masters—a centuries-spanning category that includes works typically completed before 1850—have seen new life breathed into them. In that same Christie's auction records were set for six artists, including Sir Thomas Lawrence, an English painter, whose portrait of the Duke of Wellington (pictured), the general who beat Napoleon, fetched £9.7m. "It's the most optimistic moment I can remember in the Old Masters market for some years," says Mr Fletcher.

The value of Old Masters sales worldwide in 2025 was $1.2bn, 30% higher than a year earlier. But data may not capture the "full story" of the uptick, as many paintings are sold privately, says Patrick Williams, a gallerist in New York. Younger buyers are showing more enthusiasm. This year around 16% of bidders in Old Masters sales at Sotheby's, another auction house, are under the age of 40, nearly triple the share from five years ago.

Until the 1980s Old Masters ruled the art world. But then collectors decided the category was too old-timey and turned to collecting Impressionist and contemporary works instead. Several things have changed in the past two years. First, some parts of the market for contemporary art showed signs of volatility. Collectors realised that Old Masters are stable and significantly less expensive. "For $250,000 you can buy a painting that could hang in the Louvre, but $10m gets you a bad Picasso," says Mr Williams. There is also scarcity: more Old Master paintings are entering museum collections every year.

Art buyers have also become more open-minded about mixing pictures from different periods. A "turning-point" came in 2017, says Sylvie Winckler, a Belgian collector: that was when Christie's sold Leonardo da Vinci's heavily restored "Salvator Mundi" for $450m, the highest price ever paid for an artwork, in a post-war- and contemporary-art auction. It showed how older art could look sleek alongside more modern works in the white boxes many wealthy people call homes.

Opinions about what constitutes "good" collecting have changed, too. Conventionally, buyers of Old Masters were like PhD candidates, specialising in areas such as 18th-century French still-lifes. Today people buy art more eclectically and expansively. A new generation of collectors is driven "less by traditional connoisseurship and more by image and the visible impact of the work itself", says Valentina Castellani, author of "Trading Beauty", a history of art buying.

This means that portraits and figurative art are in vogue, because they are Instagrammable. People spend so much time looking at pictures of other people on social media that they are primed to connect to painted ones. There is an allure to old-fashioned fabrics and romanticising of what appears to be a simpler life (if you ignore the revolutions, plagues and awful dentistry of past eras). Charles Stewart, the boss of Sotheby's, attributes resurging interest in Old Masters to an "AI effect": "Older things feel more artisanal and human," he says.

Dealers have become more masterful in marketing to a new clientele. Secular images are easier to sell than religious ones, as are works with an intriguing back story. This was evident at TEFAF Maastricht, an art fair that is the biggest gathering for Old Masters buyers and dealers, in March. Paul Smeets, a gallerist, displayed a painting by Guido Cagnacci, an Italian who died in 1663. It was of the Virgin Mary, adorned with a golden halo, reading a book. "Ten years ago we would have just left 'Virgin Reading' as a title," says Mr Smeets. But instead he wanted to highlight that the sitter might have been the paramour of the artist. So he called it "Possibly a portrait of Maddalena Fontanafredda as the Virgin Reading". Clunky, yes, but it added drama and passion to a familiar scene. The work sold quickly. Old Masters have a lot of lovers these days. ■

Biology and beauty

Right under your nose

The Face. By Fay Bound-Alberti. *Grand Central Publishing; 288 pages; $30. Allen Lane; £25*

CAST YOUR mind back to this morning. The first thing you probably did after you woke up was reach for your smartphone and hold it up in front of your bleary eyes to unlock it. Out of bed, you looked in a mirror and decided whether to shave or apply makeup. Perhaps you smilingly cajoled a child to eat or joined a Zoom call (and tried not to look at yourself).

Central to all those actions was your face: the particular shape and arrangement of your forehead, eyes, nose, mouth and chin. Those dimensions are used to identify you (on your passport, for instance, or via your phone's Face ID). They will determine whether people trust you, fancy you or believe you are the right person for a job. If you are ever accused of a crime, they could influence whether or not the jury is inclined to find you guilty.

