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We will publish a full edition as usual next week, on August 1st, but it will not be printed. Subscribers can access all of the daily and weekly content on our app and economist.com

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to take part in *"a severe contest between intelligence, which presses forward, and an unworthy, timid ignorance obstructing our progress."*

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The world this week Politics

Joe Biden withdrew from the presidential race. His resignation came after several prominent figures called on him to step aside. He endorsed Vice-President Kamala Harris to succeed him. In an Oval Office address on Wednesday the president said there is "a time and a place" for "new" and "younger voices".

Kamala Harris has enough backing from delegates to be the Democratic presidential candidate, her campaign says. The vice-president quickly secured the backing of top Democrats in Congress including Chuck Schumer and Hakeem Jeffries. Democrats say they have raised over $250m for her campaign since Mr Biden withdrew on Sunday. Her formal nomination is likely to take place by a virtual roll call ahead of the party's convention in Chicago next month.

Binyamin Netanyahu, the Israeli prime minister, addressed a joint meeting of **Congress**. He defended Israel's actions in Gaza and told lawmakers: "We're not only protecting ourselves; we're protecting you." He also thanked Presidents Joe Biden and Donald Trump for their support of Israel. Republicans in the chamber reacted enthusiastically. Scores of Democrats boycotted the speech. Thousands of people gathered outside the Capitol in protest.

Kimberly Cheatle resigned as the director of the **Secret Service**. Calls for her to quit followed the attempted assassination of Donald Trump. In a letter to staff she reportedly took "full responsibility for the security lapse".

In the **EU's** annual rule-of-law report on its members, Italy's right-wing government was chastised for interfering in news reporting at RAI, the state broadcaster. Bulgaria, Hungary, and Malta were among those criticised for failing to prosecute corruption.

The candidate backed by Emmanuel Macron's party retained the chairmanship of **France's National Assembly** despite gains by the far left and right in elections on July 7th. Mr Macron said Gabriel Attal, the prime minister, would stay on as a caretaker until the Olympic games in Paris close .

Ukraine reached an agreement to restructure $20bn in debt to foreign lenders, reducing it by about one-third. The EU moved forward with a plan to use the interest on frozen Russian assets to offer Ukraine a $50bn loan.

A **Russian** court sentenced Evan Gershkovich, a reporter for the *Wall Street Journal*, to 16 years in a penal colony on charges of spying for the CIA. Speculation has swirled about whether the Kremlin might try to trade Mr Gershkovich for a Russian assassin imprisoned in Germany

At least 40 migrants died at sea after the boat they were on caught fire off the coast of **Haiti**. More than 80 people were on board the vessel, a United Nations agency said. The Haitian coastguard rescued 41 people, with 11 of them taken to hospital. The cause of the fire remains unknown.

Don't be a sore loser

Venezuelans head to the polls on Sunday to elect a new president. Nicolas Maduro, the incumbent, said the country may "fall into a bloodbath" if he loses. Polls place the authoritarian leader behind the opposition candidate Edmundo Gonzalez, a former diplomat. Luiz Inácio Lula da Silva, the president of Brazil, expressed fear over Mr Maduro's rhetoric and urged him to "respect the democratic process".

The Houthis, an Iran-backed militia in Yemen, struck an apartment building in Tel Aviv, killing one person and wounding at least eight others. A day later, Israeli jets bombed the port of Hodeidah in Yemen, almost 2,000km away, causing huge fires. Scores of people were wounded.

In a meeting brokered by China, the Palestinian secular nationalists of Fatah and the Islamists of Hamas signed an agreement to form an interim "national reconciliation government" for the **occupied West Bank and Gaza** after the war with Israel. The two groups have signed several such deals in the past, none of which has led to actual reconciliation.

The **International Court of Justice** said that Israel's ongoing occupation of east Jerusalem and the West Bank, the transfer of settlers there and the forced displacement of Palestinians were clear breaches of international law. The judges ordered Israel to cease all new settlement activities and evacuate the settlers already there. The court has no way of enforcing the decision .

The World Health Organisation said it had detected traces of polio in wastewater in **Gaza**. It said it would be hard for Gazans to follow advice aimed at preventing the spread of the disease given the breakdown of water and sanitation services.

Uganda's security forces have arrested dozens of people who joined peaceful anti-corruption protests in defiance of a ban. Yoweri Museveni, the president of Uganda since 1986, warned ahead of the march to parliament that demonstrators were "playing with fire". Britain and America imposed sanctions earlier this year on several Ugandan officials, including the speaker of parliament, on allegations of corruption.

South African police uncovered a crystal-meth laboratory and a stockpile of the drug with a street value of around 2bn rand ($108m) about 130km from the administrative capital. Among those arrested were three Mexicans.

More than 20% of **Sudan's** pre-war population of roughly 50m have been uprooted since the start of its civil war . Though millions have fled to neighbouring countries , the majority—nearly 8m—remain inside Sudan.

What garbage

A balloon full of rubbish sent by North Korea landed near the South Korean president's office in **Seoul**. The rubbish did not contain any dangerous substances. It is the first time Pyongyang has landed a balloon inside the presidential compound.

Bangladesh scrapped most quotas on government jobs after almost 200 people were killed in clashes. The Supreme Court quashed the ruling that reserved nearly a third of state jobs for the families of veterans who fought for independence. The nationwide curfew has been partially relaxed.

The Central Committee of the **Chinese Communist Party** held its "third plenum", a meeting seen as of unusual importance because it has led to radical economic policies. This one was long on promises of reform. The pension age (currently 60 for men) is to rise.

The world this week Business

The fallout from a botched software update by **CrowdStrike**, which on July 19th triggered one of the biggest-ever IT outages, continued to disrupt firms around the world. By knocking out equipment relying on **Microsoft Windows**, the malfunction caused thousands of flights to be cancelled, hospital operations to be delayed and banks to temporarily cease trading. Some businesses may take weeks to recover. Insurers are preparing for losses stretching into the billions.

Aviation firms faced plenty of other woes, too. The owner of **British Airways** now seems unlikely to complete a takeover of **Air Europa**, after EU officials said it had done too little to assuage concerns that the deal would hurt competition. **Ryanair's** chief executive said that he expected a fall in fares seen during the spring to be sustained into the summer. At the Farnborough Airshow, an industry jamboree, executives lamented a shortage of **Airbus** and **Boeing** planes.

Alphabet reported revenues of $84.7bn for the three months to June, 14% higher than for the equivalent period in 2023. Advertising revenue rose by 11%, allaying concerns that alternative AI services such as **ChatGPT** will soon eat into its profits. Nevertheless, its share price still dropped by 5% over the following trading session, as part of a broad sell-off of big tech stocks.

Netflix also had a good quarter, reporting that earnings per share had risen by 48% compared with the same period last year. The streaming service added 8m new subscribers in the three months to June, which saw the release of blockbuster hits such as "Baby Reindeer" and the third series of "Bridgerton".

By contrast, quarterly profits at **Tesla** were a disappointment. Its net income fell to $1.5bn, far short of the $1.9bn that analysts had expected. Revenues rose, but by far less than operating costs did. Tesla will also delay the launch of a fleet of self-driving taxis. By the end of the day its share price had fallen by 12%.

Carat and stick

Share prices for sellers of luxury goods also took a tumble on July 24th. Those of **LVMH**, **Prada** and **Kering** (which owns Gucci) all dropped by around 5%. Investors worried about faltering demand from Chinese consumers as the economy continues to cool. Many have been forced to roll out hefty discounts in Chinese stores.

Deutsche Bank announced it would stop buying back its shares for the remainder of the year, after spending €1.6bn ($1.7bn) on litigation during the second quarter.

Over the same period, the equity-trading arm of **BNP Paribas** shot the lights out. Revenues rose by 58% year-on-year, while the bank's overall net profit crept up by 1.6%. The traders benefited from high volatility around elections in Europe, plus an interest-rate cut from the **European Central Bank**.

India's government unveiled its first **budget** since the ruling Bharatiya Janata Party lost its parliamentary majority in June. It included $24bn of new spending on job-creating measures, including contributions to new employees' wages, internship schemes and training programmes for women. Agriculture and related sectors will receive $18bn. The cost will be met, in part, by higher capital-gains taxes.

Ukraine struck a deal to cut the face value of $20bn of debt to bondholders by around a third, clearing the path to a formal restructuring in the near future. The deal was endorsed by America, Britain and the IMF, from which Ukraine can now seek additional bail-outs.

The **British pound** reached its strongest level since the vote to leave the EU in 2016, as measured against a trade-weighted basket of its peers. Its gains have been fuelled by faster growth than was expected, delayed interest-rate cuts and the perceived stability of Britain's new Labour government.

Prime that pump

The **People's Bank of China** surprised markets by cutting several of its benchmark short- and long-term lending rates by 0.1 percentage points. Days later it cut its medium-term rate by 0.2 percentage points.

The **Bank of Canada** lowered its policy rate from 4.75% to 4.5%, its second consecutive quarter-point cut, having been the first G7 central bank to reduce rates in this cycle. Inflation stood at 2.7% in the year to June, but officials seem to believe that sluggish growth will cool it further.

America's **Securities and Exchange Commission** approved the first batch of exchange-traded funds that are permitted to invest in **ether**, the world's second-biggest cryptocurrency. It is an alternative to bitcoin, which saw its first SEC-approved ETFs launched earlier this year.

The Economist

Can Kamala Harris win?

Joe Biden's vice-president has an extraordinary opportunity. But she also has a mountain to climb

THE PHONEY campaign has ended. The real battle for the White House will be between Donald Trump and Kamala Harris, and it has only just begun. When Joe Biden withdrew his candidacy on July 21st, Mr Trump was in a commanding position. With a bit over 100 days to turn around his lead, Ms Harris still has enough time to win the presidency. The question is whether she has the ability.

Her task is to make the election a referendum on Mr Trump, who is unpopular outside his devoted MAGA base. If, instead, the election is about the record of the Biden administration and her part in it, she is likely to lose. But for Ms Harris to turn the spotlight onto Mr Trump, she must also satisfy voters that she is equal to the job of president. Mr Biden's campaign was doomed because his infirmity kept the focus on him. Despite numerous appearances, he could not dispel the image of a stumbling, befuddled old man unfit to serve a second full term.

The upshot is a race to define Ms Harris. Unfortunately for the Democrats, Mr Trump has plenty of damning material to work with (see United States section). As a former attorney-general of California, she is linked to the homelessness, drugs and crime of cities such as San Francisco. A west coast centrist is not a centrist in the battleground states she must win. She had a disastrous run in the presidential primaries last time round, dropping out early, having taken leftish positions on subsidising rent and banning fracking. As Mr Biden's vice-president, she is lumbered with his record on inflation, immigration and (in Republican eyes) crime.

All along, she has struggled in speeches and interviews. Reportedly, some Biden allies sought to stop Democrats deserting the president by privately warning that she could take his place—as if that were a threat. What, then, can Ms Harris do? Her chances of success rest on one enormous piece of luck and three tests of her political instincts.

The luck was Mr Biden's obstinacy. Had he given way sooner, the party could have held an open primary and Ms Harris might have lost. As it was, she saw off her potential rivals within 36 hours. After Mr Biden's epic stall, that reflected the party's wish to move on. She inherited a ready-made campaign and its cash. A day of record fundraising revealed Democrats' relief at their new, younger candidate. Simply by being 59, she has turned the issue of age, which devastated Mr Biden, back onto Mr Trump, who is now the oldest nominee in history.

But luck will not be enough. To win, Ms Harris must also pass those political tests. The first is to articulate the convictions that will be the foundation for her presidency, without lapsing into promises to hand out welfare cheques. Her identity as the first black and South Asian woman to run for president could, if handled right, make her a compelling symbol of the American dream. Rather than letting progressives pull her to the left, she should back pragmatic policies that serve ordinary Americans. Mr Trump, she can say, is out to serve himself.

This will mean touting the accomplishments of Mr Biden's presidency more effectively than he could—in particular, America's most significant climate legislation ever. But it also means facing up to the Biden administration's poor record on immigration with the help of a tough plan for the southern border. In contrast to Mr Biden, she must acknowledge voters' struggle with inflation. She should continue to speak out strongly for women's reproductive rights, a winning issue—and that involves being aware of Republican traps claiming that this means the unrestricted abortions late in pregnancy which most Americans reject. When pressed, as she will be, she should make clear that she thinks trans women have an unfair advantage in competitive women's sports.

Ms Harris's second test is what she makes of having been a prosecutor and a state attorney-general. She may be tempted simply to bash away at Mr Trump as a convicted felon. Instead she should also use her experience as the foundation for a broad argument that she can be trusted to defend American values at home and abroad.

This starts with the rule of law, including in tackling violence and street crime, so as to counter the accusation that Democrats are soft on both. She could contrast her support of an independent legal system with Mr Trump's plan to deploy the Department of Justice against his foes. And she should endorse America's global role as the guardian of norms and rules. Mr Trump has a real-estate tycoon's view of strength as simply muscle; in fact, strength is enhanced by being rooted in principle.

Ms Harris's third test is to offer America hope. In a vicious election powered by fear and loathing, she may be tempted to peddle apocalyptic visions of a second Trump term. Better to use humour and optimism. Like any bully, her opponent is vulnerable to mockery. An upbeat Ms Harris looking to the future will do well against a sullen, vengeful Mr Trump enraged about the past.

Encouragingly, her first official rally, in Milwaukee on July 23rd, was fizzing with enthusiasm. This was not the awkward, unconvincing candidate of four years ago. After Mr Biden's halting delivery, her words were full of vitality.

But Ms Harris is the underdog. Her first big decision—her vice-president—is a chance to catch up and plant her campaign in the centre ground. Josh Shapiro, the eloquent governor of Pennsylvania, could help in a must-win state. Mark Kelly, a senator from Arizona, another battleground state, would also add to the ticket—and it would rile Mr Trump to face an ex-astronaut. Be warned, however: Ms Harris is running a rushed operation. If her campaign starts to go awry, recriminations about her uncontested nomination will soon follow.

By contrast, Mr Trump, having survived an assassination attempt, enjoys an unshakable hold on his party. And yet his campaign's attempt to redefine him as a unity candidate at the Republican convention crumbled with his rambling and mean-spirited acceptance speech. That makes him beatable.

After months of desultory campaigning, Americans have a race on their hands, and a good thing too. At a perilous time for their country and the world, they deserve a real contest. ■

Sport and media

Game changer

Technology is transforming how sport is broadcast—and watched

A BRAWNY ARMADA of athletes from more than 200 countries will sail down the Seine on July 26th, as part of the opening ceremony of the Paris Olympic games. From the Mongolian team in embroidered kaftans to the Canadians in Lululemon bomber-jackets, the procession is designed to symbolise the gathering of every corner of humanity. The message to audiences (and corporate sponsors) is clear: in a fractious, divided world, nothing unites people like sport.

The idea is inspiring—but, to a surprising extent, untrue. Though the quadrennial Olympics and the men's football World Cup both have audiences that span the planet, most of the world's most valuable sporting properties have stubbornly resisted globalisation. America's National Football League (NFL), the biggest of the lot, makes 98% of its media-rights revenue at home. India's cricket Premier League, whose media rights are worth more than those of the Olympics on an annualised basis, makes 96% of its money inside its host country. In European football, only England's Premier League makes more money abroad than at home.

But now, at last, globalisation is limbering up. Technology is transforming how sport is broadcast and how fans enjoy it, giving leagues of all kinds a shot at going global (see Briefing). This represents a big opportunity for businesses—billions of dollars await those that conquer foreign markets—and an even bigger one for audiences, as spectacles that already delight fans in one country start to thrill those in others. An influx of foreign sports will cause some to boo and hiss. Leagues and media companies should take no notice, and shoot at an open goal.

Sport's failure as an export—and the scale of its potential—is best illustrated by a comparison with other entertainment industries. Since around the turn of the century, Hollywood has earned more than half of its box-office income abroad. American musical artists rely on foreign listeners for nearly a third of their streams and a big chunk of their concert-ticket sales (as Taylor Swift, who is touring Europe, can attest). In video games, meanwhile, Japanese consoles and Chinese apps have players hooked worldwide.

Two shifts are helping sport go global. The first is a supply-side revolution, as sports broadcasting belatedly moves from national broadcast and cable-television channels to global streaming platforms. Netflix, which got its worldwide audience glued to South Korean horror and French comedy, is now doing the same with sport. Its "Drive to Survive" documentary series introduced Americans to Formula 1 (imagine NASCAR with right turns). In December it will give many of its 270m subscribers their first taste of the NFL (think rugby with shoulder pads). Apple last year began streaming Major League Soccer (MLS) to more than 100 countries. As distribution goes global, fans will have the chance to watch new sports.

The second revolution is on the demand side. The biggest obstacle to a sport's foreign adoption is that, unlike other forms of entertainment, audiences want to watch their home team, rather than the best one. But fans' attachment to teams is slowly giving way to their devotion to individual athletes. Social media let the best players cultivate global personal followings, drawing in fans with no connection to their team, or even their sport. Star players have drawn worldwide fans to England's Premier League. Lionel Messi has brought new audiences to MLS not only because of his six Golden Boot awards, but also his half a billion Instagram followers. Women's basketball is booming thanks to Caitlin Clark, a player whose record-breaking performance has drawn fans who had never watched the game, let alone attended the University of Iowa, where she started.

It helps that young fans, whose preferred medium is short-form video, are more likely than older ones to watch highlights and summary shows of the action across a league, rather than a single match featuring their favourite team. Sports betting, recently legalised in much of America and growing rapidly, is further encouraging league-wide consumption instead of a focus on a single team. As fandom becomes more promiscuous and less tribal, it is being decoupled from geography.

Who stands to win at this new game? Among media companies, the best-placed are those with the widest distribution. Leagues want reach above all, and are willing to accept less lucrative deals with streaming services that can put their games in front of audiences everywhere. Netflix, Amazon and the other global platforms have an advantage over incumbents (though Netflix's recent comment that its NFL matches each cost the equivalent of a new movie was enough to make unsporty cinephiles weep).

Among sports organisations, the biggest leagues will benefit most from wider distribution, just as music streaming has funnelled listeners to megastars like Ms Swift. But streaming also fosters healthy "long tails" of niche content. Women's sport, long neglected, makes up nearly half of ESPN's streaming output. The sports most at risk are between the hits and the niches; an anaemic media-rights deal agreed on recently by France's football Ligue 1 shows how competition squeezes average leagues. There are signs fans are cooling on the Olympics (see International section), with its emphasis on countries over famous individuals—some of whom, like Mr Messi, choose to skip it.

As they globalise, sports will face a complaint once directed at other entertainment industries: that unworthy foreign content is pushing out treasured local favourites. A century ago politicians worried that radio broadcasts were tempting listeners to tune into big-city bands rather than local troupes. More recently, European politicians have complained that American television is distracting viewers from local programming.

Expect to hear more of the same as fans root for faraway sporting celebrities rather than local stars—and prepare to ignore it. It is for fans to choose what sports to follow, just as they pick what music to listen to or which films to see. In sport, of all things, competition is what counts. Sporting organisations worried about losing fans in this new global game should heed the Olympic motto: time to get faster, higher, stronger. ■

Currency markets

Don't stop the buck

MAGA Republicans are wrong to seek a cheaper dollar

WHETHER THE dollar should be strong or weak is a vexing question for America's economic nationalists. In his first term as president, Donald Trump often said that he wanted a weaker currency to make American-made goods cheaper overseas. But his tariffs and deficit-financed tax cuts contributed to a surge in the greenback's value—and he also said that "ultimately" he wanted a strong currency. Today, with the dollar higher still, Mr Trump again says he wants a devaluation. And his choice of J.D. Vance as his running-mate has added another weak-dollar proponent to his inner circle.