In a fascinating new book, Fay Bound- ▸▸

Alberti, a cultural historian, gives full expression to the many meanings of the face. She peers across millennia and regions, looking at anthropology, criminology, medical imaging, portraiture and more to argue that faces may be made up of "skin, bone and muscle", but perceptions of them are shaped by "belief systems, languages and environments". Her interest in the subject stems in part from her own experience of prosopagnosia—better known as "face blindness"—a neurological condition that means she struggles to recognise even close family members.

Humans have long taken each other at face value. Pythagoras, a Greek philosopher, supposedly chose his pupils based on whether they looked intelligent. In the wake of Euclid's writings on proportion and beauty—ie, the "golden ratio"—many came to believe that "ill-proportioned men" were "scoundrels".

The notion that "faces were key to a person's social and moral status" gave authorities in ancient Greece, Rome and Persia the idea to use mutilation as a form of punishment. Criminals' ears and noses were sliced off; eyes were gouged out and faces branded. This association of facial difference with nefarious behaviour persists: think of how many Bond villains have had scars, burns or misshapen features.

People have been judged on their looks for centuries, but they have had "only the vaguest notion" of what they looked like until relatively recently. In medieval times, "your identity would be defined by your role, your family, your village and your faith—not by your individual face," Ms Bound-Alberti observes. That began to change in the Renaissance, which saw an explosion of portraiture. Artists produced works that sought to capture something of the sitter's character, not just their social standing. Your face became the map on which your inner world could be read. Ms Bound-Alberti calls this yoking of individuality to outward appearance "facehood".

As mirrors became widespread and cheap, the face became a subject of fascination. Like Narcissus gazing in the pool, people could not resist their own reflection. Photography deepened the obsession. Scientists including Charles Darwin used the technology to codify expressions and emotions; some sought to categorise and rank groups of people.

It is the historical morsels that will stay with you long after you finish "The Face". Who could fail to be intrigued by Justinian II's gold prosthetic nose, or the fact that Darwin was almost denied passage on *HMS Beagle* because of his schnoz? Other passages, such as those on cosmetic surgery, will feel more familiar: advertising reinforces the belief that "our faces have become projects to be perfected."

At times the reader may wish that Ms Bound-Alberti had offered more analysis alongside anecdotes. Given the book's focus on identity, for example, it is surprising that the author skims over deepfakes: studies have found that such videos can cause profound psychological harm to the person being impersonated online. Still, this is a wide-ranging and thoughtful history. Thanks to social media, people encounter more faces than ever before; after reading this book, you will see that there is more to a face than meets the eye. ■

Stargazing

Night-sky fever

The brightest tourism trend can be found in the darkest places

For millennia starry nights have guided navigators, perplexed astronomers and inspired painters. But they are becoming a rarer sight. At least 80% of the world lives under light-polluted skies—a figure that rises to 99% in America and Europe. A paper published in *Science* found that between 2011 and 2022 the night sky grew almost 10% brighter each year. With so many places awash with artificial light, people are increasingly seeking out the darkness.

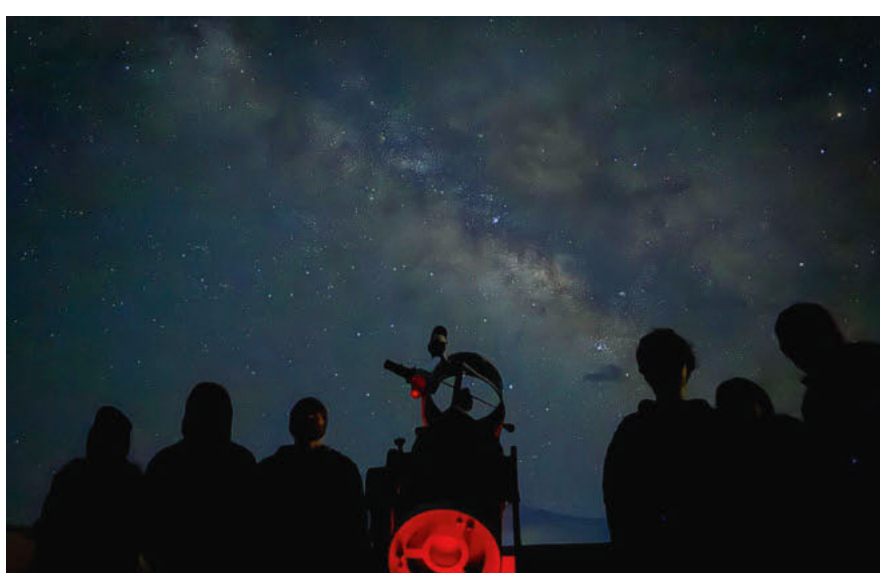
Many became starry-eyed during the pandemic. Confined to their homes, people took to gazing at the cosmos. (It helped that lockdown contributed to a drop in light pollution in lots of places.) Some turned to social media—and online communities such as "SpaceTok"—for information. Once restrictions lifted, these hobbyists planned their trips accordingly.

The forecasts for companies offering "astrotourism" and "noctourism" are anything but cloudy. In 2024 a survey by Booking.com, a travel website, found that 62% of people were interested in destinations with limited light pollution. To meet the demand for "cosmic escapism", some hotels now provide access to telescopes and in-house astronomers. Others are offering star-bathing and moonlit meditation.

Because the best stargazing requires seclusion, astrotourism is a boon to remote areas that do not usually lure tourists. DarkSky International, a non-profit, certifies resorts and reserves with the best night-time conditions. It has seen a substantial increase in the number of applications in the past three years, growing from 16 in 2023 to 28 applications in the first half of 2026 alone.

Astro Retreat in Maan, an Indian village in the Himalayas, has seen a surge in visitors of late. Al Ula, in the Saudi Arabian desert, is going big on astrotourism by building a state-of-the-art observatory and luxury stargazing lodges. John Barentine, an astronomer in Arizona, says there is an opportunity for rural places where industries such as mining have waned.

Such trips appeal because they offer a stillness that is hard to find in much of the modern world, where "we have turned night into day in the places we live and work," as Ruskin Hartley, DarkSky's director, puts it. Stargazing also encourages feelings of wonderment, which are in short supply. Studies have found that those who look up report a greater sense of well-being; feelings of awe are linked to lower stress levels and a sense of tranquillity. Some credit the pastime with giving them a greater sense of perspective. As Oscar Wilde once wrote: "We are all in the gutter, but some of us are looking at the stars." ■



Eyes on the skies

Franco-British relations

Thread diplomacy

PARIS

The Bayeux tapestry is travelling to Britain

IN THE DARK of night in July, under police escort, a specially fitted lorry carrying a thousand-year-old tapestry will leave the town of Bayeux in Normandy. The fragile linen fabric depicting the Norman conquest of England in 1066 will be gently folded into a tailor-made and climate-regulated aluminium crate. That crate will then be suspended inside a metal cage, protected from vibration by 12 steel shock-absorbers. The convoy and its precious cargo—which was embroidered in England but has been in France ever since—will travel by road to the Channel Tunnel, and on to the British Museum in London.

The loan of the Bayeux tapestry, for an exhibition opening in September, is a gesture rich in cross-Channel symbolism. In the past London museums have tried but failed to host the work. In 1953, for instance, the V&A asked to display the tapestry to mark the coronation of Queen Elizabeth II, only to be told that the French authorities had changed their minds. The *News Chronicle* in London reported that the French embassy could not give a reason: "I am sorry, monsieur. We are lost. First it is yes, no, then yes, then no…and now we are in the dark."

This time the French government, which owns the tapestry, proposed the idea. At a Franco-British summit in 2018 President Emmanuel Macron announced the loan, declaring that the tapestry "embodies the link between our two countries". It was two years after the Brexit vote, and the two nations were drifting apart; the point, says a presidential aide, was to try to bind them through culture.

That was easier said than done. The bilateral discussions "took more years" than Brexit, joked Mr Macron. British ministers, officials and even the king lobbied the French hard. Mr Macron, says one official involved, was "instrumental" in taking on his country's conservation lobby—who worried about damage to the tapestry—a formidable force even for a powerful French president. New climate-control and anti-vibration technology, and the fact that the museum in Bayeux was closing for renovations anyway, also helped.