Mr Vance has highlighted the downsides of America producing the world's dominant currency (see Finance & economics section). The greenback makes up 59% of the world's central-bank reserves and is used to pay for half of its goods trade. The depth of America's capital markets, its commitment to the rule of law and the low risk of a sovereign default make it a magnet for savings. American assets make up over a quarter of the stock of global portfolio investment, up from less than a fifth in the mid-2000s.

Though the effect is hard to quantify, the dollar's appeal makes it more expensive. That, some argue, makes it harder for American manufacturers to compete globally. Mr Vance characterises dominant-currency status as a tax on American producers and a subsidy to its consumers, who benefit from cheap imported goods. He is no fan of this redistribution, decrying Americans' "mass consumption of mostly useless imports".

It is true that a strong dollar hurts some exporters, who therefore lose from the greenback's dominance. Yet on net, America gains from issuing the world's dominant currency. Manufacturers benefit from cheaper imported parts and materials. The global appetite for Treasuries reduces the interest bill associated with America's vast public debt. It takes a reduction of only about a third of a percentage point in interest rates to save $100bn (0.4% of GDP) annually. In any case, it is wrong to dismiss the benefits of low consumer prices, which boost workers' real incomes. A common rule of thumb suggests that closing the current-account deficit by weakening the dollar would require roughly a 30% depreciation, which would boost inflation by 1-2 percentage points.

Trying to control the currency is likely to backfire painfully. Robert Lighthizer, the US Trade Representative during Mr Trump's first term, has floated a "market access charge" on foreigners holding American assets. As a de facto control on inbound capital, this would raise interest rates for the government and the private sector alike, deterring investment. Printing and selling dollars might set off a currency war, and America would lose credibility when criticising currency manipulation elsewhere. In the 1980s the dollar was devalued by the "Plaza Accord", an agreement with America's trading partners. But foreign governments manage their exchange rates less today than they did, capital flows are much larger, and the most important counterparty would be China, not American allies, making striking such a deal far trickier. Japan's recent botched attempts to strengthen the yen show the dangers of trying to distort market pricing.

It is almost laughable to cast America as a victim of the global financial system. America accounts for 52% of the G7's GDP at purchasing-power parity, up from 43% in 1990. Jobs are abundant and average incomes have grown at a pace most of the rich world can only dream of. In recent years, wage inequality has fallen. All this has been achieved without manipulating the dollar. Why start now? ■

Germany and the EU

The lost leader

The country's failure to provide European leadership is becoming a problem

IN THE MID-2010S, as the European Union lurched punch-drunk from one crisis to the next, there was one constant. Germany, and in particular Angela Merkel, its chancellor, was the star around which the rest of Europe orbited. Southern European countries choked on the austerity they had to swallow as the price of their bail-outs; easterners wished Mrs Merkel had taken a tougher line on Russia after its annexation of Crimea in 2014. All had a point. Yet none had any way of working around Germany.

Visit Brussels now, however, and all you hear is stories of German ineptitude. The dysfunction of Olaf Scholz's three-party coalition is spilling over into Europe, complicating day-to-day business as Germany's governing parties bicker and feud. Old alliances are being reshaped as Germany's friends work around it. As chancellor, Mr Scholz appears to have no aptitude for Mrs Merkel's patient approach to dealmaking. At summits of EU leaders he states the German position and appears surprised when others fail to fall into line.

Dashed expectations of German leadership are neither new nor easily overcome. Coalitions, courts and the country's federal structure make decision-making cumbersome. Sometimes, things do work. The *Zeitenwende* was a genuine change to Germany's foreign and security policy set out by Mr Scholz in the wake of Russia's invasion of Ukraine in 2022. Germany is finally upgrading its armed forces and sending arms to Ukraine, and has transformed its energy policy. Yet Germany's ▸▸

partners more often remain disappointed.

If so, that is because they take Mr Scholz at his word when he says, as he did upon taking office in 2021, that Germany has a "special responsibility" for Europe (see Europe section). This is truer than ever when leadership is lacking elsewhere. France, Germany's traditional if sometimes wayward partner, is paralysed after Emmanuel Macron's ill-advised decision to hold early parliamentary elections last month. Other leaders matter on particular issues, but none can match Germany's overall heft. And, without energetic German support, several items on the EU's to-do list now risk slipping into limbo.

The first, enlarging the EU to Ukraine and other places, has been identified by Mr Scholz as a priority for a "geopolitical Europe". Yet to prevent the process getting bogged down in bureaucracy, Germany must take the fight to other, more sceptical governments. The EU will also have to reform itself as it prepares to grow, for instance by altering its expensive agricultural policies and cutting back national veto rights. Completing the capital-markets union, a worthy-but-important project that should boost private investment in Europe, and the EU's coming discussion over whether its internal-market and state-aid rules are up to scratch amid rising US-China tensions, will also make large demands of Germany.

The good news is that the chancellor has decent instincts on these issues. He also has a useful ally in Ursula von der Leyen, who has become one of the most powerful presidents of the European Commission for decades. As a former German cabinet minister, Mrs von der Leyen has antennae finely tuned to the sensitivities of her homeland, even if she hails from a party now in opposition there. Having secured a second five-year term last week, she will have political capital to spend.

The bad news is that time is tight. All three of Germany's ruling parties took a pasting in last month's European elections, and are bracing for another in state elections in September. As attention turns to Germany's next national election, due in autumn 2025, the parties will be tempted to take their feet off the accelerator in Europe and play up their differences at home. With geopolitical risks growing and Europe's economy stagnating, that would be short-sighted and dangerous. Mr Scholz, and Germany, need to step up. ■

Technology and development

Africa 2.0

The world's poorest continent could reap huge gains from AI. Instead it is being left behind

MORE THAN two decades ago *The Economist* calculated that all of Africa had less international bandwidth than Brazil. Alas, until 2023 that was still true. Africa's lack of connectivity is one reason its people could miss out on the benefits promised by artificial intelligence (AI).

For decades, experts have called for better broadband across Africa, citing the gains in productivity and employment. But the economic potential of AI, and its insatiable computing appetite, have renewed the case for urgent investment in the physical sinews needed to sustain a new digital revolution (see Middle East & Africa section).

Fortunately, Africa has a home-grown model it can emulate. Its embrace of mobile phones in the early 2000s was a stunning feat of economic liberalisation. In most parts of Africa, businesses and consumers used to have to wait years to get a fixed-line phone. Nigeria, which has Africa's biggest population (now more than 220m-strong), had just 450,000 phone lines in 1999, of which perhaps a third were on the blink. But when governments allowed privately owned mobile-phone companies to offer their services, they rapidly displaced the lethargic state-owned telcos.

It was a lesson in development done effectively, but frugally. Now sub-Saharan Africa has around 500m mobile subscriptions, roughly half of them associated with internet-capable smartphones. Mobile-phone services directly contribute $170bn to Africa's GDP. More important, they make almost everyone from small farmers to market traders more productive, boosting growth and incomes throughout the economy.

Alas, this spectacular leapfrogging has downsides. The focus on mobile is one reason behind Africa's underinvestment in fast fibre-optic connections. Although mobile phones have enabled mobile money and government services, such as digital ID, they can take economies only so far, especially when most parts of Africa have relatively slow 2G or 3G networks.

Fibre can carry more traffic, and faster. This allows seamless video calls, reduces dizzying lags in augmented-reality apps for, say, training surgeons and lets people interact with AI chatbots and other online services. Yet Africa is poorly served by subsea internet cables. Moreover, much of the internet bandwidth that lands on the coasts is wasted because of a lack of high-capacity overland cables to carry it to the interior. Worse, the continent does not have enough data centres—the brick-and-mortar sites where cloud computing happens. The Netherlands, population 18m, has more of these than all of Africa and its 1.5bn people. As a result, data must cross half the world and back, leading to painful delays. If Africans are to do movie animation, run sophisticated weather forecasts or train large language models with local content, they will need more computing capacity closer to home.

To fix this, governments should learn from the mobile boom and cut red tape. Starlink, a satellite-internet firm, could be a stopgap, but regulators have blocked it in at least seven countries including South Africa. Heavy taxes on data access drive up costs for consumers, discouraging them from using it and firms from investing in providing it. Governments could do much to help simply by getting out of the way.

Development institutions, for their part, should be doing more to help finance this vital infrastructure because of its widespread benefits for growth and employment. The new digital revolution will create opportunities for Africa to catch up with rich countries. But if the continent lacks the right infrastructure, it will instead fall further behind. ■

Letters

LETTERS ARE WELCOME AND SHOULD BE ADDRESSED TO THE EDITOR AT:
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Bear hug double standards

You ran a story on the meeting between Narendra Modi, India's prime minister, and Vladimir Putin, Russia's president, ("Bear-hugging bros", July 13th). Just before the meeting, Russia launched missile strikes across Ukraine, including on a children's hospital, killing 44 people. Every sincere person would condemn this brutality and unprovoked attack by Russia on a sovereign nation. You then said Mr Modi still went ahead with the meeting and gave Mr Putin a bear hug. Yet how many times have Western leaders given bear hugs to Binyamin Netanyahu, Israel's prime minister, while Israeli forces bombed civilians, including children, in Gaza and did not spare hospitals.

What we in India fail to comprehend is the double standards of the West, where Mr Putin is seen as a violent renegade, and rightly so, but where Mr Netanyahu's constant violations of human rights in Palestine are not only excused but also supported and condoned. Until Western countries condemn Mr Netanyahu in the way they have done with Mr Putin, their claims of being concerned about the Ukraine war on humanitarian grounds will fail to cut ice with those of us in non-aligned countries. Ethics demand that what's bad for the goose must also be bad for the gander. Bear-hugging Mr Netanyahu while condemning Mr Putin reeks of hypocrisy.

SAKET GOKHALE MP
Rajya Sabha
Parliament of India
Delhi

Café tales

For all of the neighbourhood innovation that flows from opening a Starbucks ("The frappuccino effect", July 6th), it is worth noting that its frappuccino is a product of local innovation that its founder once doubted. Starbucks gained the rights to the frappuccino when it bought Coffee Connection, a rival chain in Boston, in 1994. Their founder came up with it after a trip to the west coast, where local baristas blended frozen, frothy coffees fit for a hot summer's day. He rechristened this drink back on the east coast as the "frappuccino," combining the familiar frappe milkshake with the foreign cappuccino.

Although it was a local hit, Howard Schultz, the founder of Starbucks and a coffee purist, wasn't a fan. He wanted to get rid of it upon acquiring Coffee Connection, but the drink had already become too popular. Today, cold drinks now make up around 75% of the company's beverage sales.

KEVIN PETERSEN
Miami

African farmers and the EU

The Economist was spot-on in warning that the European Union's new deforestation regulations will shut out African smallholder farmers from European markets, not because they are cutting down forests, but because they cannot prove compliance ("Unintended consequences", July 6th). We train rural traders in Africa to collect EU-compliant farm geolocation data, but with tens of thousands of small traders and millions of small farms, the task is immense. Smallholder farmers are already poor and have to pay costs for repeatedly collecting these data each year.

There is a better solution. The EU should clarify its position on the territorial approach, which is when entire regions are declared free from deforestation, and actively encourage it. This would encourage collaboration between the private and public sectors to stop deforestation, rather than simply redirecting commodities from deforested land to other markets.

European coffee companies have called on the EU to delay implementation to allow more time to get ready. That may be necessary, given the general feeling of unpreparedness. At a minimum, delaying the imposition of fines would give the EU, commodity traders and governments time to test efficient systems that stop deforestation and don't harm farmer incomes.

PAUL STEWART
Global coffee director
TechnoServe
Arlington, Virginia

Association fallacy

Kelly Clancy suggested that the role of psychology in decision-making, especially in economics, should be dismissed as "one of the least reputable fields of science" ("Everything to play for", June 22nd). That might come as a surprise to the members of the Nobel committees who awarded the prize in economics to John Nash in 1994 for his "pioneering analysis of equilibria in the theory of non-co-operative games" (eg, game theory), and to Daniel Kahneman in 2002 for "for having integrated insights from psychological research into economic science, especially concerning human judgment and decision-making under uncertainty".

Neither men suggested that behavioural economics provided a complete representation of how everyone made economic decisions, but instead provided a framework for understanding how those decisions were made. I think the Nobel committees knew a little something about the subject matter, perhaps more so than Ms Clancy.

ROBERT CHECCHIO
Dunellen, New Jersey

First-past-the-post rules

The ability of the first-past-the post electoral system to deliver decisive victories to centrist parties is a feature, not a bug, of Britain's electoral system ("Disproportional representation", July 13th). Systems of representative democracy exist to alchemise the diverse will of the people into a coherent and stable governing authority. Since the people's will is varied and the will of the government must be singular, a process of compromise and coalition building is required.

Under proportional representation voters do not need to compromise. They have a very good chance of finding a party whose platform closely matches their views. The task of compromise is delegated to the politicians they elect, politicians whose survival depends paradoxically on their fidelity to the narrow sector they represent. Such systems inevitably struggle to deliver a stable or coherent government.

In FPTP, political success depends on appealing to a plurality of the electorate. Parties cannot pursue narrow agendas without dooming themselves to failure. It is the voters who are forced to compromise, for they are not offered parties that perfectly match their views.

A winner-takes-all system is most valuable for diverse societies. Instead of appealing to narrow interest groups, our politicians are compelled by their own self-interest to build platforms with at least some appeal to Brexiteers and Remainers, Muslims and atheists, workers and bosses, country and town. By rewarding moderation and punishing parochialism, our system stabilises our politics and our society.

JOSHUA WINE
Gibraltar

Another important factor is turnout. Only 20% of registered voters voted for Labour compared with 40% for other parties and most worryingly, 40% who didn't vote at all. Turnout was 60%, down from 67% in 2019 and the second-lowest figure since 1918. This makes the case for voting reform more urgent.

JULIAN COOPER
Aylesbury, Buckinghamshire

"Working" conferences

Bartleby (July 6th) provided essential strategies for surviving and enduring conferences and pointed out that, for many people, the primary benefit of conferences is networking. However, for many people, "networking" is only one letter away from "not working".

ROB SHELTON
Palo Alto, California

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YOU CAN REDUCE COSTS AND STILL ACHIEVE ESG GOALS

Environmental, social, and governance (ESG) priorities are inherently ambitious and transformative, demanding leadership to navigate through skepticism and opportunism. However, today's economic pressures complicate this endeavor. Recessionary threats, record inflation, and extensive management challenges force companies to reconsider their ESG timelines.

As organizations grapple with these hurdles, there's a risk that the momentum behind ESG initiatives might wane. Management teams are faced with tough choices: battling inflation, enhancing supply chain resiliency, or investing in ESG. Will cost-cutting overshadow ESG?

Competing Priorities

The breakdown of the just-in-time supply chain is well documented. Post the COVID-19 pandemic, many companies had to spend significantly to stabilize business operations, secure sources of supply, fund at-risk suppliers, and reposition more inventory closer to demand. In such a competitive landscape, every corporate function seeks investment, creating a logjam of capital funding priorities.

Rising costs and high inflation cycles also make it challenging for organizations to prioritize ESG initiatives.

ESG Can Support Cost Reduction

ESG programs often lose momentum after implementing the highest-ROI actions, leaving more challenging long-term goals. However, sustainable supply chain practices can create structural cost advantages and increased revenue, proving ESG can be margin-accretive over time. Leaders must shift from a short-term performance lens when comparing ESG and cost reduction.

Cut Costs Fast

Balancing operational priorities with ESG investment requires a stronger financial foundation. One rapid approach is through selling, general, and administrative (SG&A) cost-reduction programs. Procurement teams can employ strategic sourcing to lower costs, even amid recessionary pressures.

Yet, many procurement teams face understaffing and skill gaps due to ongoing talent shortage. Increasing internal staff may be politically challenging during periods of low or slow growth. Turning to external partners for SG&A cost reduction offers a strategic, methodical alternative to ad hoc measures.

Balancing operational priorities with ESG investment requires a stronger financial foundation. One rapid approach is through SG&A cost-reduction programs.

A Challenge, Not an Impossibility

Despite financial difficulties, management teams need not abandon ESG goals. Inflation and business slowdowns will pressure teams, but robust cost-reduction programs and ESG investment agendas can coexist. Savvy investment teams can leverage cost-reduction efforts to drive ESG initiatives, even in challenging times.

To summarize, in this shifting environment, enterprises embracing data-informed procurement practices stand out. Procurement, in this context, isn't just operational—it's a foundational pillar for securing a competitive edge.

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Briefing The future of sport

The state of play

A shift in the media business is changing what it is to be a sports fan

THE FIRST television broadcast of an Olympic games was in 1936, when around 160,000 people within transmitting range of the stadium in Berlin were able to tune in. The action was shot on three cameras, only one of which could capture live footage—and only when the sun was out. At the next summer games, in London in 1948, the BBC suggested that perhaps it should pay the organisers for the right to broadcast the event, and offered 1,000 guineas (about $40,000 at today's prices). The Olympic committee sportingly said there was no need.

Today things are a little different. The 33rd summer Olympics, which begin in Paris on July 26th, will be crawled over by cameras transmitting thousands of hours of coverage to an audience of more than 3bn—nearly half the world's population. The organisers will charge media companies some $3.3bn for the right to broadcast the action, contributing the biggest single part of the games' income and making the event perhaps the most valuable fortnight of entertainment in history.

Mass media have changed the business of sport, and sport in turn has shaped the media. Worldwide, the owners of sporting intellectual property—everyone from the International Olympic Committee to video-gaming "e-sports" leagues—generated revenue of $159bn last year, estimates Two Circles, a sports-marketing consultancy (see chart 1 on next page). Some 39% of that came from selling broadcasting rights. The media, for their part, live off sport. America's largest media companies spend more than a fifth of their content budgets on sports rights. Last year 93 of the 100 most-watched broadcasts in America were National Football League (NFL) matches.

Now mass media are evolving in a way that will again reshape the sports business. A third of viewers of the Paris games will watch not via broadcast but by online streaming. In some rich countries streaming will be the main way that young audiences tune in. The Olympics have long been an "incubator and innovation lab" for broadcasters, says Mark Lazarus, head of television and streaming at NBCUniversal, whose Paris coverage will include AI-generated commentary. Just as television allowed fans to watch from their living rooms as well as the touchlines, new digital formats are creating new audiences.

The shift of sport to digital channels will also complete a reshaping of the media industry. Sport is the last big content category propping up viewership of broadcast and cable television, which still provide a large chunk of the profits of big media companies. Nearly a decade ago John Malone, a media mogul, described sport as "the glue that holds the [cable] bundle together". As sport moves to streaming, that glue is coming unstuck.

A new competition

The TV business has been turned upside down in the past five years by the migration of viewers from broadcast and cable to streaming, pioneered by Netflix and hastily followed by most other big media firms, which have yanked their best shows from cable and put them online to attract subscribers. Today streaming accounts for ▸▸

about 40% of TV viewing in America. For the first time in decades a majority of households no longer subscribe to cable.