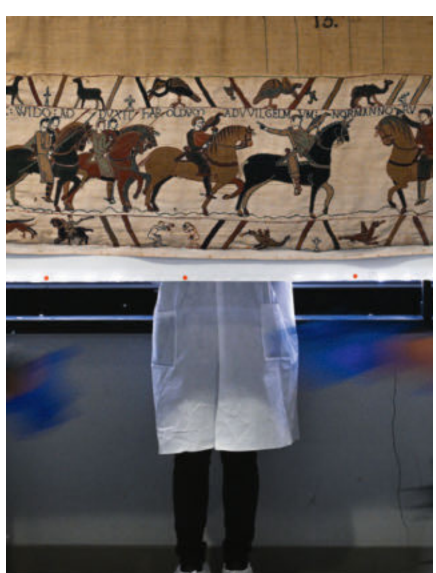
By last year the deal was done. In private, he describes the loan as "very special" to him. "President Macron's key intuition", says Peter Ricketts, the British envoy to the loan project, "was the differential impact: the tapestry is far more iconic in the UK than in France, and he knew that the exhibition would be a sensation."

The Bayeux tapestry is central to Britain's national story. Most schoolchildren can recite the date 1066, just as French ones can 1789. The Battle of Hastings, when William of Normandy defeated Harold II, the last Anglo-Saxon king of England, and seized the throne, was a founding moment for Britain, remaking its governance, monarchy, legal system, language, architecture and much more. British tourists (along with North Americans) have long topped the list of foreign visitors to the Bayeux Museum, where the tapestry has been displayed since 1983.

The Norman conquest does not feature strongly in most French people's minds. William's glorious triumph over Harold scarcely gets a mention in school textbooks. Almost no university department studies him besides the University of Caen in Normandy, not far from Bayeux.

"He's a Norman hero, not a French one," explains Véronique Gazeau, a medieval historian at the university. Although as a young duke William was a vassal of the French king, his belligerent adventures later brought him into conflict with the Capetian dynasty centred in Paris. In this sense, William was not a French conqueror but a Norman one.

At times, though, imperialists sought to use William's exploits to support their expansionist ambitions. In 1803 Napoleon had the tapestry transported to the Louvre for public display when he was preparing his troops to invade England. During the second world war the Germans asked after it, though the French had already hurried it into safekeeping. (It was rolled onto two cylinders, stored in the cellar of the Bayeux municipal library, and later transported to the French National Museums repository at the Château de Sourches, near Le Mans.) Jacques Dupont, inspector general of historic monuments, observed in 1941 that the Germans "frequently asked…to see the tapestry that represents the conquest of England".



Nothing to horse around about

Top of mind for the French or not, the prospect of loaning it has nonetheless prompted some pushback. In 2018 Antoine Verney, the chief curator at the Bayeux Museum, called it "unthinkable" to move the tapestry far from its home. Last year over 70,000 people signed a petition against the loan. Critics have suggested that moving it may cause micro-tears to the fabric and snags to the embroidery and stitching; in the worst case the fabric could rip and more holes could develop. (There are already many.)

In for the long haul

Since then experts in the transport, storage and display of fragile art from both sides of the Channel have worked on optimum protection. Two dry runs to London have taken place with a dummy. But some critical voices in France remain unconvinced. "They are doing their best to ensure that everything goes smoothly, but there is no guarantee," says Didier Rykner, founder of *La Tribune de l'Art*, a magazine. "I've got nothing against the English, but they could just come to Bayeux."

"Zero risk does not exist," acknowledges Delphine Christophe, head of heritage and architecture at the Ministry of Culture, "but we are now extremely confident." Tests show that the custom-made casing for transport will absorb 96% of the force of shocks, a level she describes as "excellent". The tapestry, which will be displayed flat at the British Museum to limit the pressure on the fabric, is insured for a staggering £800m ($1bn) under the British government's indemnity scheme. "It's the best guarantee that we will look after it," says Lord Ricketts.

As the tapestry wends its way to the land that William conquered, some will call it a cheeky nod to defeat and humiliation by the French, with whom the British have a long and rivalrous history. But the ambition may also be about winning the hearts and minds of people in France. "When the French see how hugely valued it is over there," says an official in Paris, "it will give it a huge boost when it returns home." Yet another victory. ■

Economic & financial indicators

	Gross domestic product				Consumer prices			Unemployment		Current-account	Budget	Interest rates			Currency units	
	% change on year ago				% change on year ago			rate		balance	balance	10-yr gov't bonds		change on	per $	% change
	latest		quarter*	2026†	latest		2026†	%		% of GDP, 2026†	% of GDP, 2026†	latest, %		year ago, bp	Jul 9th	on year ago
United States	2.7	Q1	2.1	2.2	4.2	May	3.8	4.2	Jun	-3.4	-6.5	4.6		14.0	-	
China	5.0	Q1	5.3	4.9	1.0	Jun	1.6	5.1	May‡§	3.2	-5.8	1.5	§§	-4.0	6.80	5.4
Japan	0.4	Q1	1.8	0.7	1.5	May	1.8	2.5	May	3.6	-1.8	2.9		136	163	-9.9
Britain	0.9	Q1	2.5	1.0	2.8	May	3.3	4.9	Mar††	-3.4	-5.1	4.8		21.0	0.75	-1.3
Canada	-0.1	Q1	-0.1	0.8	3.2	May	2.6	6.6	May	-0.4	-2.1	3.6		13.0	1.42	-3.5
Euro area	0.3	Q1	-0.9	0.8	2.8	Jun	2.8	6.2	May	2.3	-3.4	3.1		44.0	0.88	-2.3
Austria	0.9	Q1	0.8‡	0.8	3.1	Jun	3.0	5.8	May	1.1	-4.1	3.3		30.0	0.88	-2.3
Belgium	0.8	Q1	0.9	0.7	3.0	Jun	3.5	6.3	May	-2.7	-5.2	3.7		42.0	0.88	-2.3
France	0.9	Q1	-0.4	0.8	2.0	Jun	2.3	8.2	May	-0.6	-5.3	3.9		55.0	0.88	-2.3
Germany	0.3	Q1	1.4	0.6	2.4	Jun	2.7	3.8	May	4.2	-3.7	3.1		44.0	0.88	-2.3
Greece	2.0	Q1	1.0	2.0	4.9	May	4.0	8.1	May	-5.5	0.8	3.8		38.0	0.88	-2.3
Italy	0.8	Q1	1.1	0.8	3.1	Jun	2.7	5.0	May	0.8	-3.0	3.9		32.0	0.88	-2.3
Netherlands	1.4	Q1	0.9	1.0	2.5	Jun	3.1	3.9	May	9.2	-2.6	3.2		34.0	0.88	-2.3
Spain	2.7	Q1	2.5	2.2	3.6	Jun	3.2	10.3	May	2.3	-2.4	3.4		17.0	0.88	-2.3
Czech Republic	2.2	Q1	0.8	2.0	1.5	Jun	2.0	3.0	Q1‡	0.3	-2.6	4.7		45.0	21.3	-1.0
Denmark	6.2	Q1	6.2	3.3	1.9	May	2.0	3.1	May	12.1	1.3	2.9		36.0	6.55	-2.8