Consumers' last reason to stay with cable has been sport. But that, too, is now shifting online. ESPN, the biggest sports cable network, which is owned by Disney, will next year launch a streaming platform with all the content previously reserved for cable. ESPN, in conjunction with Warner Bros Discovery and Fox, is also setting up a sports-streaming venture called Venu (pronounced "venue"). NBCUniversal, owned by the Comcast cable empire, is putting more sport on its streaming service, Peacock, even as it holds some events back to protect the cable bundle. "It's a tightrope we walk," says Mr Lazarus. But the direction is clear: by putting sport online, media companies are "pulling out these last Jenga blocks" of the cable business, says Moffett-Nathanson, a research firm.

Streaming upstarts would love to topple the Jenga tower. Amazon Prime Video, which began showing Thursday night NFL games in 2021, has a sporting menu in America that includes baseball, ice-hockey and soon, probably, games from the National Basketball Association (NBA). YouTube, owned by Google, has bought baseball and NFL rights. Apple in 2022 acquired exclusive rights to Major League Soccer (MLS), America's top football league, for its Apple TV+ streaming service.

Perhaps most significantly Netflix, the biggest streaming service of the lot and once the most sceptical about buying sports rights, has changed its mind. Live sport is the fastest way to bring a large, simultaneous audience to its advertising business, which it launched in 2022. As a warm-up, in the next few months it will stage novelty events, such as a hotdog-eating contest run by an outfit called Major League Eating and a boxing match between Mike Tyson, a former heavyweight champion, and a YouTuber half his age. But soon it will get serious. On Christmas Day it will show an NFL game live for the first time, and next year will air a full season of WWE wrestling. Few believe these sports deals will be its last.

The entry of streaming services has contributed to a sharp rise in the cost of sports media rights. The NBA is rounding off negotiations for the next 11 years of rights in America, in a deal that looks likely to raise nearly three times as much money as before, by dividing its games between Disney, NBCUniversal and Amazon. As the cost of sports rights rises, content budgets are shifting away from other forms of entertainment. MoffettNathanson estimates that in 2019 the nine biggest American entertainment companies devoted 20% of their content spending to sport. This year the figure will be 24%. More football may mean less film: Netflix says that buying the rights to an NFL game costs as much as making a medium-budget movie.

For sports leagues, streaming promises something more alluring than ready money: greater reach, to the young in particular. The apparently healthy audience figures for sport on broadcast and cable TV disguise a steep decline in young viewers. In America under-18s are spending a quarter less time watching televised NFL games than they did eight years ago. Young people have abandoned broadcast and cable in general (the average viewer of MTV, a once-hip music channel, is now 51 years old), and as long as sport remains there it will struggle to reach them. Losing young fans is a growing concern: 40% of 35- to 64-year-olds worldwide say they are interested in the Olympics, for instance, but only 26% of 18-34s, according to Ampere Analysis, another research firm.

Faster, higher, more international

Streaming offers leagues a way to grow abroad, too. Compared with other forms of entertainment, sport is markedly unglobalised. The majority of Hollywood's box-office revenue this century has been earned overseas, and music recorded in New York and Nashville tops charts around the world. American sports, in comparison, scarcely travel. Despite staging matches in Britain, Germany and other potential markets, the NFL earns 98% of its media-rights revenue in its home market. America's other main sports translate little better; Indian cricket and European football are likewise watched mostly at home. The Premier League, the top flight of English football, is rare in making the majority of its money overseas (see chart 2 on next page).

Global streaming platforms could change that. Netflix's airing of its Christmas NFL game to its 270m members in more than 190 countries will mark probably the widest-ever single transmission of a live major sports event. This was key to the league's interest in the deal. "A huge part of that thinking was that the way Netflix distributes content, the way they surface content, is clearly global," says Brian Rolapp of the NFL. "It's the only game we know that we can play on one single partner that will be distributed globally, consistently. And that to us is very, very interesting."

Netflix has formidable power to introduce audiences to new content and characters. It recently took over the home-screens of subscribers around the world to promote a comedy "roast" of Tom Brady, an NFL star. Its ability to shape local tastes was demonstrated in New Zealand in April, when it tested its WWE programme. Though wrestling has little following there, the match was reportedly the most-watched Netflix show in the country.

MLS, a younger league looking to broaden its footprint, has bet everything on streaming. Last season it swapped a mishmash of TV-rights deals for a single, global partnership with Apple. The deal has given the league distribution in more than 100 countries, a previous "pain point", says Camilo Durana, head of media rights at MLS. Commentary comes in English, Spanish and, for Canadian games, French. Mr Durana says the Apple deal also makes for a more fan-friendly experience at home: rather than subscribing to different services, viewers can get every match in one place. And whereas matches were previously held at times that suited different distributors, now they are reliably at 7.30pm on Saturday in America's Eastern time zone. Average viewing time is 56 minutes, more than twice what it was before.

Global distribution is allowing sports to find audiences in unexpected places. Formula 1 racing has roared into Americans' viewing habits thanks in part to a Netflix documentary series, "Drive to Survive", which debuted in 2019 and has run for six seasons. F1's new American owner, Liberty Media, which bought the championship in 2017, wanted to reach viewers who were not already fans, so set out to tell stories happening off the track. "Our sport is drivers with gloves and a helmet, inside the car. You don't know anything. So the way to be attractive is to show behind the scenes, in a sort of narrative way," says Stefano Domenicali, F1's chief executive.

The gamble has paid off. The show was a hit, and not just with the older men who typically watch F1. Three-quarters of its audience is under 55 and 40% are women, according to a poll by YouGov. Most importantly for F1, it was a hit in America, which has allowed the organisation to command a higher price there for rights to its races. Before the show ESPN had been paying F1 a reported $5m a year in America; since "Drive to Survive" the price is said to have risen more than ten-fold.

Predictably, others have rushed to copy the idea. Amazon, Apple and ESPN are ▸▸

Going for gold 1

Global sports revenue*, 2023, $bn

Source: Two Circles *Based on intellectual-property ownership

making fly-on-the-wall shows about ice-hockey, football and women's basketball. Netflix churned out more such shows of its own. After "Drive to Survive", "We heard from almost every single league," says Brandon Riegg, head of unscripted content at Netflix. Follow-ups include "Unchained" (cycling), "Quarterback" (American football) and, ahead of the Olympics, series on sprinting and gymnastics.

The features of a successful docu-drama, Netflix has learned, are not the same as those of a successful sport. Knockout tournaments, often favoured by fans, are narratively tricky: "Break Point", Netflix's tennis documentary, struggled to maintain viewers' interest as its protagonists were eliminated. "Under Pressure", which followed America's women's football team at the World Cup, suffered when its subjects were knocked out early. Events where all competitors finish—F1, the Tour de France, or 18 holes of golf—work better, says Mr Riegg: "There is a natural beginning, middle and end point."

Sports as storytelling may grate with hardcore fans. But it points to the new way in which younger fans are consuming sport. Though they are less likely than older viewers to watch full games, they are more likely to engage with sport in nearly every other way. Young fans watch half an hour less live sport per week than older ones, but spend more time on fantasy sports, sporting podcasts, social media and more (see chart 3). "There's a general prevailing narrative that Gen Z doesn't care as much about sport as previous generations," says Kahlen Macaulay, head of sports partnerships at Snapchat, a youth-centric social platform. "We actually think the opposite is true."

One difference is a shift in allegiance from teams to individual athletes. Social media have given fans a direct link to stars

Young and restless 3

Self-reported average time spent engaging with sports content, hours per week
14 countries, Q4 2023

Source: Ampere Analysis

of all kinds, including in sports (the most followed accounts on Facebook and Instagram belong to Cristiano Ronaldo, a footballer). Social accounts let athletes "showcase who they are with their helmet off", as the NFL's Mr Rolapp puts it. As a result, the old saying that the name on the front of the jersey—the team's—matters more than the name on the back—the player's—is being reversed. Ampere Analysis finds that 41% of 25- to 34-year-olds are more interested in individual athletes than teams, twice the share among 55- to 64-year-olds. Mr Macaulay dubs this "fluid fandom": young sports enthusiasts have little team loyalty and follow their idols wherever they go.

This fan-pulling power has given star athletes enormous clout. Lionel Messi negotiated a deal with MLS and Apple which reportedly gives him a share of revenue from subscriptions to Apple's football-streaming package. (In return he promotes it on his Instagram account, which is second only to that of Mr Ronaldo in followers.) The Los Angeles Lakers recently drafted Bronny James, an unremarkable basketballer whose father LeBron happens to be the Lakers' most celebrated player. Some fans grumbled but Nike, the sponsor of both father and son, has built an ad campaign around the pair.

The switch of allegiance from teams to individuals also makes it easier for sports to capture new fans. Buzz around Caitlin Clark, a star basketballer, led to a spike in viewership of America's women's college basketball final in April, which for the first time had a higher audience than the men's. ESPN's new rights deal for college sports values women's basketball at $65m a year, ten times its previous value. Star power does not always work: Saudi Arabia's football league has yet to set the world on fire, despite signing Mr Ronaldo. But, given a choice between a player and a team, fans increasingly follow the former. Nielsen, a market-research firm, reported last year that the most popular baseball team in Japan was no longer the Yomiuri Giants but the Los Angeles Angels, following their signing of Ohtani Shohei, a Japanese star (who has since moved to the Dodgers).

Ties to teams have been further weakened by the new streaming deals. American TV and cable helped reinforce loyalty to local teams by making it easier for fans to watch games featuring their local teams than ones from farther afield, which typically involves signing up for an "out of area" package. That makes being a San Francisco Giants fan an expensive business for a New Yorker, say. Centralised deals, such as that of MLS with Apple, make it equally easy to watch any game, freeing fans from geographical ties.

The idea that fans will watch only their home team is also being eroded by the rising popularity of fantasy sports and betting, both of which require players to keep an eye on the whole league. Following a Supreme Court judgment in 2018, betting on sport has been legalised in 38 American states, setting off a betting bonanza. The American Gaming Association found that a quarter of American adults planned to bet on this year's Super Bowl, wagering $23bn, 44% more than last year. The young are keenest: a quarter of millennials regularly bet on sport, versus 6% of baby boomers, according to Deloitte, a consultancy.

Lucrative but parochial 2

Top ten most valuable national sports leagues, media-rights revenue, 2023-24, %

Source: Ampere Analysis

Game, bet, match

Media firms are piling into gambling to keep young fans interested. Disney, which used to think betting would tarnish its family-friendly brand, last year launched ESPN Bet, a gambling venture, in partnership with Penn Entertainment, a casino operator. The forthcoming ESPN streaming service will make it easy for users to place a bet. Sports leagues like gambling, too: the NFL reports that fans who bet watch longer than the rest. F1, which used to attract few flutters (in part because races' outcomes are partly dictated by team orders) hopes that short-term, in-race bets may allow more room for gambling.

Media companies and sports organisations alike hope that growing interest in these complementary activities will eventually lead young fans back to the core product, which is where most of the money in sport is still made. "The battle we're fighting is, there's a lot of people following sports—not everyone's watching sports," says Mr Lazarus. Fantasy games and betting are booming, athletes are bigger stars than ever on social media and sport remains a ubiquitous topic of conversation. Nonetheless, he explains, "It's harder to get people, especially younger people, to sit down and watch a full match." If sport is to retain its colossal value, today's young followers will at some point have to be converted into fans. ■

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United States

The presidential election

The switch in time

WASHINGTON, DC

Which Kamala Harris is now at the top of the Democratic ticket?

IT IS BAD form to be dour, doubting or dissenting at a coronation. And Democrats are a well-behaved lot. On July 21st President Joe Biden abandoned his bid for re-election, less than a month before he was to be formally nominated at the party's convention in Chicago. One day later, his anointed successor, Vice-President Kamala Harris, had secured the spot before any simulacrum of a contest could even begin. Mr Biden transferred his whole campaign infrastructure immediately; his campaign renamed itself "Harris for President" within hours. Her mooted opponents went prostrate: every sitting Democratic governor had endorsed her within a day.

The switch was not regarded with scepticism, but with relief. The party watched in agony as Mr Biden tried to salvage his candidacy after his debate disaster on June 27th. All the while, Republicans were completely united around Donald Trump, who had surged in the polls and appeared messianic after an assassination attempt nearly took his life. Relieved of the albatross of Mr Biden's bid, Democrats have entered a state of collective euphoria.. "It's the future versus the past now," says Jake Auchincloss, a Democratic congressman from Massachusetts. "Seventy percent of Americans said we want the top of both tickets to change...Democrats just did it and Republicans didn't."

Gargantuan sums of money are pouring into Ms Harris's campaign accounts: $81m arrived within 24 hours of Mr Biden's announcement, the most lucrative day in the history of presidential fundraising. The vice-president was once an object of mockery on social media for her word-salads, undying devotion to Venn diagrams and quirky quotes. She was quickly transformed into an object of veneration (see story on the "brat" vote in this section).

It is a remarkable reversal of fortune for a vice-president who was not thought of as particularly accomplished while in that office, and who seemed to have squandered the goodwill built up during a short Senate career on a misbegotten campaign for the presidency in 2020 that actually ended in 2019. Ms Harris has many attributes that explain the newfound enthusiasm. At 59, she counts as young compared with gerontocrats like Donald Trump, who is 78. She can complete her sentences, often with vigour. She could appeal more than Mr Biden could to disaffected young voters or to African-Americans veering to the right.

But after the euphoria fades—perhaps in a week, perhaps after the Democratic convention concludes in one month's ▸▸

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time—Democrats might consider asking themselves exactly who has been placed at the top of their presidential ticket.

Ms Harris has adopted several avatars over her political career. As she was coming up the ranks in California she was once a tough-on-crime prosecutor and then a progressive prosecutor. She ran well to Mr Biden's left in the last presidential campaign, sharply attacking him in one debate for opposing racial integration through busing, only to settle comfortably into the position of his running-mate.

Her portfolios as vice-president have included securing voting rights, tackling the root causes of illegal immigration (unsuccessfully) and defending the right to abortion, on which she has been an effective messenger (see next story). As the world's most prominent understudy, her policy disagreements with Mr Biden are hard to decipher. When progressives were at their strongest in the Democratic Party, Ms Harris embraced their flashy ideas like Medicare for All, a single-payer healthcare system; the Green New Deal, a utopian proposal for climate-infused statism; and decriminalising illegal border-crossing. But those positions may be uninformative about the current Ms Harris.

Ask Democrats or diplomats where they think she diverges from Mr Biden on economic and foreign policy, and most will simply shrug their shoulders. "We want to make sure that she runs as a Biden-Harris Democrat and doesn't drift to the left," says Matt Bennett of Third Way, a centrist think-tank. "She needs to ignore the voices of the advocacy groups telling her to soften on immigration and crime."

The vision thing

In the coming weeks, Ms Harris will have the opportunity to sketch out her own vision for America. The first speech she gave as the presumptive nominee, in Milwaukee, Wisconsin, on July 23rd, had plenty of vim and vigour—more in 15 minutes than Mr Biden had mustered in the past 15 weeks—much of it directed at Mr Trump for being a fraud, a predator and a criminal. She was energetic in her defence of the right to abortion (see box on next page). But she ticked through other policy priorities swiftly: passing a ban on assault weapons, subsidising child care and health care, creating a paid family-leave programme.

Mr Biden himself had filled out only a sparse ledger of ideas for a second term, usually under the banner of "finishing the job", leaving plenty of room for his successor. She will continue to evangelise about Mr Biden's Inflation Reduction Act, which provides hundreds of billions of dollars to subsidise clean-energy projects, as well as the Bipartisan Infrastructure Law, and the student-debt forgiveness achieved through the president's power of the pen (some $144bn). The underlying idea of "Bidenomics"—industrial policy, scepticism of free-trade deals, large social transfers and aggressive antitrust and environmental regulation—would be expected to stay intact in a Harris administration.

Whether there is a distinctive Harris doctrine of foreign policy is even more enigmatic. Her advocates tout her travels abroad while vice-president, including one meeting with Xi Jinping, China's leader, and six with Volodymyr Zelensky, Ukraine's president. Her speech to the Munich Security Conference in February 2024 was textbook Bidenism: defending a rules-based international order, criticising American isolationists and staunchly embracing Ukraine "for as long as it takes". Her schedule and call logs show conversation with many heads of state, especially those of Mexico, Japan and the Philippines. The only area where some see a difference between Mr Biden and Ms Harris is over Israel (see story in this section). "People think Harris might be moderately better than Biden, but we're still waiting to see signals that she's ready to turn the page on...our weapons' backing for Netanyahu's war," says Waleed Shahid, a Democratic strategist who advises the Uncommitted campaign, which urged protest votes over Gaza against Mr Biden in primaries.

Republicans believe they have plenty of powerful lines of attack against Ms Harris. They have christened her the "border tsar" and are pinning the blame on her for high levels of illegal immigration since Mr Biden took office. On July 23rd Mr Trump hosted a call with reporters to level exactly this charge. "If she becomes president, Kamala Harris will make the invasion exponentially worse, just like she did with San Francisco," Mr Trump said. "She's far more radical than he is. She wants open borders." Her rejoinder, that she was never border tsar but merely tasked with tackling the root causes of migration, may be too technical to be noticed.

Further down the ballot, Republicans feel they have more ammunition against the new candidate, not less. "If anything, she's worse on these issues than Biden," says Dave McCormick, the Republican nominee for a crucial Senate race in Pennsylvania, citing the border, the economy, crime and the environment. "We were looking at a bunch of clips of her on fossil fuels and she is 100% unequivocally opposed to fracking," he adds. Her comments will be a liability in his state, a vital one on the road to the White House.

For Democrats, though, the most important question is less what does Ms Harris stand for—that can be filled out later—but whether or not she can defeat Mr Trump. Here, too, there is ample uncertainty (though it beats the near-certainty of Mr Biden's impending loss). Mr Biden dropped out because of that near-certainty. As the president told Americans in an Oval Office address on July 24th, he felt his record and leadership merited a second term, "but nothing, nothing can come in the way of saving our democracy. That includes personal ambition."

Back in the race

Polls released since the switch look more favourable to Ms Harris than before. Our poll, conducted with YouGov from July 21st through 23rd, found her three points behind Mr Trump in the national popular vote—roughly where Mr Biden was, though better than her previous hypothetical matchup. Her net favourability is minus nine percentage points, up from minus 15 points the week before, which is roughly tied with Mr Trump's margin of minus ten (and well ahead of Mr Biden's at minus 19). Democrats have also closed the enthusiasm gap with Republicans, which had become dire (see chart).

Tony Fabrizio, Mr Trump's pollster, has pre-emptively warned of a "Harris honeymoon" which may mean that polls show "Harris is gaining on or even leading" Mr Trump. He thinks this will fade. Ms Harris's campaign disagrees. "About 7% of voters remain undecided in this race, and these voters are disproportionately Black, Latino, and under 30...and two times more likely to be Democrats than Republicans," wrote Jen O'Malley Dillon, Ms Harris's campaign chair, in a polling memo.

American voters do not decide based on past consistency, policy acumen and considered comparison of platforms—much as this newspaper might wish they did. Were they to do so, Ms Harris would be an improbable Democratic nominee to emerge from a properly contested convention (and the Trump-Vance ticket would be hopeless). Democrats have met this turn of fortune not with sorrow but with jubilation. That is not because they feel that Ms Harris is the greatest candidate possible. She is the only candidate possible. And with her, they at least have a chance. ■

Keener with Kamala

"How enthusiastic are you about voting for president in the upcoming election in November?"
United States, 2024, % of Democrats responding

Source: YouGov/The Economist

Reproductive rights

The mobiliser

WASHINGTON, DC

Abortion has been Kamala Harris's most effective issue

"WE...WILL STOP Donald Trump's extreme abortion bans because we trust women to make decisions about their own bodies and not have their government tell them what to do," Kamala Harris, now the presumptive Democratic nominee, told a roaring crowd near Milwaukee on July 23rd. "When Congress passes a law to restore reproductive freedoms, as president of the United States I will sign it."