Norway	1.7	Q1	1.4	1.3	3.1	May	3.2	4.6	Apr‡‡	14.8	9.0	4.3		49.0	9.77	3.4
Poland	3.5	Q1	2.4	3.4	2.5	Jun	3.0	5.9	May§	-1.3	-7.0	5.5		9.0	3.77	-4.0
Russia	-0.2	Q1	-2.5	0.7	5.3	May	5.5	2.1	May§	2.2	-3.4	16.3		159	76.4	2.3
Sweden	2.2	Q1	-0.6	2.1	0.7	Jun	1.9	9.4	May§	4.8	-2.0	2.8		48.0	9.70	-1.9
Switzerland	0.5	Q1	2.6	1.0	0.5	Jun	0.6	3.1	Jun	7.7	0.2	0.4		-3.0	0.81	-1.2
Turkey	2.5	Q1	0.5	2.5	32.1	Jun	31.7	7.4	May§	-3.0	-3.6	31.4		198	46.8	-14.5
Australia	2.5	Q1	1.1	1.6	4.0	May	4.1	4.4	May	-3.0	-1.5	4.8		68.0	1.44	6.2
Hong Kong	5.9	Q1	12.2	5.0	2.0	May	2.1	3.7	May‡‡	4.3	-2.5	3.4		35.0	7.84	0.1
India	7.8	Q1	6.4	6.5	3.9	May	4.8	6.6	Jun	-1.5	-4.5	6.8		46.0	95.7	-10.4
Indonesia	5.6	Q1	6.0	5.0	3.3	Jun	3.5	4.7	Feb§	-1.7	-3.5	7.2		66.0	18,078	-10.0
Malaysia	5.4	Q1	1.7	4.5	2.0	May	2.5	3.0	Apr§	3.4	-4.1	3.6		20.0	4.08	3.9
Pakistan	4.8	2026**	na	3.0	11.1	Jun	7.8	6.9	2025	-1.1	-4.7	11.8	†††	-18.0	278	2.2
Philippines	2.8	Q1	3.6	2.9	6.4	Jun	5.3	4.7	Q2§	-4.1	-6.3	7.2		88.0	61.6	-8.1
Singapore	6.0	Q1	3.9	4.8	1.8	May	2.4	2.0	Q1	16.6	1.3	2.1		5.0	1.29	-0.8
South Korea	3.8	Q1	7.5	3.3	3.2	Jun	3.0	2.9	May§	9.9	-1.9	4.2		140	1,505	-9.0
Taiwan	14.5	Q1	6.9	10.5	2.6	Jun	1.6	3.3	May	27.4	1.8	1.7		27.0	32.0	-9.1
Thailand	2.8	Q1	2.7	1.8	2.4	Jun	2.8	1.0	May§	0.5	-5.5	2.0		43.0	33.5	-2.7
Argentina	2.3	Q1	3.0	3.3	33.2	May	32.1	7.8	Q1§	-0.9	0.1	na		na	1,488	-15.7
Brazil	1.8	Q1	4.5	2.0	4.7	May	4.7	5.6	May§‡‡	-2.6	-7.3	14.5		82.0	5.16	5.4
Chile	-0.5	Q1	-1.1	1.4	4.3	Jun	3.6	9.4	May§‡‡	-2.0	-2.4	5.4		-27.0	934	1.0
Colombia	2.2	Q1	2.4	2.5	6.1	Jun	5.6	8.0	May§	-2.4	-6.6	11.8		-47.0	3,340	21.4
Mexico	0.2	Q1	-2.4	0.9	3.9	May	4.0	2.7	May	-0.4	-3.8	9.1		-3.0	17.6	5.9
Peru	3.5	Q1	3.2	2.7	4.0	Jun	3.9	4.5	May§	2.2	-2.4	6.1		-3.0	3.40	4.7
Egypt	5.0	Q1	-24.0	4.5	14.3	Jun	13.8	6.0	Q1§	-5.0	-5.2	25.6		50.0	49.6	0.1
Israel	1.7	Q1	-3.8	3.4	1.9	May	1.9	2.8	May	1.3	-4.0	3.7		-35.0	3.04	10.2
Saudi Arabia	4.6	2025	na	0.9	1.8	May	2.1	3.1	Q1	-2.3	-6.1	na		na	3.76	-0.3
South Africa	1.9	Q1	2.2	1.6	4.4	May	4.3	32.7	Q1§	-1.0	-4.4	8.5		-138	16.4	8.3