Abortion is the subject on which Ms Harris sounds both most fluent and most different from Joe Biden. Mr Biden is so queasy about the topic that he can barely say the word: he failed to do so in his last state-of-the-union address, despite it being scripted. Ms Harris, by contrast, this year became the first vice-president to visit an abortion clinic. Her record of protecting women's rights could be an asset in mobilising voters. Although for most Americans abortion is not their deciding issue, it has become a priority for Democratic voters. In an election that could hinge on turnout, such mobilisation could be critical.

According to a YouGov survey this week, Ms Harris outperforms Mr Trump by 12 percentage points on who would be better at handling the abortion issue. When the same question was asked about Mr Biden earlier this month, he outperformed Mr Trump by only five points. Among young Democratic women, 69% trust Ms Harris to speak about the issue, compared with 49% for Mr Biden, according to KFF, a non-profit organisation focused on health.

Whereas she can lack authenticity on other issues, on abortion Ms Harris has it in spades. She sees abortion as both basic health care and a basic right. And she has used it to speak about other freedoms that she claims Mr Trump would threaten or roll back. She is at her most effective when she talks with the conviction of a prosecutor who knows right from wrong about how Mr Trump "stole" a fundamental right from Americans. This fits well with a broader justice-warrior message.

This combative stance counts on the Republicans continuing to look like the bad guys on abortion, a reputation Mr Trump is trying to magic away. At the Republican convention the issue of abortion was notable for its absence. Mr Trump mentioned it not once and his running-mate, J.D. Vance, deleted the section of his website calling for a national ban (the site has since shut down).

Still, abortion clearly remains a winning issue for Democrats. But Ms Harris must be careful of the trap Republicans are laying for her: to present themselves as moderate while painting Ms Harris as an "abortion positivity" radical. Anti-abortion activists are already calling her the "abortion tsar".

The TikTok election

The "brat" vote

NEW YORK

A surprising social-media phenomenon

"YOU THINK you just fell out of a coconut tree?", begins a viral clip of Kamala Harris. It resurfaced in the days after Joe Biden's disastrous debate performance, but this video has a twist. The song "Von dutch", by a British pop star, Charli XCX, begins to rev in the background. Ms Harris's signature belly laugh rises up. A lime-green filter with the word "brat"—the cover art and name of XCX's new album—flashes across the screen.

"You exist in the context of all in which you live and what came before you," says Ms Harris. The beat drops. Enter supercuts of Ms Harris.

The video, uploaded to X by Ryan Long, a college student in Delaware, has 4m views—not counting millions from reshares and copycat remixes that have since spawned across social media. On the day Mr Biden dropped out of the race XCX gave Ms Harris her endorsement on X: "kamala IS brat". The post, which has over 50m views, is high praise. XCX's songs and the colour lime-green have decorated the summer of the world's coolest it-girls for weeks. The singer has defined the essence of "brat" in recent interviews: "You're just like that girl who is a little messy and likes to party." All a brat needs is "just like a pack of cigs and like a BIC lighter".

None of that screams White House. Still, Ms Harris's team is leaning in. It reshared XCX's post and "kamala" versions of the "brat" branding on her campaign's social media, puzzling pundits. Yet this moment did not just fall out of a coconut tree. The ironic, organic collision of cultures is why it works. "Brat" album spoofs were across social media long before they rained over Kamala HQ. Ms Harris's predisposition to becoming a meme is a trait that Mr Long thinks captures something "very similar to Donald Trump". It is also an opportunity Mr Biden's team of meme manufacturers could only dream of (remember "Dark Brandon"? Maybe not).

Over on TikTok, the excitement is palpable. A video of Ms Harris, soundtracked to "Femininomenon", a song by Chappell Roan, a pop star, has 6.6m views. One commenter hopes to "meme her into [the] presidency". Another calls for a "Kamala-nomenon". A similar edit shared to Ms Harris's campaign TikTok has over 35m views. Whether she can turn vibes into votes is one thing. Another is certain: the TikTok election just became more interesting. ■

America and the world

Kammander-in-chief

WASHINGTON, DC

How to decode the would-be president's foreign policy

KAMALA HARRIS'S first show on the world stage as the Democrats' presumptive presidential nominee was a disappearing act: on July 24th she absented herself from an address by Binyamin "Bibi" Netanyahu, Israel's prime minister, to a joint meeting of Congress. As vice-president, and president of the Senate, Ms Harris would normally have overseen the event alongside Mike Johnson, the speaker of the House. Instead she attended a previously scheduled event in Indianapolis to talk to a historically black sorority. Republicans called her no-show "outrageous".

Whatever her reasons, it marks a generational transition. Mr Biden is probably the last Democratic president to call himself a "Zionist". He is of a generation that remembers the first 30 years of Israel's existence, as an underdog democracy fighting for survival, notes Ivo Daalder of the Chicago Council on Global Affairs, a think-tank. "Kamala Harris's formative view is the last 30 years—of Israel as the dominant power in the Middle East that keeps Palestinians under occupation."

Roughly half of congressional Democrats boycotted Mr Netanyahu's speech, and thousands of anti-Bibi protesters gathered outside (see Middle East & Africa section). But Ms Harris is not about to abandon Democrats' long-standing support for Israel. She was set to meet Mr Netanyahu on July 25th (he planned to see Mr Biden the same day, and Donald Trump on July 26th). Although her husband is Jewish, Ms Harris does not show the same emotional attachment to Israel as does Mr Biden, who went there days after Hamas's massacres on October 7th, embraced Mr Netanyahu and said America "stands with you." More forcefully than Mr Biden, Ms Harris has decried the suffering of Palestinian civilians and pushed for a ceasefire.

Ms Harris did not mention foreign policy in her first campaign rally as her party's presumptive nominee. Her CV on foreign affairs was thin at first, and the subject of controversy about her role in trying to deal with the "root causes" of migration from Central America. Republicans attack her for failing to secure the southern border.

That said, Ms Harris has become somewhat more assured lately, having visited Europe, Asia and Africa, among other regions. Her national security adviser, Philip Gordon, is a veteran of European and Middle Eastern affairs at the State Department

Message to Bibi

and the White House under Democratic administrations. More than 350 former national-security officials described Ms Harris as "the best qualified person to lead our nation as Commander in Chief".

Ms Harris shares Mr Biden's internationalism. But just as she may lack Mr Biden's love of Israel, she may also not fully share his generation's instinctive Atlanticism. Unlike Mr Trump, she would not threaten to abandon European allies. Yet American politicians of all persuasions are preoccupied with the rivalry with China.

Were Ms Harris to win power, notes Aaron David Miller of the Carnegie Endowment for International Peace, another think-tank, there might be little real change. "We rarely use real pressure or leverage on any of our close allies," says Mr Miller. "And when it comes to the Israelis, because of our domestic politics, that is true in spades." As its nuclear programme advances, Iran is part of an emerging axis of autocracies with Russia, China and North Korea. Ms Harris is likely to end up in the same place as Mr Biden: seeking to create a regional counter-axis with Israel and Gulf Arab states, notably Saudi Arabia. For that to happen, America is pushing a ceasefire in Gaza with an exchange of Israeli hostages and Palestinian prisoners. These are to be followed by an end to the war, and progress towards Palestinian statehood, which Mr Netanyahu opposes.

In June Mr Gordon set out two paths for Israel. Endless war in Gaza threatened "regional escalation, and growing Israeli isolation on the world stage". But America's phased deal promised a path to a "secure and prosperous Israel; at peace with its neighbours; backed by the United States; and integrated in the region as never before." Mr Biden will try to achieve part of the deal. Much of the nettle, though, could become Ms Harris's to grasp. ■

Presidential polling

Patience, please

The forecasting and tracking of the presidential race will resume shortly

IT WAS NOT just politicians and journalists who had to scramble to respond to President Joe Biden's abrupt withdrawal from the election. Pollsters also rushed to get the first reactions from voters. A Reuters/Ipsos poll found Kamala Harris leading Donald Trump by 44% to 42%. *The Economist's* polling partner, YouGov, found that Ms Harris still trailed by 41% to 44%, roughly in line with Mr Biden's polling before he dropped out on July 21st.

Public opinion may be volatile in the short term, given the weight of news confronting voters. Together with the statistical variability of individual opinion polls, that means it may be some time before a clear view of the race emerges. Betting markets, which provide a subjective but rapid interpretation of events, now give Mr Trump a 56% chance of winning, according to an average by RealClearPolitics, an aggregator. This is down from 66% in the aftermath of the assassination attempt on July 13th—but up from 52% immediately before the presidential debate on June 27th, which proved so disastrous for Mr Biden.

The Economist hopes to resume its nationwide poll tracker next week, once enough polls featuring Ms Harris as the presumptive nominee have been published. Our presidential-election forecast, which at the time of his withdrawal gave Mr Biden a mere 17% chance of winning, relies on a greater volume of polling, including ones conducted in individual states. We aim to relaunch this forecast in early August. For now, hard as it may be for those on tenterhooks, readers should treat any single poll with a healthy dose of scepticism.

Native spirit

Life, liberty and the pursuit of liquor

WASHINGTON, DC

A Texas judge delights at-home distillers

IN DEVILS LAKE, North Dakota, a man named Ray is making a batch of watermelon moonshine. A video posted to Facebook shows his ruby-red liquid bubbling. "Sounds like Rice Krispies," he wrote. The copper still he makes it in is in his garage. Officially, he claims the set-up is just for distilling water and hand-sanitiser.

For over a century it has been illegal to make spirits at home in America. In December the Competitive Enterprise Institute, a libertarian think-tank representing hobbyists bent on making bourbon in backyards, challenged the ban in court. It argued that the government's prohibition amounted to overreach. The government's lawyers insisted that the federal powers to tax and regulate interstate commerce justified it. On July 10th a Trump-appointed judge in Fort Worth, Texas, declared the law unconstitutional, saying the defence "miss[ed] the maker's mark".

The spirited ruling has not gone into effect and may yet be appealed against. But in the meantime liquor-lovers are celebrating their first win in a decade-long fight.

Hobbyists say distilling is a pastime as American as baseball or baking apple pie—and reckon that banning it infringes on a particularly patriotic freedom. Colonial farmers made spirits from extra grains and George Washington distilled liquor at his Mount Vernon estate. According to Reid Mitenbuler, author of "Bourbon Empire", whiskey was so important at the country's founding that it became "the frontier's de facto currency, knitting together America's early economy".

It was not until 1868 that the government made making hooch at home illegal, punishable by prison. Some say the law was intended to protect government revenue streams. But it is perhaps better explained as a public-health initiative: ethanol vapours produced in the process make stills prone to explosions. (Your correspondent's colleague had an uncle who blew up his garden shed making peach brandy.) Health concerns became more acute during Prohibition, when bootleggers poisoned hundreds with methanol-infused moonshine and bathtub gin.

Today's wannabe distillers tend not to resemble the gritty peddlers of the 1920s. Instead they characterise themselves as amateur scientists—the type who also like to tinker with hand-radios and computers—and point to legalisation as a way to make the hobby safer. While some await the green light from the feds, others, like Ray, distil "in the shadows", says Rick Morris, the head of the Hobby Distillers Association. Fear of being caught discourages novices from getting proper information. Once it is legal, he reckons at-home distilling will be no riskier than boiling an egg. But he also likens it to deep-frying a turkey, a dodgy Thanksgiving tradition that can be deadly when things go wrong.

The libertarian lawyers have loftier aims. To them the case is about hacking away at superfluous regulations. Just as whiskey was part of the country's origins story, so too it is "an American tradition to resist the illegitimate exercise of government power", says Dan Greenberg, the hobbyists' lawyer. More freedoms could be a boon to business. Alcohol aficionados trace the surge in craft beer to a 1978 bill that legalised home-brewing. If it goes down smoothly, the Texas ruling could do the same for liquor. Look out for Devils Lake Watermelon Brandy. ■

Intergenerational mobility

Moving on up

WASHINGTON, DC

Class, race and the chances of outgrowing poverty in America

IN LATE-20TH-CENTURY music, the elusiveness of the American Dream is a recurring theme. From Stevie Wonder's ode to a boy "born in hard time Mississippi" in 1973 to Bruce Springsteen's anthems to the working class in factory-shuttered towns in the 1980s, frustration with people's inability to outgrow their circumstances is rife. The timing of the peak of that genre is no coincidence: whereas nearly all American children born in 1940 could still expect to do better than their parents, only two in five could by 1984.

Last week J.D. Vance, who was born that year, reprised the theme as he accepted the Republican Party's nomination for vice-president. He promised "all the forgotten communities in Michigan, Wisconsin, Pennsylvania and Ohio, and every corner of our nation", to be a vice-president "who never forgets where he came from".

A new study by Raj Chetty, of Harvard University, and colleagues provides fresh data on how America's landscape of opportunity has shifted sharply over the past decades. Although at the national level there have been only small declines in mobility, the places and groups that have become more (or less) likely to enable children to rise up have changed a lot. The most striking finding is that, compared with the past, a child's race is now less relevant for predicting their future and their socioeconomic class more so.

The greatest drops in mobility have been not in the places evoked in song, but on the coasts and the Great Plains, which historically provided pathways up (see maps on next page). "Fifteen years ago, the American Dream was alive and well for white children born to low-income parents in much of the North-east and West Coast," says Benjamin Goldman of Cornell University, one of the co-authors. "Now those areas have outcomes on par with Appalachia, the rustbelt and parts of the South-east."

The fact that white children have become more likely to remain in poverty than before, whereas for black children the reverse is true, raises many questions. The finding comes from tracing the trajectories of 57m children born in America between 1978 and 1992 and looking at their out- ▸▸

Class or race?

United States, annual household income gap*, $'000, 2023 prices

*Earnings at age 27

Source: "Changing opportunity: sociological mechanisms underlying growing class gaps and shrinking race gaps in economic mobility", by R. Chetty, W. Dobbie, B. Goldman, S.R. Porter and C.S. Yang, July 2024

comes by the age of 27. "This is really the first look with modern big data into how opportunity can change within a place over time," says Mr Goldman. For children born into high-income families, household income increased for all races between birth cohorts. Yet among those from low-income families, earnings rose for black children and fell for white children.

A black child born to poor parents in 1992 earned $1,400 a year more than one born in 1978. A similar white child earned $2,000 less than one born in 1978. But on average, a poor white child still earned $9,500 more than a poor black child.

Convergence, not equality

This pattern has played out in virtually every county, though with big regional differences. As a result, the earnings gap between rich and poor white children (the "class gap") grew by 27%, whereas the earnings gap between poor white and poor black children (the "race gap") fell by 28% (see chart). The class gap did not meaningfully change for non-white people. This convergence between poor white and poor black children is as much the result of improved mobility for black children as it is of decreased mobility for white ones.

The effects echo in other outcomes too. The gap in early-adulthood mortality between rich and poor white Americans more than doubled between the 1978 and 1992 birth cohorts, while the white-black race gap for the same metric fell by 77%. Other gaps between black and white Americans, from SAT uptake and rates of graduation to rates of marriage and incarceration, have narrowed similarly.

None of this means that race is no longer relevant for Americans' chances in life. Although the reversal of the direction of travel is striking, a young black American born in 1992 to poor parents was still four percentage points more likely to remain in poverty than a poor white peer, down from a 15 percentage-point gap for those born in 1978. And while the near doubling in rates of mortality among young, lower-income white Americans is deeply alarming, mortality rates for their black counterparts have increased too, and they are still (a bit) more likely to die young.

In polarised America, where race remains a divisive topic, some are bound to misappropriate the findings. Anti-woke conservatives will claim that the data show how "white privilege" is a myth and that programmes targeting poor black children should instead invest in poor white ones. Woke warriors will argue that race remains the most important factor holding children back from upward mobility, and so dismiss concerns about left-behind white kids. Both are wrong.

Convergence has not yet brought equality. Despite improvements across America for poor black children, there is still no county where their outcomes match those of poor white ones. Yet the decline of the white working class is steep, and bound to cause grief. Telling a young white man with lower life outcomes than previous generations that he is still doing better than the average black peer is about as useful as telling a young black man that he's doing well "for a black man".

Another possible misconception is that social mobility is a zero-sum game: that poor white children are doing worse because poor black children are doing better. The authors tackle this by showing how in places where black children have done well, white children's outcomes have remained stable; and in places where white children have done particularly poorly, their black peers have also not thrived.

In his previous work Mr Chetty demonstrated just how much a child's chances of outperforming their parents depended on their race and where they grew up. One of the questions the authors were left with was how "sticky" these effects would be over time: could opportunities for the next cohorts of children change within these same places, or were they fixed? The new study's most hopeful finding is that, far from being fixed, opportunities within a place can change significantly and rapidly. Neither history nor place is destiny.

This offers clues for policymakers. Jobs, and their role in ensuring that communities flourish, are at the heart of understanding these big shifts. Children's outcomes are tightly correlated with those of the communities in which they grow up. The narrowing of the race gap and widening of the white class gap, write the authors, "can be explained almost entirely by the sharp fall in employment rates for low-income white parents relative to low-income black and high-income white parents". Growing up in a thriving community is crucial for children's future outcomes—and which communities have been thriving over the past 15 years has changed in a way that relatively disadvantages poor white families. "In the past 15 years, we've seen a decline in conditions in low-income white communities relative to low-income black and high-income white communities," concludes Mr Goldman.

American exceptionalism

Americans love a rags-to-riches story. In his acceptance speech last week, Mr Vance pledged to "make this country a place where every dream...will be possible once again". In his bestselling book "Hillbilly Elegy" he writes that the assumption "that only a truly extraordinary person could have made it to where I am today...I think that theory is a load of bullshit."

But the story of Mr Vance, who grew up in a poor part of the rustbelt, rose to be a venture capitalist and now, at 39, is a potential American president, remains extraordinarily rare. While there has been a reshuffling of opportunities for Americans trying to escape the lowest rung, there has been no progress at all for routes into the upper class. For the vast majority of poor black children, who continue to have a 3% chance of rising from the bottom to the top quintile, and poor white children, whose chances have fallen from 14% to 12%, that door remains firmly shut. ■

Left behind

Household income at age 27 for white children born to low-income parents, $'000, 2023 prices

Source: "Changing opportunity: sociological mechanisms underlying growing class gaps and shrinking race gaps in economic mobility", by R. Chetty et al., July 2024

LEXINGTON

What identity politics will Kamala Harris practise?

The lessons of Barack Obama, Donald Trump, J.D. Vance and Hillary Clinton

WHEN IT COMES to taking advantage of identity in politics, the two most effective American candidates this century have been Barack Obama and Donald Trump. Mr Obama had written the best campaign book ever, "Dreams from My Father", sorting out his own identity. But as a candidate in 2008 he recognised that his identity would speak most eloquently for itself, as would the historic nature of his campaign, implicitly but incandescently illuminating his message of change. By not stressing the obstacles he had to overcome to travel so far as a black man, he made the prospect of his election a compliment not to himself but to America, for overcoming the burden of history. It was maybe the most elegant judo move in American politics, one that turned the weight of racism against itself. "Yes we can," voters found themselves saying along with him. Mr Obama carried 52.9% of the popular vote, still the largest margin of any president since 1988.

Mr Trump's approach has been different, since long before he began spreading suspicions that Mr Obama, with his black skin and strange name, was not born an American. Mr Trump's views of the politics of identity were annealed in the racial and ethnic furnace of New York in the 1970s and 1980s, when a gain for one group was a loss for another. The divisions among categories of people were gaps into which political wedges could be driven. Hence his talk recently of migrants "taking black jobs" and "Hispanic jobs". This approach has never yet won him a majority.

Mr Trump considered diverse contenders as his pick for vice-president, but in the end chose a running-mate who made his name as a tribune of Mr Trump's political base. A Republican senator from Ohio, J.D. Vance is the author of another fine autobiography, "Hillbilly Elegy", in which he too explores his own identity. "I identify with the millions of working-class white Americans of Scotch-Irish descent who have no college degree," he wrote. "Americans call them hillbillies, rednecks or white trash."

Unlike Mr Obama, Mr Vance continued after publication to substantially revise his understanding, or at least his presentation, of his identity. From holding poor white people such as those he called "welfare queens" responsible for their own bad choices, Mr Vance came to view them as victims. As he did in his speech to the Republican National Convention on July 17th, he now blames the "ruling class" for making the bad decisions, condemning those in "the American heartland" to joblessness and addiction. He also no longer emphasises that he and the people with whom he identifies are white. As a candidate he seems to recognise, as Mr Obama did, that his racial identity can announce itself.

But very unlike Mr Obama, Mr Vance appears to be spoiling for a fight over race. "Are you a racist?" he asked, pointing his finger at the viewer in an advertisement during his Senate campaign two years ago. He said "the media calls us racist" for wanting to build a wall along the southern border. "Whatever *they* call us, *we* will put America first," he concluded. This is a politics Mr Obama anticipated but failed to defuse. When he was compelled by a political crisis to tackle race head-on in 2008, he gave a penetrating speech in Philadelphia in which he spoke of the sources of black anger and noted: "And yet, to wish away the resentments of white Americans, to label them as misguided or even racist, without recognising they are grounded in legitimate concerns—this too widens the racial divide and blocks the path to understanding."

That seems like a long time ago. One of the themes of Mr Trump's campaign is that Democrats are enacting policies biased against white people. "I think there is a definite anti-white feeling in this country and that can't be allowed," he told *Time* magazine in April. "There's absolutely a bias against white."

This is the treacherous terrain onto which Vice-President Kamala Harris is stepping as the presumptive Democratic nominee. By virtue of her identity—of several of her identities—she could make history: as the first female president, the first female and black president, the first Indian-American president. But will that make her candidacy the ideal challenge to Mr Trump's, or the ideal foil? Already some Republicans are calling her a "DEI hire", a reference to diversity, equity and inclusion.

Dreams from her mother

Ms Harris's own campaign book, "The Truths We Hold", lacks the searching quality of Mr Obama's or Mr Vance's. In fact, like most campaign books, it is a bit pedestrian. (Published in 2019, it seems preoccupied with explaining, at a moment the Democratic Party was swinging to the left on law enforcement, why she made her career as a prosecutor.) "One of my mother's favourite sayings was, 'Don't let anybody tell you who you are. You tell *them* who you are,'" she writes. But, in her presidential bid and her three years as vice-president, she never really did that.

Ms Harris chose "Pioneer" as her Secret Service code name and, in explaining or defending herself, has at times fallen back on describing her path-breaking and the resistance it can provoke. Such arguments, though fair, are better left to others. As Hillary Clinton showed in 2016, "I'm with her," flattering as it is to a history-making candidate, is the wrong way to say "She's for us."

So far, as the presumptive nominee, Ms Harris has wisely taken a page from Mr Obama and reintroduced herself by emphasising not her identity but her experience as a prosecutor, the issues she is running on and her ambitions for the whole country, rather than any group. Americans may no longer be ripe for Mr Obama's summons to a transcendent unity, but they are clearly uneasy with Mr Trump's zero-sum politics. Maybe a black Indian-American woman, the daughter of immigrants and wife of a white Jew, can affirm instead what voters know from their own lives, that people are too interesting to be reduced to dumb political stereotypes. ■

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How cross-border digital systems can unlock growth in Africa

To foster trade and prosperity, African leaders must ensure that digital innovations are interoperable across the entire continent

More than half of African countries have adopted instant payment systems, driving entrepreneurship, facilitating the distribution of critical government aid and ensuring that healthcare workers in remote regions are paid.

Still, moving money and data across borders remains too slow for Africa to compete effectively in the global economy. Continent-wide interoperability is critical to unlocking inclusive and sustainable growth that will benefit all people.

Payments are one key component that countries are embracing as they bolster their digital public infrastructure (DPI) to help to move money and information at speeds and efficiencies the modern economy demands.

But Africa is particularly primed to benefit from instant, interoperable cross-border transactions. Its leaders have begun calling for a payment system that will span the continent by 2030, an ambitious goal that could enable intra-African trade to grow to as much as 50% of total trade, from 18% at present—if governments can find ways to work towards it together.

"We've only scratched the surface of the immense potential of DPI for Africa," says Paul Basinga, Africa director for the Bill & Melinda Gates Foundation. "African leaders must start by mobilising the political will, technical assistance and funding needed to promote regional co-operation and foster a favourable regulatory environment."

With its large, youthful population, abundant natural resources and fast-growing consumer markets, Africa has great potential to spur growth through faster payments. Trucking, the backbone of the African supply chain, is run predominantly by small enterprises that often wait weeks or months to be paid, creating cashflow problems that reverberate throughout the logistics industry.

Digital innovations offer some relief, including an electronic data platform in Kenya that truckers now use to apply for licences and provide data to banks and law enforcement, and start-ups such as Kobo360, an "Uber-like" logistics service used by long-haul trucking operations in Nigeria.

DPI is also transforming government services, reducing burdens on citizens within and outside their home countries. Rwandans can now apply for passport renewals online, streamlining a process that used to require passport office visits. Additionally, because IDs are connected to property holdings, it is easier for landowners to pay taxes accurately and on time.

> **"African leaders must start by mobilising the political will, technical assistance and funding needed to promote regional co-operation and foster a favourable regulatory environment."**
>
> Paul Basinga, Africa director for the Bill & Melinda Gates Foundation

More work is under way. The Common Market for Eastern and Southern Africa, made up of 21 member states, plans to launch a digital retail payments platform in November. The non-profit AfricaNenda, backed by the Gates Foundation, is seeking to develop instant payment systems in 15 more countries in the next three to five years.

Inclusivity must be at the heart of these efforts. Five African countries still forbid women to open a bank account without a male co-signer.

"DPI can leapfrog systemic barriers and ensure women and other marginalised groups can access a range of services and opportunities, and control their own resources," Mr Basinga says. "Digital systems will only reinforce inequity if they are created in silos and aren't designed to meet the needs of those traditionally left behind."

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The Americas

Cuba

Out of supplies and out of ideas

HAVANA

The government's answer to penury is repression and Russia

CUBANS USED to look back at what Fidel Castro called the "special period" after the end of the Soviet Union and its largesse and think that was as bad as things could get. They were too optimistic. Today officials talk of a "war economy". The consensus on the street in Havana, the capital, is that shortages are worse than in the early 1990s. Cuba produces little in sufficient quantity: not sugar, which it once supplied to the world; not eggs, which it recently imported from Colombia; not milk powder, which it gets from the UN; not power, as worsening blackouts reveal. The government lacks foreign currency for imports. Inflation is rampant; a dollar's worth of Cuban pesos at the official exchange rate is worth seven cents at the unofficial one. The price of a carton of eggs outstrips the monthly minimum wage.

The economic crisis is accelerating two recent trends. First, the communist government is losing control of the country—which is not to say the regime is about to fall. "All of us are here to save the revolution and save socialism," Cuba's president, Miguel Diaz-Canel, said this month. But few believe the ideological rhetoric. The government is unable to provide even the basic *canasta* (basket) of goods for its people, let alone anything else. The result is growing inequality, unrest and emigration. In the two years to the end of 2023 a tenth of the population of 11.2m left. Second, in search of succour the government is moving even closer to China and Russia. These growing economic and security ties come at a time when American officials are worried by those countries' growing influence in Latin America.

Cuban officials like to blame American sanctions for the island's plight. They certainly don't help. After an opening under Barack Obama was not reciprocated by Cuba, Donald Trump tightened sanctions, slashing how much money Cuban Americans could send to relatives. Joe Biden's administration has loosened this, but left almost all Mr Trump's other Cuba measures in place. Adding to the difficulties, Venezuela's collapse in 2014 cut shipments of subsidised fuel to the island, and the pandemic shut off the flow of tourists and their vital foreign exchange.

But the regime's commitment to central planning and state control is the root cause of the woes. For a communist government, not being able to provide for its people is wounding. "The basic stuff is missing and when it comes it is dodgy: eggs without yolks that are yellow," says one woman who asked not to be named. Thanks to the nascent private sector, everything from Lindt chocolate to Philadelphia cheese is available, but at prices far beyond the reach of the vast majority. Because of inflation, officially running at 30%, Cuba is in effect dollarising—but with few dollars. Restaurants in Havana barely disguise their delight at being paid in greenbacks.

Cubans are increasingly restless. Big protests in 2021 were met with stiff prison sentences for over 700 people. Subsequent ones have been smaller and have tended ▸▸

→ ALSO IN THIS SECTION

28 Dollarised economies

not to call for the regime's overthrow. In March some Cubans took to the streets to complain about power cuts, which outside the capital last for hours, and a lack of food. "Fear has started to recede," says Carolina Barrera, an exiled activist.

The official response has been timid and unimaginative. Fidel Castro died in 2016 and his younger brother Raúl is 93 and in poor health. The Communist Party's collective leadership veers between reform and reaction. In 2021 the government allowed private businesses to expand and employ up to 100 people in a limited range of activities. But they find it difficult to get hard currency. The government has recently further restricted their scope and raised taxes on them, says Marta Deus, who runs a food-delivery firm. Business owners have been denied permission to travel abroad; some have been aggressively audited.

Tourism could help, but Cuba faces fierce competition from the likes of the Dominican Republic and Cancún in Mexico, says Omar Everleny, an economist. Tourist arrivals have picked up recently, but remain far lower than the 4m in 2019. Russians, who mill around army-run hotels in Havana, and Latinos tend to spend less than Europeans, or the Americans who flocked there after Mr Obama loosened sanctions. Few Chinese come.

The regime is looking once again to its friends to bail it out. There is talk of Russian investment in sugar production and the pharmaceutical industry. Security ties are growing, too. Last month, Cuba received a visit by Russian ships in Havana for the first time since the full-scale invasion of Ukraine. It is looking at becoming a member of the BRICS, an increasingly China-dominated group of emerging countries. The Centre for Strategic and International Studies, a think-tank in Washington, claims that China is expanding four installations that it may be using to spy on the United States.

The Biden administration has played down concerns over these developments. Cuba's ties with Russia tend to wax and wane. American officials are more worried about Chinese influence in their backyard. And neither country is offering much. Both like to be paid back, which Cuba is not good at. Russia and China appear to be frustrated by the rigid ineptness of a regime that refuses to contemplate even state capitalism on Vietnamese lines. Last year Oleg Deripaska, a Russian oligarch subject to Western sanctions, set up a think-tank in Havana that is said to be promoting his country's model of selling off state-owned enterprises to a small circle.

The United States could do more to offer an alternative to those ties. American officials say they want to. In May the administration changed its rules to allow Cuban businesses access to American digital financial services, including bank accounts. But the underlying problem has long been the Cuban government's mistrust of the private sector. That reflects the unease of some Cubans who see unprecedented wealth in their country, but in a few hands. At night, while many loll idly on the Malecón, Havana's coastal promenade, others park their Teslas in front of clubs and bars. "All the new businesses are linked to the regime," grumbles one woman. In fact, of the more than 11,000 of them, perhaps 5% are, says Ric Herrero of the Cuba Study Group, a pressure group in Washington. That is still a lot.

Many Cubans have long dreamed of the regime's collapse. But that is unlikely, and would bring other problems. The opposition lacks structure, a programme or people, inside or outside, says Carlos Alzugaray, a former Cuban diplomat. "The best chance of change is coming from the current government."

But it is not happening. "We're working with a regime with no plan, no way forward, no way out," says Ricardo Zúñiga, a former American official. "It is enabling not just economic collapse but social collapse too." Emigration is at record highs. "Our neighbourhood is emptying out of young people," says Juneir, who lives in a Havana suburb. "If this country had [land] borders, there would be nobody left." ■

Dollarised economies

Greenback blues

The currency's strength lays bare a lack of competitiveness

CONDITIONS IN ECUADOR'S Andean highlands are ideal for growing roses. The country is one of the world's biggest exporters of them. But having suffered with the pandemic slump and social unrest in 2022, the rose growers now have another problem. After its currency collapsed, in 2000 Ecuador adopted the American dollar instead. With the dollar now strong, Ecuador's roses are losing out in world markets to rivals from Colombia, Ethiopia and Kenya. Thanks to a weakening of Colombia's peso, in 2023 its flower exports were more than 40% higher than before the pandemic, while those from Ecuador had grown by just 12% over the same period.

Like Ecuador, Panama and El Salvador also use the dollar. Exports from all three have been hit recently by the strength of the greenback (see chart), but selectively so. Economic growth in all three countries is projected to fall below the (admittedly modest) Latin American average. There

Via Dollarosa

Goods exports, % change on a year earlier

Source: Haver Analytics

are some other factors, too. Ecuador has suffered a destabilising wave of gang violence. Following protests, Panama's government closed a big copper mine, which has shaved perhaps 1% off its GDP. And unpredictable policymaking in El Salvador under its authoritarian president, Nayib Bukele, has shaken investment. The strong dollar adds to all these difficulties.

Adopting the dollar means renouncing an independent monetary policy and forgoing the option of responding to external shocks by devaluing the currency. Central banks still exist in Ecuador and El Salvador, but they do not control the money supply or set interest rates. Instead, economies have to find other ways in which to be flexible and competitive.

But in Latin America that is rarely the case. Dollarisation encourages greater economic integration with the rest of the world because it cuts the transaction costs involved in trade. But if goods and services are uncompetitive, it is tougher to make the most of potential opportunities. A recent study published in *Applied Economics*, a peer-reviewed journal, found that adopting the dollar had failed to create any major positive trade effects for Latin America.

Strict fiscal policy becomes especially important, because countries cannot print money to cover their budget deficits. But in all the dollarised three, deficits were sizeable last year and public debt looks worryingly high. The IMF is particularly alarmed about El Salvador's fiscal expansion, which it deems "unsustainable".

These difficulties should give pause to Javier Milei, Argentina's president, who campaigned on adopting the dollar and shutting down the central bank. He might argue that by eliminating the fiscal deficit and tearing down controls, he is making Argentina's economy sufficiently flexible to benefit from dollarisation. And it is certainly true that Latin America has abused currency depreciation to cover up policy flaws. But experience shows that far from being a panacea, to dollarise can create a rod for one's own back. ■

Asia

Japanese defence

Warrior Japan?

SENDAI, TOKYO AND YOKOSUKA

Extra spending is transforming the armed forces. Not everyone is on board

IMAGINE A WEEKEND outing for a Japanese family, and a tour of a warship may not come to mind. Yet thousands came to see the *Ise*, a light aircraft-carrier, when it moored off Sendai, on Japan's north-east coast, earlier this month. Children scrambled around a helicopter on the deck. Enthusiasts snapped photos of anti-aircraft turrets. Many expressed gratitude for the Self-Defence Forces (SDF), as Japan's armed forces are called. "The SDF protects us. It's a wonderful thing," gushed Yamazaki Saori, who took her daughter. "Japan is facing so many threats."

Such events reflect how much has changed in Japan, which has had a fraught relationship with military power since its defeat in the second world war. Through much of the post-war period Japan preferred to focus on economic development and leave security to America, its main ally. In recent decades China's rise, North Korea's acquisition of nuclear weapons and America's unreliability changed that calculus; Russia's invasion of Ukraine in 2022 dispelled any remaining illusions that peace can be taken for granted. As Ishiyama Shuichi, an SDF veteran who visited the *Ise*, put it, "People no longer have *heiwa bokeh*," a phrase meaning "the peace blur" (or, if used derisively, "peace senility").

That clarity has helped shape Japan's security policy. In late 2022 Kishida Fumio, Japan's prime minister, unveiled reforms that build on the efforts of his predecessors, Abe Shinzo and Suga Yoshihide, to strengthen Japan's defences and build more credible deterrence. Though lacking a handy catchphrase like Germany's *Zeitenwende*, the Japanese plans are no less historic. The government pledged to raise spending on national security to 2% of GDP by 2027, an increase of more than 60% from 2022; to acquire long-range missiles that allow the SDF to strike beyond its borders; and to make the SDF combat-ready.

A stronger Japan would have big implications for the balance of power in the Indo-Pacific. If it follows through on its stated plans, it could become the world's third-largest defence spender, up from tenth in 2022. No wonder, then, that America is thrilled. When the two countries' defence and foreign-affairs ministers meet in Tokyo for a "2+2" meeting later this month, Japan's security surge will be front of mind. ▸▸

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But how ready is Japan to become a warrior nation? The defence budget grew by 27% in 2023 and will rise by another 17% in 2024, reaching ¥8trn ($51bn) in current prices, the largest in the history of the SDF; between 2013 and 2022 it grew by an average of 1% annually, after accounting for inflation (see chart). Hundreds of missiles are due to be delivered next year; the SDF's command-and-control structures are being updated. Yet constraints remain. Japan's defence industry is stunted; its currency is weak; its youngsters have little interest in joining the SDF; and public support for hard power still has limits.

To understand where Japan's armed forces are heading, consider first where the SDF began. The country's post-war constitution, drafted under American occupation, was designed to demilitarise Japan. When the Korean war broke out in 1950 the Japanese government, with America's backing, set up an armed police that eventually became the SDF. For decades politicians kept the SDF's growth to a minimum. An informal cap on defence spending of around 1% of GNP went into effect in 1976. As the memory of the war receded and new threats emerged, the SDF's public image evolved. Disaster-relief efforts after big earthquakes in 1995 and 2011 helped make the SDF one of Japan's most trusted institutions: more than 90% of Japanese have a positive impression of it.

On the defensive

Japan, defence budget, % change on a year earlier

Source: Ministry of Defence

Bulking up

Yet a more muscular Japan remained a tricky proposition until recently. In 2015, when Abe pushed to reinterpret the constitution to allow Japan to defend allies beyond its own borders, tens of thousands gathered for raucous protests. (Abe's policies still passed.) Since the war in Ukraine, opposition has faded. The public has got used to the idea of stronger armed forces, reckons Ushida Yoshimasa, who helped lead the protests a decade ago. When Mr Kishida unveiled his defence policies, protests were muted.

Bigger budgets and a more supportive public have made it possible for the SDF to undertake long-discussed reforms. The command structure is being reorganised in order to create smoother co-ordination between different services and America. In the past the SDF chief had to act as both a military adviser to political leaders and an operational commander, and to liaise with multiple counterparts in America, explains Kawano Katsutoshi, who held the job from 2014 to 2019. A joint-operations command will be launched by early next year and will take on the operational responsibilities of war planning and conducting exercises. The move has also prompted America to revise its own outdated command-and-control architecture.