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 Note: Euro-area consumer prices are harmonised

Markets

In local currency	Index Jul 8th	% change on: one week	Dec 31st 2025
United States S&P 500	7,482.7	nil	9.3
United States NAS Comp	25,870.7	-0.7	11.3
China Shanghai Comp	3,970.9	-3.4	0.1
China Shenzhen Comp	2,650.4	-7.1	4.7
Japan Nikkei 225	66,819.1	-5.2	32.7
Japan Topix	4,006.4	-0.1	17.5
Britain FTSE 100	10,489.0	0.1	5.6
Canada S&P TSX	34,935.8	0.2	10.2
Euro area EURO STOXX 50	6,204.9	-1.2	7.1
France CAC 40	8,252.7	-1.0	1.3
Germany DAX*	24,897.5	-0.6	1.7
Italy FTSE/MIB	51,817.3	0.4	15.3
Netherlands AEX	1,076.2	0.3	13.1
Spain IBEX 35	19,104.3	-1.6	10.4
Poland WIG	139,057.9	1.7	18.6
Russia RTS, $ terms	915.7	-3.0	-17.4
Switzerland SMI	14,174.4	0.4	6.8
Turkey BIST	14,190.0	-1.1	26.0
Australia All Ord.	8,979.3	0.5	-0.4
Hong Kong Hang Seng	24,199.5	5.8	-5.6
India BSE	76,503.6	-0.5	-10.2
Indonesia IDX	5,873.4	3.1	-32.1
Malaysia KLSE	1,683.6	1.6	0.2

	Index Jul 8th	% change on: one week	Dec 31st 2025
Pakistan KSE	181,629.4	-1.3	4.4
Singapore STI	5,369.6	4.0	15.6
South Korea KOSPI	7,246.8	-12.7	72.0
Taiwan TWI	45,734.4	-2.7	57.9
Thailand SET	1,576.3	-0.8	25.1
Argentina MERV	3,202,489.0	2.6	4.9
Brazil BVSP*	170,653.4	-0.6	5.9
Mexico IPC	66,609.6	-0.9	3.6
Egypt EGX 30	52,028.4	3.0	24.4
Israel TA-125	4,052.5	-0.6	10.6
Saudi Arabia Tadawul	10,853.7	nil	3.5
South Africa JSE AS	108,349.4	-1.2	-6.5
World, dev'd MSCI	4,811.7	nil	8.6
Emerging markets MSCI	1,677.5	-2.6	19.5

US corporate bonds, spread over Treasuries

Basis points	latest	Dec 31st 2025
Investment grade	89	93
High-yield	320	354

Sources: LSEG Workspace; Moscow Exchange; Standard & Poor's Global Fixed Income Research *Total return index

Commodities

The Economist commodity-price index 2020=100	Jun 30th	Jul 7th*	% change on month	year
Dollar Index				
All items	148.2	150.8	0.6	15.2
Food	147.2	153.2	8.1	7.0
Industrials				
All	149.1	148.9	-5.0	23.2
Non-food agriculturals	151.8	151.2	-1.8	23.7
Metals	148.4	148.3	-5.7	23.0
Sterling Index				
All items	143.5	144.9	0.8	16.6
Euro Index				
All items	148.2	150.8	1.8	17.8
Gold				
$ per oz	4,036.1	4,148.8	-3.4	26.0
Brent				
$ per barrel	72.9	74.2	-18.8	5.7

Sources: CME Group; LME; LSEG Workspace; NOREXECO; NZ Wool Services; S&P Global Commodity Insights; Thompson Lloyd & Ewart; USDA *Provisional

For historical indicators data, visit economist.com/economic-and-financial-indicators

OBITUARY
Mona Khalil

Lebanon's most dedicated conservationist was killed by an Israeli airstrike on June 19th, aged 76

IT WAS THE summer of 1999; and on a warm evening on Mansouri beach in southern Lebanon, Mona Khalil was strolling with a beer. She loved this beach. It was the world of her childhood holidays, running down to the rocky, sandy shore from her grandparents' house. Her best summers had been spent here, adventuring. All the toys she had ever needed she had picked up here, and still did: weird stones, lengths of driftwood, coloured glass bottles. They now filled her house and hung clinking in the lemon and banana trees around it. This had become her dream life.

But suddenly on that evening she heard a noise, like a thud or a thump, quite close. The next thing she knew, someone was throwing sand at her. She looked down to see, not a dog or a fox, but a huge turtle digging a nest in which to lay her eggs. Later, when she had read more, she learned that this was a green sea turtle, a species that was critically endangered. They were herbivores, eating sea-grass and seaweed, and might live to 100 years old. This particular female would have swum hundreds, maybe even thousands, of miles to lay her eggs exactly here, where 30 years ago she had hatched. Unerring instinct had led her to Ms Khalil's feet and then, her eggs laid and covered up, wearily back into the sea again. And all Ms Khalil could think of was how beautiful she was.