Long-range missiles were taboo under Japan's doctrine of *senshu boei*, or exclusive defence, which held that the SDF should possess only the minimal force necessary to repel an invasion of Japan. These days the SDF is rushing to acquire 400 Tomahawk missiles from America, which have a range of some 1,600km. At a recent training session on an American base in Yokosuka, south of Tokyo, Japanese officers inquired about setting missile flight-paths in a contested environment, of the sort they might face in a conflict with China.

Areas that have suffered from chronic underinvestment, but which would be essential for sustaining combat, are also getting overdue attention. The maintenance budget has doubled since 2022, allowing the SDF to utilise its existing ships and planes better (only around half of its assets were estimated to be operational in 2022). Outlays on ammunition have tripled. Contracts have been signed to repair more than 20,000 facilities across the country. Living quarters are getting long-neglected upgrades: barracks will finally be equipped with Wi-Fi and old squat toilets will be replaced with the electronic bidet-toilets that are standard across most of Japan.

While such steps are welcome, they also indicate how far Japan has to go. And major obstacles remain on the road ahead. One set is financial. In 2022 planners assumed an exchange rate of ¥108 to the dollar; it is now around ¥160. Even domestically produced systems rely on imported components, meaning that the new budget will not go as far as hoped. The government has also dawdled on planned rises in income, corporate and cigarette taxes, posing questions about the sustainability of the higher defence budgets. Although most Japanese support spending more on security, they are less keen to pay for it through taxes.

Building and operating new kit poses another challenge. Japan's defence industry has been stunted by long-standing restrictions on arms exports. The government has begun to loosen these, and is pushing for greater collaboration with allies. But ramping up production will take time. The government has made no guarantees that the spending levels will be sustained beyond 2027, leaving executives uncertain about investing in expanded production lines. In an ageing, shrinking Japan, manpower is also in short supply.

The SDF is also short of people. "There have been improvements in terms of hardware, but I'm more worried about the software, the fighting posture," says Mr Kawano. Though many respect the SDF, relatively few people are ready to join. In global surveys Japan ranks last in terms of the share of the population willing to fight for their country, with just 9% answering in the affirmative. Last year the SDF missed its recruiting target by half.

Nor does widespread respect for the SDF or concern about aggressive neighbours translate into eagerness to completely abandon Japan's post-war peace-loving identity. Even those who came to see the *Ise* have reservations. "I think the SDF is a safety net—it's the last resort," says Ms Yamazaki's daughter, Kurumi. Many in Japan still remember where an excess of warrior spirit can lead. ■

Cross-strait relations

Pomp and preparation

HUALIEN

Taiwan is beefing up its military exercises to counter China

THE ANNUAL Han Kuang exercises are Taiwan's biggest military drills, focused on countering Chinese invasion. They have also been criticised as being largely a public-relations exercise. In the past Taiwanese special forces and marines would don red hats that marked them as Chinese invaders, then act out attempted beach landings or airport takeovers. Announcers would narrate how Taiwan's armed forces had repelled them live on television, as the president watched in approval. It was a good show, but poor practice for war. Last year a woman was filmed sunbathing in a bikini on the same beach where Taiwan's army and navy were enacting a Chinese amphibious landing.

This year was meant to be different. Last month Wellington Koo, the defence minister, and Mei Chia-shu, chief of the general staff, announced that the exercises, which were due to take place from July 22nd to 26th, would be unscripted. The flashy firepower displays usually performed for president and press would be cancelled. So would the role-playing segment. Instead of acting as imaginary enemies, the special forces would "return to ▸▸

Combat or cosplay?

their original roles" of practising defending Taiwan, said Mr Mei. For a change, soldiers would respond to surprise scenarios.

The changes to the Han Kuang exercises come on the back of increasing pressure from China, which has condemned Lai Ching-te, Taiwan's new president, as a "separatist". China is also ramping up its grey-zone pressures (aggression that falls short of acts of war) in the Taiwan Strait. Meanwhile, Donald Trump, America's Republican candidate for president, has suggested that he might not defend Taiwan if China attacked it.

All this means that public morale is also low. Polls suggest that nearly half of the Taiwanese have no confidence in their armed forces' capacity to protect them from Chinese invasion. Taiwanese volunteers returning from the battlefield in Ukraine have criticised their own country's military training as inept.

Mr Koo is trying to change this. He headed Taiwan's national security council under the former president, Tsai Ing-wen. She had launched an overhaul of Taiwan's defences: extending conscription, nearly doubling Taiwan's defence budget, expanding domestic arms production and increasing training with America. Since becoming defence minister in May, Mr Koo has reduced the ceremonial aspects of Taiwan's military training.

Even so, an incoming typhoon led to most of the exercises being cancelled this year, and the event being called off a day early. Mr Lai still supervised some disaster-relief drills. And some live-fire scenarios still took place on outlying islands, with narrators encouraging viewers sheltering from the typhoon at home to tune in. "Every drop of sweat in these exercises is a badge of honour for defending the homeland," one said. Han Kuang may be less scripted. But it is still a show. ■

India's budget

Jobs and pork-barrel politics

DELHI

The prime minister has to compromise

NARENDRA MODI, India's prime minister, was brimming with confidence when his government unveiled an interim budget in February. With a general election a few weeks away, his ruling Bharatiya Janata Party (BJP) was widely expected to retain, and possibly expand, its majority in parliament. Such was his sureness of victory that the mini-budget contained few of the welfare handouts and other sops that often precede Indian elections. It focused instead on trimming the fiscal deficit, improving infrastructure and other measures aimed at a long-term goal to make India a developed country by 2047, the centenary of its independence.

A new political reality infused the full budget, unveiled on July 23rd. It was the first since the election result in June, when the BJP lost its majority, forcing it to rely on coalition partners to form a government. That unexpected shift in India's political landscape—attributed largely to public anger over inflation and inequality—was evident in the budget in several ways.

One of the headline figures was $24bn of new spending on job creation over the next five years. This includes a plan to incentivise hiring in the formal sector by contributing to employees' first month's wages and reimbursing some of employers' social-security contributions. It also includes new training programmes for women. Borrowing from the manifesto of the BJP's main rival, the Congress party, the budget also proposed a scheme to provide internships at top Indian companies for 10m young people.

The focus on jobs suggests that Mr Modi is trying to adjust course without abandoning the core tenets of his programme. He has long trumpeted India's status as the world's fastest-growing major economy and dismissed critics' allegations of "jobless growth". But the government's chief economic adviser, V. Anantha Nageswaran, set the stage for the budget a day earlier. He thinks India needs to create 8m non-farm jobs annually until 2036. He also makes the case for seeking more investments from China to boost manufacturing.

Agriculture, which employs about 45% of India's 565m-strong workforce, was the other big focus of the budget. It promised to spend $18bn on that and related sectors this year. Plans included one to expand digital public infrastructure to link farmers with digital land records and crop surveys, and to give them better access to information such as market prices. The government also pledged to introduce high-yielding and climate-friendly crop varieties.

As expected, among the biggest winners from the budget were the BJP's main coalition partners. The second-biggest party in his alliance is the Telugu Desam Party, which is based in the southern state of Andhra Pradesh and won a landslide victory in a state election there in June. The budget did not grant its request for "special-category status" (whereby Andhra would get more central funding annually) but it promised $1.8bn this year, and more in the future, for plans that include a new state capital and a huge hydroelectric irrigation project.

Nitish Kumar, the veteran chief minister of the eastern state of Bihar (India's poorest), got his pound of flesh too. His Janata Dal (United) party is now the third- ▸▸

Mumbai: a tale of two cities

biggest in the ruling coalition and had lobbied hard for special-category status in recent weeks. The Indian government resisted, promising instead to provide $3.1bn of funding for roads in the state and to help finance the construction of airports, medical colleges, sports facilities and tourist infrastructure for religious sites.

Luckily for Mr Modi, he can afford such largesse thanks to an increase in tax receipts and a windfall from the central bank. In fact, the budget lowered the fiscal-deficit target to 4.9% of GDP from the 5.1% mentioned in the interim plan in February. That bodes well for a long-hoped-for upgrade in India's credit rating, which would ease borrowing costs. Nor did Mr Modi have to water down his ambitious infrastructure plans: the budget retained a commitment made in February to increase overall annual capital expenditure to $133bn, the equivalent of 3.4% of GDP.

Even so, the budget required trade-offs that Mr Modi is unaccustomed to making. By committing so much of his infrastructure spending to Andhra and Bihar, he risks irking allies and voters in other states. And his new splurge on job creation and agriculture comes partly at the expense of wealthier Indians, who have benefited from a recent boom in India's stockmarket. They were hit by an increase in taxes on capital gains and some securities transactions. But the biggest risk of all is that his plans fail to create the jobs he has promised in the years ahead. ■

BANYAN

Rotting from the head

Sheikh Hasina faces her biggest crisis in years

THE FEROCITY of the crisis this month in Bangladesh is unprecedented during the rule of Sheikh Hasina, the country's ever-more-authoritarian prime minister. It was triggered when university students came out in protest against a jobs quota in the civil service. They clashed with police and the ruling party's thuggish student wing and seized control of the streets of the teeming capital, Dhaka. They also stormed the state broadcaster, while violence spread to nearly half the country's 64 districts. In response, the government sent in armed troops and, from July 20th, imposed a nationwide curfew enforced by a shoot-to-kill order. It also shut down internet services, cutting off a country of 171m from the world and from itself until a partial restoration on July 23rd.

By then, the draconian moves had restored a semblance of calm to Dhaka. For two (then seven) hours each day, residents could emerge to run essential errands. Yet the past few days have left nearly 200 protesters and bystanders dead (possibly more) and thousands injured, for which many Bangladeshis want an accounting that Sheikh Hasina is in no mood to give. It is her biggest test in 15 years of uninterrupted rule.

The authorities have charged at least 61,000 people over the recent days' violence, including many from a beleaguered opposition that Sheikh Hasina has always blamed for everything that goes wrong in the country. Even as the clampdowns on communications and movement threaten the economy, the prime minister only calls angrily for retribution against the "criminals" behind the protests. But her vengeful and uncompromising reaction to the crisis misjudges the mood among a large segment of the population—and her own hold on reality and power.

The grievance that brought the students to the streets came in June, when the High Court ordered the government to restore a long-dropped quota setting aside 30% of jobs in government for family members of veterans who had fought in the country's bloody war of independence from Pakistan in 1971. This is a particularly egregious example of jobs for the boys: consider that the roots of the ruling party, the Awami League (AL), are in the independence movement and that Sheikh Hasina makes much of being the daughter of Sheikh Mujibur Rahman, who headed the movement and was the new country's leader until his assassination in 1975.

This means that the quota is tailored to benefit AL members. Two-fifths of young Bangladeshis do not have regular employment, so it hit a nerve. Around 400,000 graduates already have to compete every year for just 3,000 government jobs in a precarious employment market.

At least the government had the good sense to hurriedly ask the country's top court to overrule the lower one. On July 21st the Supreme Court cut the quota to 5%. Yet students' grievances are about much more than the quota system. Nearly every job opportunity for an educated young Bangladeshi, from primary-school teacher to policeman to management trainee, runs through the AL. Meanwhile, at universities and on the streets the AL's student wing, the Bangladesh Chhatra League, acts as a murderous vigilante force. On campus it controls not just student politics but even the distribution of scarce rooms for undergraduates. It is deeply despised. Calls for it to be disbanded will not go away.

Neither will growing questions about the durability of Sheikh Hasina's regime. During the past 15 years she has fostered big infrastructure development, but she has faced accusations of rigging elections, undermining state institutions and presiding over rampant corruption among the AL and its business cronies. Now her response to those who voice any criticism of her rule is to accuse them of being "Razakars"—collaborators with Pakistan's army of occupation in 1971. That suggests how unmoored from reality the 76-year-old prime minister has become. Even allies concede in private that she is making mistakes. Yet no minister dares to point that out to her.

All this means that the decay emanating from the ruling party is growing as pungent as the stench of tear gas and burning vehicles that wreathed the streets. The AL will probably survive for now, even as reports of government-affiliated violence grow. But the crisis, says one insider, has deterred a whole young generation of potential politicians from serving their country so long as the party is in power. The longer-term repercussions of the crisis for the AL and for Sheikh Hasina may prove calamitous.

China

China's economy

An ample supply of promises

The party tweaks its economic vision

ONLY 205 OF the Chinese Communist Party's 99m members serve as full members of its Central Committee. Reaching such giddy heights (the top 0.0002%) is not always a privilege. Of late for example, it has meant spending four days in July closeted in a Beijing hotel poring over an epic resolution on "Further Deepening Reform Comprehensively to Advance Chinese Modernisation".

Known as the "third plenum", this was one of seven plenary meetings that punctuate a Central Committee's five-year term. By tradition, the third has been used to approve big economic-policy shifts. Many analysts argue another rethink is long overdue. Xi Jinping, China's ruler since 2012, once promised to give markets a "decisive" role in the allocation of resources. But he has since lost the confidence of private enterprise. And the economy is struggling to wean itself off decades of investment in property and infrastructure.

Data released on July 15th showed flagging growth, slowing retail sales, persistent deflation and no recovery in homebuilding. Many economists believe China's leadership is preoccupied with the "supply side" of the economy—cultivating the technologies, kit and skills that enable China to produce things—but has not done enough to revive the "demand side". It has failed to restore the confidence of entrepreneurs, or to give households the means and motivation to buy things.

Did this third plenum respond to these concerns? The answer is a heavily qualified yes. It was closed to outsiders, but on July 21st published a resolution, open to all with the fortitude to wade through over 22,000 characters of partyspeak (more than 17,000 words in English). This suggests that China's leaders remain obsessed with technology. But they may also be a little more attentive to household demand.

Of its 60 sections, three are devoted to innovation, including one on "talent". A fourth discusses "new productive forces", the economic buzzword of the past ten months, which refers to technology-driven leaps in productivity.

This emphasis reflects Mr Xi's belief that the world is in the midst of a scientific revolution that China should lead. But it also betrays Mr Xi's siege mentality. He is determined to break America's stranglehold on key technological inputs, such as high-end semiconductors. In 2013 the plenum resolution allocated three sections to national security and military reform. This one devotes seven, including a commitment to counter foreign sanctions.

The biggest internal threat to China's economy is its property slump. The resolution said little about housing directly. But it did tackle one of the side-effects of the slump: how hard it is for local governments to raise revenue by selling land. In response, the central government will take on a greater share of public spending and refrain from imposing new obligations on local governments without matching resources. It will give them a portion of the money raised by China's consumption tax on luxuries and indulgences. It will also explore combining three local levies into a ▸▸

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single tax and giving local governments some leeway to set the rate.

What about the neglected demand side of China's economy? Many policies and aspirations mentioned in the resolution could in principle boost consumption. It repeated a long-standing pledge to raise household income as a share of GDP, and promised subsidies for childbearing. It will consider allowing debtors to declare personal bankruptcy. It will increase pensions "gradually" and welfare spending "within our means". Migrants from the countryside will have easier access to pensions, housing and education in the cities where they work. The resolution also recognised that many migrant workers will not settle in cities if that means forfeiting their claims on collectively owned land in their home villages. So ways in which people could sell or lease out these claims will be explored.

Will all this translate into effective reform? The party's record is one of slow progress. Government spending on social security, health and employment has increased gradually from 3% of GDP in 2008 to almost 5% in 2023. And household income has risen from 59% of GDP in 2008 to 66% in 2021 by one measure. China's leaders may be starting to accept the urgency of lifting demand. At the close of the plenum, the party said it remains committed to its growth target for this year. And in the days after the plenum, the central bank unexpectedly cut interest rates (see chart).

The resolution also offered reassurance for private entrepreneurs shaken by recent regulatory crackdowns. E-commerce and other internet firms, which suffered a blizzard of fines, bans and restrictions in 2021, can now look forward to more "routine" regulation, it said. It mentioned a private-sector promotion law and even promised to redress "wrongly adjudicated cases". But businesses have learnt not to take promises at face value. The party's attitude toward free markets remains conflicted. This ambivalence was captured well by new language in the resolution about "letting go" to invigorate market forces, while "managing well" to keep market order.

The plenum made clear that China's "modernisation" will be of a style of its own. China is so vast and varied that no other country offers a convincing model, *Qiushi*, a party journal, argued this month. As a reminder of China's idiosyncrasies, it invoked an old saying: south of the Huai river, oranges are sweet; north of the river, they are bitter.

Official lore is that China's economic exceptionalism is rooted chiefly in the size of its population and the dominance of the party. Outsiders point to other distinctive features such as inhibited consumption and insecure private enterprise. The reforms outlined at the plenum could eventually encourage freer household spending. But the party's ambivalence towards the market persists. For China's communist leaders, the fruits of private enterprise will always be bittersweet. ■

Slowly losing interest

China, interest rates, %

Sources: People's Bank of China; Haver Analytics

The press in Hong Kong

The state of the union

HONG KONG

The noose around the press tightens

THE FIRST press conference Selina Cheng gave as chair of the Hong Kong Journalists Association (HKJA), a trade union, on July 17th, was her last as a reporter for the *Wall Street Journal*. Ms Cheng says that, shortly after she was appointed, her supervisors at the newspaper ordered her to withdraw, because the two roles were "incompatible" (though her beat was the car industry, not politics), and that when she declined she was fired.

Dow Jones, the *Journal*'s parent company, says her firing was part of a broader restructuring. And elsewhere in the world it campaigns fiercely for press freedom, notably in its agitation for the release of its reporter, Evan Gershkovich, an American recently sentenced to 16 years in a Russian jail on bogus spying charges. But many journalists in Hong Kong believe that Ms Cheng's dismissal was linked to her role at the HKJA. Two other reporters withdrew bids to join its board around the same time; they did not say whether they had faced institutional pressure.

The HKJA is a small, punchy union that stands up for reporters in trouble and is given to issuing statements on press freedom in the city. It is not a hive of radical activism. But since the government began a crackdown on dissent in 2020, the HKJA, unlike the Foreign Correspondents' Club, which in 2022 ditched its annual human-rights press awards, has not made conciliatory gestures. It is not just journalists who have had to adapt: dozens of trade unions have disbanded, and the Hong Kong Bar Association has changed leaders.

As a result, officials and Chinese state media have claimed that the HKJA is a "base for anti-China separatist forces...a malignant tumour that harms the city's safety and stability"—offences punishable by imprisonment. The press it represents is itself vulnerable. *Apple Daily*, a pro-democracy tabloid, was closed down and its proprietor is behind bars. So far no HKJA members have been arrested for association with the union. But some say they have faced smear campaigns. Joining the HKJA is seen as entailing some risk to both journalists and their employers.

The furore over Ms Cheng exemplifies the difficulties journalists face in the city. It ranked 135th out of 180 jurisdictions in the latest World Press Freedom Index by Reporters Without Borders—down from 18th in its first report in 2002. Still far freer than the mainland's, Hong Kong's once-lively press has been muzzled by the revival of the colonial-era charge of sedition and two national-security laws. The second of these, known as Article 23, was introduced in March, and has not been used against journalists yet. But both are vague, probably by design: the idea is the press should err on the side of caution rather than risk crossing a blurry line.

The worry is that, if even the most powerful global media companies fear being tainted by mere association with press unions, a culture of self-censorship will prevail. Those laws might rarely even need to be invoked. At odds with the authorities since the crackdown, the HKJA and similarly minded groups may end up silenced by pressure from their own members. ■

Making the news

The summer issue

Dive deeper online

Discover more in our digital edition next week

We hope you are enjoying this week's special summer issue, which includes a supplement from *1843 magazine*.

There is no print edition next week, but we will continue to publish content daily, plus a full, digital edition on Thursday, August 1st, on our website and app.

Explore our digital-only coverage

economist.com/summer-reads

The Economist

CHAGUAN
The nationalism of ideas

Xi Jinping wants Chinese systems of knowledge, free of Western values

IN BEIJING A quarter-century ago, Chaguan witnessed a rare event: a criminal court finding a defendant not guilty. Back then, over 90% of Chinese criminal trials ended in convictions. This time the accused—an alleged armed robber—walked free. A lack of hard evidence and his refusal to answer police questions proved decisive. So did his defence lawyer's plea that it is better to acquit a guilty man than to risk the "horror" of jailing an innocent.

Alas, that hearing in October 1998 set no precedents. A mock trial, it was staged by the British government, which flew in a wig-wearing judge and lawyers and built a replica Crown Court in a Beijing hotel. The host was Cherie Booth, a barrister whose husband, Tony Blair, was on a prime-ministerial visit to China. Chinese legal scholars served as jurors. Your columnist, then a cub reporter on a first posting to Beijing, surveyed Chinese spectators and heard diverse views. "In our country, the criminal answers questions," growled a police-academy instructor. "It is his duty."

In those heady days China's one-party state, though hardly liberal, welcomed debate with the world. To build a Chinese version of capitalism and attract foreign investors, Communist Party leaders of the 1980s and 1990s pledged to create an economy "ruled by law". Chinese academics translated Western textbooks on everything from constitutional law to corporate bankruptcies, the regulation of monopolies and monetary policy. Universities and government research institutes filled with visiting Western scholars and experts. Young Chinese students and officials flocked to study in America, Britain and beyond.

Today, the intellectual currents are flowing the other way. Xi Jinping, China's supreme leader, has called on scholars to create an "independent Chinese system of knowledge", combining China's traditional values with Marxist teachings and present-day party dogma. Mr Xi's call to arms goes beyond long-standing official campaigns to push back whenever foreigners question the wisdom or benevolence of Chinese policies and actions. Rather, scholars are urged to avoid the supposed trap of engaging with Westerners who presume to judge China on the basis of foreign norms. From now on, it is declared, a self-confident China should defend itself with home-grown theories and measures of success. Scholars of economics, history, the law and political science—many of them Western-trained—are rising to the challenge.

On the face of it, arguments about how to study and understand China's economy sound technical. Yao Yang, a development economist at Peking University, charges that "most economic research in China is useless" because academics choose topics that appeal to foreign economic journals, but are a poor fit with conditions on the ground in China. Whether the subject is local-government debt, industrial policy, innovation or demography, Professor Yao—who earned his PhD at the University of Wisconsin-Madison—says that researchers who apply "standard" (ie, Western) macroeconomic models to China "can't understand China". He offers examples. Many foreigners assert that the ageing and shrinking of China's workforce will doom its economy. In fact, he says, Chinese experts believe that this will be offset by labour saved by automation and AI.

Yet this is more than a dispute about models. It is also a fight about values. By way of example, Professor Yao cites studies that attribute successful careers in Chinese business or officialdom to the power of personal connections. "That's not the whole picture," says the professor. He insists that Chinese officialdom is also, even mostly, a meritocracy. He accuses scholars who play down official merit of wanting to prove that China's "system is corrupt". He is no anti-Western firebrand. But he does believe that too many Western scholars are waiting, in vain, for China's economy to collapse because of its political system. In contrast, he says that developing countries know they have much to learn from China's "rich experience" of state guidance in the economy.

In the realm of justice, the days are long gone when Chinese prosecutors sought out Western counterparts to discuss foreign notions of due process, or scholars debated how national constitutions might be used to check or balance state power. In 2018 Mr Xi declared flatly that China must never adopt "constitutionalism", judicial independence or other dangerous Western ideas.

In the 1990s and early 2000s some in China "worshipped" the rule of law in the West, says Tian Feilong, a law professor at the Minzu University of China and an influential advocate of imposing stern, "patriotic" systems of government and law on Hong Kong. But in time, he avers, Chinese scholars came to realise that Western conceptions of the rule of law could not "effectively explain" why Communist Party rule is legitimate. Nor could Western liberal theories explain why the party needs to guide the market as China's economy grows. Because Western theories did not bless China's practice, Chinese theories were needed. Today, growing pressure from America only reinforces the need for a legal system that reflects China's "civilisation, history and political traditions".

No need now to listen to Western critics

Asked if today's China still sets store by any legal principles that the West calls universal, Professor Tian replies yes, with a large caveat. In his telling, China puts peaceful development and the collective interest, public order, social harmony and national security above individual rights. Now China stands ready to share that wisdom. Professor Tian proudly asserts that governments from across the global south are sending delegations to study China's "dignified and efficient" governance under a "strong ruling party". He hopes the West learns to respect Chinese ways, one day.

Meanwhile, China's criminal conviction rate has hit 99.95%. Foreigners with opinions about that are welcome to keep quiet. ■

Middle East & Africa

Digital Africa

The AI revolution is leaving Africa behind

LAGOS AND RABAT

Large infrastructure gaps are creating a new digital division

TWO DECADES ago a digital revolution transformed the lives and livelihoods of millions of people as mobile phones swept across sub-Saharan Africa. A region where a tiny fraction of the population had landline phones or bank accounts was able to leapfrog old telephone monopolies and infrastructure. Mobile phones allowed farmers to get advice on pests and the weather, and the unbanked to send and receive mobile money. Now artificial intelligence (AI) promises to be an even more powerful force for boosting productivity and helping poorer countries overcome shortages of skilled teachers and doctors. Yet where opportunity beckons, Africa is being left behind.

PWC, a professional-services firm, reckons that AI could add almost $16trn to global economic output by around 2030 (compared with 2017). McKinsey, a consulting firm, separately arrived at a similar figure, but now reckons this could rise by another 15-40% because of newer forms of AI such as large learning models. Yet Africa, which has around 17% of the world's population, looks likely to get a boost from AI in its annual GDP of just $400m by 2030, or 2.5% of the total, because it lacks digital infrastructure. As a result, instead of helping to narrow the productivity and income gap between Africa and richer countries, AI seems set to widen it.

Take Nigeria, a regional tech hub whose average download speed of wired internet is a tenth of Denmark's. Most broadband users in Africa's most populous country are limited to mobile internet, which is slower still. A growing number of underwater cables connect the continent with the wider world, with more to come. These include Meta's 2Africa, the world's longest undersea connection. But a dearth of onshore lines to carry data inland will leave much of that capacity wasted.

In some ways Africa's weak digital infrastructure is explained by the success of its mobile revolution, whereby privately owned telcos entered newly liberalised markets, disrupting and displacing the incumbent operators. These not-so-new firms are still growing rapidly—the 15 main ones have averaged 29% revenue growth over the past five years. But their jump over landlines is coming back to bite them. In much of the rich world, the basic infrastructure of telephones—junction boxes and telephone poles or underground cable conduits—have been repurposed to provide fast fibre-optic broadband. Yet Africa is often starting from scratch.

The lack of connectivity is compounded by a shortage of the heavy-duty data centres needed to crunch the masses of data required to train large language models and run the AI-powered applications that could boost Africa's economic growth. These days much of the content and processing needed to keep websites and programmes running is held in the cloud, which is made up of thousands of processors in physical data centres. Yet Africa has far fewer of these than any other major continent (see map on next page).

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Without nearby data centres, bits and bytes have to make long round-trips to centres in cities such as Marseille or Amsterdam for processing, leading to lagging applications and frustrating efforts to stream high-definition films. Yet the closer data are to users, the faster they can reach them: films can zip across to viewers from one of Netflix's African servers more quickly than you can say "Bridgerton". The more cable landings and more local data centres there are on the continent, the more resilient its network is if undersea cables are damaged, as happened earlier this year when internet access was disrupted across much of west Africa.

All these new data centres will require more energy as they grow. AI, which involves complex calculations that need even more computing power, will further raise demand. A rack of servers needed for AI can use up to 14 times more electricity than a rack of normal servers. They also need industrial air-conditioning, which guzzles massive amounts of power and water—even more so in ever-hotter climates.

Yet Africa is so short of electricity that some 600m of its people have no power. In Nigeria, which suffers 4,600 hours of blackouts a year, data centres are forced to provide their own natural gas-powered generating plants to keep the lights on and the servers humming. Though many centres across the continent are turning to renewables, wind and solar are too erratic to do the job continuously.

Edge computing, where more data is processed on the user's device, is promoted as a way to bring AI-powered tech to more Africans. But it relies on the presence of many smaller and less energy-efficient data centres, and on users having smartphones powerful enough to handle the calculations. Though around half of mobile phones in Africa are now smartphones, most are cheap devices that lack the processing power for edge computing.

In 18 of the 41 African countries surveyed by the International Telecommunication Union, a minimal mobile-data package costs more than 5% of average incomes, making them unaffordable for many. This may explain why almost six in ten Africans lack a mobile phone, and why it is not profitable for telcos to build phone towers in many rural areas. "Approximately 60% of our population, representing about 560m people, have access to a 4G or a 3G signal next to their doorstep, and they've never gone online," says Angela Wamola of GSMA, an advocacy group for mobile operators. Every next yet-to-be-connected African is more expensive to reach than the last, and brings fewer returns, too. And new phone towers in remote areas, which typically cost $150,000 each, still need costly cables to "backhaul" data.

Part of the solution to Africa's connectivity problem may be partnerships between mobile-phone operators and development institutions. Existing telcos know the terrain and the politics that can make laying cables a delicate task. International tech firms such as Google or Microsoft are well placed to take on more risk by laying their own cables and building data centres. Equipment-providers and other multinationals can fill skill gaps.

China's Huawei, for example, is building 70% of Africa's 4G networks. Startups using cheaper technologies are exploring how to help far-flung communities get connected. Africa's connectivity mix will probably be as diverse as its people, including everything from satellites that can be put up by firms like Starlink to reach rural areas, to improved 4G networks in medium-sized cities.

Some foreign firms are investing in data centres in Kenya and Nigeria, but not enough of them. There is also some experimenting with how to power them. Kenya's Ecocloud Data Centre, for example, will be the continent's first to be fully run on geothermal energy, a stable source of renewable power. Since Kenya's grid has plenty more green energy available, it is an attractive place to build more data centres.

But given how many power sources your correspondent switched between to write this article, and how many patchy internet connections interrupted her work, much still needs to be done to improve infrastructure. That is even truer if Africa's animators, weather forecasters, quantum physicists and computer scientists are to fulfil their potential. Even small-scale farming, which provides a living for more than half the continent's people, stands to benefit from improved access to AI.

Frustratingly, the case for improving Africa's digital infrastructure is not new. "Gosh! I can't believe, 15 years later, we're still having this conversation," says Funke Opeke, whose firm, MainOne, built Nigeria's first privately owned submarine cable in 2010. Unless big investments are made soon, the same conversation may be taking place another 15 years on. ■

Does not compute

Number of data centres, July 24th 2024

Source: Data Center Map

Conflict in central Africa

Congo's war intensifies

KINSHASA

Rwandan soldiers may be outnumbering the rebels they back in Congo

IN JANUARY AT least 1,000 Rwandan troops crossed into eastern Congo, prompting a huge expansion of the territory under the control of the M23 rebel group. Rwanda's support for the Tutsi-led militia in the three-year conflict has never been much in doubt: drone images have long shown its soldiers infiltrating the border, and suspiciously advanced weapons have turned up on the battlefield. Rwanda's government, which previously denied supporting M23, now neither confirms nor denies the presence of its troops in Congo. But a new report by UN experts, circulated this month, suggests that the scale of Rwanda's intervention is far larger than previously acknowledged.

Some 3,000-4,000 Rwandan soldiers—a "conservative estimate" by the UN experts—are deployed in Congo's North Kivu province, according to the report. If so, Rwanda may have even more boots on the ground than M23, which is thought to command around 3,000 fighters.

Further complicating matters is the involvement of Uganda, which is also quietly backing M23, the report argues. That country has a long history of intervention in its larger neighbour. Even now, it has an official military presence in Congo to fight the Allied Democratic Forces (ADF), Islamic State's affiliate in central Africa. Yet unofficially Uganda's army and intelligence officers maintain close links to M23. Uganda has also allowed Rwandan and M23 troops to use its territory to enter eastern Congo. ▸▸

The Ugandan government's claim to be unaware of any foreign troops moving through it seems implausible.

One effect of the influx has been unprecedented territorial gains: Rwandan forces and M23 controlled 70% more territory in March, when the report was finalised, than they did in November, including Rubaya, one of the world's most important coltan mines. Since then Rwandan and rebel forces have conquered yet more territory. On June 28th, for example, they captured Kanyabayonga, a strategic hilltop town straddling a major road. Some analysts think the latest conquest may presage a future push farther north, towards areas of North Kivu long ravaged by the ADF.

The recent territorial advances by M23 strengthen its bargaining position. It launched its campaign in late 2021, accusing Félix Tshisekedi, Congo's president, of ignoring an earlier peace deal. But peace talks are at an impasse because it would be politically toxic for Mr Tshisekedi to accept the rebels' latest demands. The presence of thousands of Rwandan soldiers in North Kivu makes a military solution to the crisis even less likely.

Few outside forces have the appetite to fight the rebels. For one thing, it would mean going up against Rwanda's army, which is generally seen as one of Africa's most capable. UN peacekeepers in North Kivu tend not to engage Rwandan regulars. Moreover, Rwanda is one of the largest contributors to UN peacekeeping missions worldwide, complicating the politics of confronting its soldiers in Congo. A brief Kenyan-led deployment by the East African Community withdrew in failure late last year after Mr Tshisekedi got fed up with its reluctance to fight.

In contrast, the Southern African Development Community (SADC), a regional bloc, seems keener on a real battle. In December it began deploying troops from South Africa, Malawi and Tanzania. Yet several lethal mortar attacks on South African bases suggest that Rwanda and M23 are ready to fight back. The main contributor of troops, South Africa, has lost five soldiers killed and 33 injured this year. Its force is hemmed in around Goma.

Angelic deniers

M23, which denies any link to foreign powers and says it is fighting to protect oppressed Congolese minorities such as the Tutsi, is publicly combative. "The invincibility of our army is due firstly to our noble cause," says its spokesman. The SADC force, he adds, "will go home in coffins".

Daniel Van Dalen, an analyst for Signal Risk, a South Africa-based consultancy, says SADC had overlooked that it was facing a conventional military in the Rwandans, rather than a Congolese militia. "This is nowhere near over," he says. ■

Israel and America

Jaw-jaw and war-war

JERUSALEM

For Binyamin Netanyahu his fourth address to Congress was historic; for Israelis less so

THE TIMING of Binyamin Netanyahu's first trip abroad since Israel's war in Gaza began over nine months ago was not propitious. The evening before the Israeli prime minister left for Washington, Joe Biden announced that he would not seek re-election as president. American lawmakers were preoccupied with domestic politics even as they welcomed Mr Netanyahu. So, too, was the Israeli prime minister, even as he left his country behind.

Mr Netanyahu's address to a joint meeting of Congress was the main event, at least for him. It was a way to emphasise, both to Israelis and to the Biden administration, the support that he enjoys there. The meetings scheduled with Mr Biden and his potential successors, Donald Trump, the Republican nominee, or Kamala Harris, the presumptive Democratic candidate, were afterthoughts. He had angled for the invitation for months even as tensions with the Biden administration worsened over Israel's war. It came, at last, from the Republicans, who remain friendly towards him, and then, more grudgingly, from the Democrats many of whom were absent during his speech, including Ms Harris. His address was received rapturously, with standing ovations, proving once again how popular Mr Netanyahu is among Republicans. Whether that will impress Israelis is another matter.

Mr Netanyahu used every rhetorical flourish, assuring an adoring audience that Israel and America were at war together and would win together. He told rousing tales of the bravery of Israeli soldiers on October 7th, but failed to mention how his army had been caught unawares. He supplied harrowing details of the atrocities carried out by Hamas, the group responsible for the massacres, but dismissed the tens of thousands of Palestinians killed since, contentiously insisting that the war had seen "one of the lowest ratios of combatants to non-combatants' casualties in the history of urban warfare".

The address lacked policy details or a strategy, beyond "total victory". Mr Netanyahu said that after the war Gaza would need to be "demilitarised and deradicalised" and governed by "a civilian administration run by Palestinians who do not want to destroy Israel". He gave no hint as to how to achieve that. Relatives of some hostages were brought along as props; others protested in the gallery. There were all also large pro-Palestinian demonstrations outside Congress.

Mr Netanyahu's flamboyant oratory is unlikely to change Mr Biden's foreign policy in the few months he has left as president. The real audience for Mr Netanyahu's speech was at home. Israelis, he hoped, would rediscover their enthusiasm for him. Three-quarters currently think he should resign either immediately or as soon as the war ends. But his speech will have allayed few of their concerns: when ▸▸

Back again

will the hostages be released; when will tens of thousands of evacuated Israelis return to their homes near the borders with Gaza and Lebanon; and how might the debilitating war draw to a close?

The prime minister chose to leave Israel just as hopes were rising, yet again, about the possibility of a ceasefire in Gaza and a deal to release the 115 Israeli hostages still held there, at least half of whom are presumed already dead. The first stage—a six-week ceasefire with a partial exchange of hostages and Palestinian prisoners—is within reach. Later phases, American officials hope, will end the war. Israel's security establishment is convinced that Hamas is at last prepared to make a deal that Israel will accept.

A ceasefire would also be key to ending hostilities on Israel's northern border with Hizbullah and with the Houthis in Yemen, two Iran-backed militias that have been attacking Israel with missiles and drones since the war began. Two-thirds of Israelis support a deal. But the minority holding out for "total victory" over Hamas are represented by Mr Netanyahu's main political allies, who are keeping him in power.

His visit came just as the Knesset, Israel's parliament, begins its three-month summer recess. During the break he will almost certainly have to end his procrastination and make a call on a ceasefire. Israel's generals are all but challenging him in public to do so. The far-right parties continue to say they will bring down his government if Mr Netanyahu takes a deal that they see as a surrender to Hamas. When the Knesset reconvenes in late October he may no longer have a majority and early elections will be called. If he refuses the deal, he can expect huge protests led by the hostages' families, which will reach their peak on the first anniversary of the October 7th attacks. The final vestiges of wartime unity will have been destroyed.

For the prime minister the spectacle was more important than any policy substance. Just before taking off, he reminded everyone he was going to speak to Congress for the fourth time. The mere fact that he is the first world leader to have done so, breaking a record set by Winston Churchill, is, to Mr Netanyahu, a demonstration of his standing as a statesman capable of conjuring up support from the world's greatest power.

This has always been the basis of Mr Netanyahu's appeal to Israeli voters; he launched his political career after a successful stint as Israel's ambassador to the United Nations, during which he became a media star in America. To this day, it has also been the main criticism of him: that his capabilities as a leader do not match his gift of the gab. For Israel's prime minister his address was a personal landmark. For its people it was just another speech. ■

Israel and the Houthis

Mutual attrition

DUBAI AND JERUSALEM

Israel and the Houthis trade bombs and bluster

IT WAS NOT the first time the Houthis had taken a shot at Israel, not even close. The Shia rebels who control much of Yemen have launched more than 220 missiles and drones at Israel since October. Most have been intercepted over the Red Sea by America and its allies, or shot down by Israel's air defences. A handful reached southern Israel but did little damage. On July 19th, though, the Houthis hit an apartment building in Tel Aviv, killing one person and wounding at least eight others.