This was the point at which her life changed, and became only turtles. She did not talk much about the years before. School in Beirut, a marriage, and a son, Omar, killed at eight by a passing boat as he gazed at starfish underwater. An escape to the Netherlands during Lebanon's civil war, where she stayed for ten years and worked as a porcelain restorer. Then, in 1999, the return with her friend, Habiba Fayed, to her grandparents' house. It was falling down, swallowed in a forest of weakened trees. Together they put it to rights. She painted it orange as a homage to the Netherlands, and visitors noticed that Dutchness had touched her, too. A certain bluntness, an unLebanese reserve, a refusal to be swayed, and a dogged belief in just getting on with it.

"It" was a project, soon world-famous, to protect the turtles and their nests. It included carnivorous loggerhead turtles, also endangered and also users of Mansouri beach. Government, central or local, was prostrated by war and had no possible money to give. So she funded her training of new conservationists by turning the Orange House into a B&B. It was basic, with no air-conditioning, but it was also an oasis of calm, wind chimes, home-made jam—and serious research. The high point was when she would summon her volunteers to watch as she poured out a bucket of hatchlings on the sand and the tiny creatures, flippers going frantically, scurried down to the breaking waves.

Their enemies were many. Dogs would dig up the nests to eat the eggs. Ghost crabs and birds ate the hatchlings, and plastic litter entangled them. Fishermen, working only just offshore, trapped adults in close-mesh nets and even disrupted their swims with dynamite. But the most insidious enemy was development. More and more flats, hotels and resorts were rising on either side of Mansouri; its unspoilt tranquillity was becoming rare. Security lights competed with the moon to confound the hatchlings' sense of direction. Yet this small, hemmed-in site was the home to which the female hatchlings would one day feel compelled to return.

She campaigned in all the ways she could think of. Before dawn she and her volunteers would patrol the shore, picking up litter and looking for fresh turtle tracks. She measured nests, roofed them with wire mesh, counted the papery-shelled eggs, helped the hatchlings out and sent her data to global conservation groups. After that, she fought. Passionately, sometimes tearfully, she repeated that the turtles had a right to the beach. It had been theirs for the past 250m years, before humans existed. Who were humans to kick them out? All they were asking for was a short season to nest. Then they, her family, would be gone again.

Many people hated her incessant "No this, no that". She understood: without work, without food, the last thing on their minds was ecology. Almost no Lebanese came to help her; only foreigners. Some locals even turned up with Kalashnikovs. But at least she made the fishermen give up using dynamite, and persuaded two local mayors to declare the beach a *hima*, a community reserve. She tried to restrict partying there, and stop cars driving onto it. She also did her best to obstruct the building of the Palagio Beach Resort almost next door, which contravened planning rules. And she petitioned the UN peacekeepers stationed in south Lebanon to stop throwing their rubbish into the sea.

For war was the other constant consideration. The Orange House was only 12km inside the Israeli border. In 2006, when Israel attacked in nesting season, she asked Hizbullah fighters point-blank to leave the beach. They did, but then set up rockets right behind the house. She and Habiba had to flee, first to a hut on the beach, then, after the Orange House was hit, to Beirut. When they returned, it was to find a military checkpoint next door. In future, volunteers had to be cleared through security. Ironically, though, when war (or covid) emptied the beaches the turtles thrived. In 2007 she reported that around 5,000 hatchlings had successfully launched themselves.

Nonetheless, she made the resolution never to leave Mansouri beach again. No matter what, she would stay in her dream place. She made a statue for the garden out of all the Israeli shells that had already fallen on her house. Her dealings with Hizbullah (she had to; they were the local authority) possibly compromised her, but she waved that off. She was just a civilian. Anyway, there was no other heaven but her Orange House among the trees and by the beach. That was it. That was her patch, to which she had to return; as surely as the female turtles did, with unwavering determination, over mile after mile of rolling sea. ■