A day later, Israeli jets bombed the port of Hodeidah in Yemen. They hit cranes, piers and oil-storage tanks, causing fires that burned for days. Scores of people were injured, according to Houthi-run media. The past ten months of war in the Middle East have been full of grim milestones. Now add to that list an unprecedented tit-for-tat between Israel and Yemen, two countries almost 2,000km apart.

There was much bluster in the days that followed. The Houthis spoke of a "long war" that had entered a new phase. "The fire that is currently burning in Hodeidah is seen across the Middle East," said Yoav Gallant, the Israeli defence minister. Each side wants the other to think there has been a marked shift in the regional conflict. Reality, though, may be less dramatic.

Israeli officers claim their strike was because of an "accumulation" of attacks from the Houthis. Few Israelis believe them. The air force had been preparing plans to bomb Yemen for months, but it took a deadly hit on Israel's commercial centre to put those plans into motion. "What changes the situation is that now we're under fire from all directions," says one air-force officer. "We had to respond this time." Still, it probably cannot make a habit of flying 2,000km sorties with fighter jets, a task that would strain most air forces.

Even if it could, such strikes cause only limited damage. America and Britain have been bombing the Houthis since January as part of a regional task-force meant to deter the group from attacking commercial ships in the Red Sea. The campaign has not worked: the Houthis carried out 16 such attacks in June, more than in any other month this year. Israeli officials complain that the task force has been mostly "defensive", which is true enough. But Saudi Arabia, which carried out years of air strikes against the Houthis, could not cripple the group either.

Soon after the Hodeidah strike, the Israeli air force released a video of an F-35 refuelling in mid-air en route to Yemen. This was framed as a message not just to the Houthis, but also to their sponsor, Iran, whose key nuclear and military facilities are closer to Israel than Hodeidah is. For now, though, Israel is only going after Iran's proxies; an ever-expanding game of whack-a-mole is hardly a winning strategy.

Not that the Houthis have been more successful. They speak in lofty terms about their actions, as a "support front" meant to aid Palestinians in Gaza. But their strikes on Israel have not compelled it to halt or slow its war in Gaza. While their attacks on shipping have paralysed the Israeli port of Eilat, they have not brought shortages or high inflation to Israeli consumers. They might land the occasional lucky shot, but cannot field enough long-range missiles or drones to overwhelm Israel's air defences: a deadly nuisance, not a strategic threat.

Their ostensible support for Gaza has brought the Houthis a spurt of popularity in the Arab world. At home, though, it is fair to say that many Yemenis still resent a group that has presided over a decade of civil war. The economy is a mess. Some 80% of Yemen's 30m people depend on foreign aid to survive.

Efforts to broker a peace deal with Saudi Arabia have stalled as the Houthis demand ever greater concessions from their foes. The Saudis, nervous that the Yemeni group might resume cross-border attacks on their territory, have gone along with this. On July 22nd they agreed to a deal that would ease sanctions on banks in Houthi-held areas and allow more commercial flights into Sana'a, the capital. The Houthis claim to have the upper hand in a war of attrition against Israel; in reality, they are still trying to win the much longer one in their own country. ■

Europe

Germany and Europe

Europe's Germany-shaped hole

BERLIN AND BRUSSELS

Olaf Scholz's government is punching below its weight in Brussels

LAST MONTH Olaf Scholz and Emmanuel Macron entered a European Union summit with a plan. The German and French leaders agreed that a "strategic agenda" document setting the EU's priorities for the next five years was inadequate. The passages on climate and migration were weak, and what about defence? But their rewrites, drawn up just beforehand, sparked a revolt among other leaders, including Italy's Giorgia Meloni. Voices were raised, fingers jabbed—and the pair retreated in humiliation. They had failed the most basic test of the European Council: avoid springing surprises on colleagues.

The story would be just another in the EU's long history of communiqué contretemps if it did not highlight a worrying trend. Mr Macron is no coalition-builder but Germany, the EU's biggest member, is supposed to be different. Yet where the country once shaped the club's approach to everything from fiscal policy to Brexit, under Mr Scholz it is punching well below its weight—and irritating its partners.

Interviews with diplomats and officials reveal two dimensions of German dysfunction in Brussels. The first is the dismal state of the three-party "traffic-light" coalition, comprising Mr Scholz's Social Democrats, the Greens and the pro-business Free Democrats (FDP).

Previous coalitions have hardly been models of harmony, and the so-called "German vote"—when internal disagreement forces Germany to abstain—is well known in Brussels. But veteran Eurocrats say that Mr Scholz is especially bad at imposing his will on ministers, and that policy shifts arrive too late. The worst offender is the FDP, which has upset negotiations for phasing out combustion engines, among others. Yet "our problems are not about any one party but lack of leadership from the chancellor," says Anton Hofreiter, a Green MP who chairs the Bundestag's EU committee. "No wonder such a government has problems in Europe."

The dysfunction hurts German credibility, complained the country's EU ambassador in a leaked letter last year. Diplomats from friendly countries have begun to work around Germany rather than with it. Worse, the mess in Berlin gums up Brussels's inner workings as officials struggle to predict where Mr Scholz's government might go next. "Talking to different ministries in Germany is like talking to different countries," says one.

The second problem is the chancellor's conduct in the European Council. EU summits are often testy, and leaders' personalities can be decisive. One official says that where Angela Merkel, Mr Scholz's predecessor, "literally held the EU together" by shaping compromises, Mr Scholz states his position and offers no room for debate. "They negotiate like petty accountants," recalls one official of a budget dispute. "Merkel wouldn't have done that."

What is the case for the defence? First, ▸▸

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Mr Scholz is a relative newcomer; it took Mrs Merkel years to find her feet in the EU. Second, conditions have changed: in the debt crisis of the 2010s a booming Germany found it easier to impose its will; today it is flirting with recession. Third, Mr Scholz inherited a discredited energy and security policy (albeit one in part shaped by his own party) that, after Russia invaded Ukraine, left Germany "morally bankrupt", as one diplomat puts it.

In fact Germany has a decent record on Ukraine. It has sent more arms than any other European ally, strengthened its own armed forces and weaned itself off Russian gas. Figures close to Mr Scholz cite his support for Ukraine's EU accession bid—including an only-in-Brussels gambit of overcoming Hungary's opposition by arranging for Viktor Orban to leave the room during the crucial vote—and spearheading an ambitious European air-defence project. They also note German opposition to what they see as boneheaded regulatory proposals from Brussels.

Yet the diplomacy often seems tin-eared. One Polish diplomat was "deeply disappointed" after Mr Scholz at a recent summit blocked new plans to reinforce the EU's eastern flank. In 2022 Germany infuriated other governments by announcing a €200bn ($218bn) energy-subsidy package without alerting them. "The co-ordinating role that Germany used to have is gone because everyone is taken by surprise," says Nils Redeker of the Jacques Delors Centre, a think-tank in Berlin. This makes it harder for Mr Scholz to press his case on China policy or free-trade agreements, where he is swimming against the European tide.

Of course, many countries have awkward coalitions or idiosyncratic priorities. And Germany's legal bar on large-scale borrowing and fierce constitutional court are structural impediments to EU endeavours such as a larger budget or more common debt. "People have much higher standards for Germany than they do for other countries," says Mark Leonard, director of the European Council on Foreign Relations, another think-tank. But as Mr Scholz acknowledges, Germany has a "special responsibility" for Europe's success. So there is often a gap between Germans' pride in their achievements and outsiders' disappointment at unfulfilled expectations.

Ironically, the most effective promoter of Germany's interests in Brussels sits outside the government. Ursula von der Leyen, a former German defence minister and president of the European Commission since 2019, co-ordinates closely with the chancellery in Berlin. "It's helpful for Scholz to have someone who knows his mind better than he does himself," says a confidant of the president. The commission recently delayed a defence financing proposal that could have entailed common EU bonds: anathema to Germany.

Other tricky discussions loom. For Mr Scholz, admitting Balkan countries, Ukraine and Moldova into the EU is a priority. But new Dutch and perhaps French governments will be sceptical. On the capital markets union, a long-stalled project to smooth financial flows across Europe backed by Mr Scholz, the battle is internal: the FDP's Christian Lindner, the finance minister, opposes centralising market supervision. A second Trump presidency would bring the risk of trade wars and an end to American support for Ukraine.

Does the cautious Mr Scholz have the stomach for these fights? Advisers insist he does. But poor results in the recent European elections, and expected reverses in state elections in September, will only encourage the traffic-light parties to amplify their differences. Europe may yet again find itself waiting for Germany. ■

Ukraine's drones

Robocommander

KYIV

Vadym Sukharevsky, the world's first head of unmanned forces

VADYM SUKHAREVSKY is used to a seat in history's front row. In April 2014 his machineguns were the first to fire in the initial phase of Ukraine's war against Russia. Ukraine's forces were under a strict "no fire" order, even as Russian proxy fighters ran amok in the town of Slovyansk. But the then lieutenant had little hesitation: "See it, shoot it," he told his soldiers. His fast thinking is credited with saving a dozen lives. The phrase is embroidered on the gaming chair at his new command desk.

As the head of Ukraine's Unmanned Systems Forces, the first position of its kind in the world, Colonel Sukharevsky is shaping history once again. The 39-year-old is a technological whizz, whose focus on electronic warfare and drones as a battalion and then brigade commander caught the attention of those at the very top. But now he must deliver across the board in the fastest-developing arena of war, against a much better resourced enemy backed by Iran, North Korea and probably China, and with a low budget.

His office in Kyiv hums with the buzz of a startup. The air smells of fresh paint and shisha tobacco. Drone boxes and computers lie on the floor; a collection of daggers and Warhammer models complete the image of a modern-day Cossack *hetman*. Colonel Sukharevsky became obsessed by unmanned systems in 2014, when he realised he needed eyes in the sky to guide artillery. His actual drone war started in 2016. "Soon, I wasn't firing a single mortar without the sights of a reconnaissance drone. By 2017 we were using UAVs to drop grenades." The Russians copied his tactics, a pattern that persists today.

Russia's full-scale invasion in 2022 marked a step-change in drone warfare. Initially Ukraine got ahead, developing cheap, small drones to counter Russia's overwhelming artillery and missile advantage. Now, enemy drones outnumber Ukrainian ones six to one. Russia's advantage in mass production means it can adapt and scale up much faster. But superior tactics and innovation keep Ukraine competitive. The pace of change is frenetic, with some software updated every few hours. "Quan- ▸▸

See it, shoot it, sorted

titatively Russia is ahead, but qualitatively we are keeping them at parity."

Western military leaders he has spoken to since his appointment on June 10th are impressed by the scope of his new role. "It's the most decisive change in military organisation since the creation of air forces in the beginning of the 20th century," he says. Yet not every Ukrainian commander is enthusiastic about the new vision, and much of the job will be about bringing together disparate cultures inside the army, some of them Soviet legacies.

The colonel says drones will not overturn the fundamental principles of warfare. "Military operations still depend on combined arms, and other kinds of troops will continue to be just as important." Drones will serve as a complement, offering better reconnaissance and more precise strike capability at a reduced risk to soldiers. The commander dismisses headlines promising "killer drone swarms" independent of human control. Yes, Ukraine employs AI—for example if the link between drone and pilot is lost. But the use is specialised and limited. "As a commander I will never relinquish the bulk of decision-making to artificial intelligence."

Colonel Sukharevsky says Ukraine's problems are far more immediate than this theoretical discussion. Russia has aligned itself with other tyrannies, and its drone programme is benefiting from the tie-up. Ukraine is an "outpost...between the civilised and authoritarian world", but is not sure what it can expect from its backers. Funding for drone innovation is insufficient. He jokes that he has two predictions for the direction of drone warfare: one bad and the other fairly bad. "We are the ones already in the trenches. You can't scare us. But the rest of the world? They might be in for a rude awakening." ■

Milan International

Bumpy landing

ROME

Silvio Berlusconi gets an airport named after him

"I AM APPALLED," declared an executive of one of Italy's premier fashion houses, contemplating the prospect of clients and suppliers arriving in Milan at Silvio Berlusconi airport. She is not alone. Although many Italians see the renaming of Malpensa airport on July 11th as a fitting tribute to the republic's longest-serving prime minister, others are acutely embarrassed.

Some are already calling Italy's second-biggest air-passenger terminal "Bunga Bunga airport"—a dig at the late prime minister's hosting of sex parties that led to his being tried (and acquitted) of paying an under-age prostitute. The renaming accords Berlusconi, a convicted tax fraudster who died in 2023, an honour otherwise reserved for the likes of Leonardo da Vinci (after whom Rome's main airport is named), Galileo Galilei (Pisa) and Marco Polo (Venice).

By July 24th a petition to scrap the move had attracted more than 170,000 signatures. The initiative has also been condemned by Milan's mayor. Nine local authorities adjoining the airport have protested that they were not consulted.

By far the most surprising objector, however, is Berlusconi's son, Pier Silvio. While stressing that the Berlusconi family was flattered by the decision, he publicly condemned its "timing and the way it was done". That was a none-too-veiled dig at the man who approved the move, Matteo Salvini, the infrastructure minister and leader of the far-right League. And it reflected growing tensions within Italy's governing coalition.

The League had already lost most of its support to the nativist Brothers of Italy party, led by the prime minister, Giorgia Meloni. Recently it has been overtaken in the polls by its other coalition ally, Forza Italia, the movement Silvio Berlusconi founded and which his heirs finance. By endorsing the renaming of Malpensa, Mr Salvini was cheekily laying claim to the legacy of the late prime minister, a pioneer of contemporary right-wing populism. Under Berlusconi's successor, Antonio Tajani, Forza Italia has adopted a more conventional liberal conservatism. Berlusconi's children seem to want to go further: Pier Silvio's sister, Marina, has said that on many social issues she backs the left.

On July 18th Forza Italia's European Parliament members voted to re-elect Ursula von der Leyen as European Commission president. The League gave her the thumbs-down. Surprisingly, so did the Brothers' MEPs. Ms Meloni may be edging right in anticipation of Donald Trump regaining America's presidency. Berlusconi's political legacy looks increasingly mainstream. But not, many Italians feel, airport-worthy just yet.

Europe's Sky Shield

Fixing the roof

Countries band together to buy missile defence

EUROPE'S AIR defences are in a bad state. Its armies have not thought seriously about defending their own skies for some time. But as Russian missiles and drones pound Ukrainian cities, Europe is scrambling to retool. The continent's missile defences are stretched thin; most countries lack enough interceptors to thwart massed attacks. Many have donated precious batteries to Ukraine.

Germany, usually a defence laggard, is leading efforts to rearm. In August 2022 Chancellor Olaf Scholz announced the European Sky Shield Initiative (ESSI), a plan to jointly procure air-defence systems. Fully 21 countries have joined, enticed by the potential economies of scale. The hope is that co-operation will eventually stretch to logistics, maintenance and training. "It's about cutting costs and quickly acquiring capabilities," says Fabian Hoffmann of the University of Oslo.

ESSI is organised in layers to ensure overlapping coverage. For short- to medium-range threats, such as drones, Germany is procuring IRIS-T, a home-built system. It is also doubling down on the American-made Patriot as a long-range interceptor; it has proved surprisingly effective against Russian ballistic missiles, which travel faster than cruise missiles. Last, Berlin has selected Israel's very-long-range Arrow-3 system to knock out ballistic missiles outside the Earth's atmosphere.

Each system tackles threats at different altitudes, speeds and approaches. Military wonks bristle at the suggestion that Sky Shield will resemble a "European Iron Dome", a reference to Israel's famous air-defence system. Iron Dome mainly inter- ▸▸

Rocketing costs

Ground-based air-defence systems, 2023, €

Range	System	Price per: missile	system	bundle
Medium range (up to 35km)	CAMM			0.42bn
	IRIS-T SLM*	0.4m	0.14bn	
Long range (up to 100km)	Patriot*	3-6m	1.10bn	
	SAMP/T	2m	0.50bn	
Very long range (100km+)	THAAD	5m	0.80bn	
	Aegis Ashore	45m	2.00bn	
	Arrow 3*			3.00bn

*Favoured European Sky Shield Initiative systems
Source: Stiftung Wissenschaft und Politik

cepts very short-range rockets and artillery, not large ballistic or cruise missiles. Europe would also struggle to provide the blanket coverage that a small country like Israel boasts. Instead the priority is protecting pockets of critical military and civilian infrastructure.

Sky Shield has its critics. France was irked by Germany's selection of Israeli and American launchers. Emmanuel Macron, France's president, has long argued for buying more European kit to strengthen the continent's industrial base. But Sky Shield has snubbed SAMP/T, a Franco-Italian system that operates in the same range as Patriot. Production of the American missile is under strain: demand from allies is roaring, and America has redirected some countries' Patriot orders to Ukraine. Lockheed Martin, the manufacturer, says it will manage to churn out only 650 interceptors a year by 2027. There is no guarantee that Sky Shield will be prioritised, says Sidharth Kaushal of the Royal United Services Institute, a think-tank in London.

Experts find the Arrow-3 a curious pick. Israel designed it to intercept intermediate-range ballistic missiles from Iran; it has recently been used against Houthi missiles fired from Yemen. But "Russia does not have missiles of the kind that Arrow is optimised to intercept," notes Rafael Loss of the European Council on Foreign Relations, another think-tank. Arrow could be used against Russia's Iskander-M missile. But insiders suspect Germany plumped for the system to boost its ties with Israel. As an Israeli system, Arrow-3 could also prove trickier to integrate with NATO's sensors and command-and-control nodes.

Russia has long claimed that European missile defences undermine its own strategic deterrent. Such claims are mostly hogwash, but there are worries about a new arms race in which missiles, which tend to be cheaper than defensive systems, would have the advantage. French officials have warned Germany that the Arrow purchase shows a lack of trust in NATO's own deterrent, says Lydia Wachs of the University of Stockholm. Mr Macron has criticised Sky Shield's focus on purely defensive systems, stressing a need for more deep-strike missile capabilities to deter a Russian attack.

Nonetheless, air-defence initiatives are multiplying. Greece and Poland recently mooted a plan to develop a pan-European shield with funding from the European Union. Ursula von der Leyen, president of the European Commission, has endorsed the idea. France is likely to demand that EU funding goes to European manufacturers. Belgium, Cyprus, Estonia, France and Hungary have already agreed to jointly buy more Mistral short-range air-defence systems built by MBDA, a European firm. Europe needs to rebuild its air defences; it does not need more squabbling. ■

Hungary's opposition

A newbie takes on Viktor Orban

BUDAPEST

Peter Magyar's attacks on corruption have won huge political success

VIKTOR ORBAN, Hungary's right-wing populist prime minister, spent the first week of July on what he called a "peace mission" to Kyiv, Moscow, Beijing and Washington, angering the rest of the EU by undercutting its diplomacy. Back at home, a 43-year-old lawyer named Peter Magyar was trying to poach Mr Orban's voters. Mr Magyar entered politics early this year by revealing evidence (from conversations with his ex-wife, Mr Orban's former justice minister) of alleged high-level corruption. In April he launched a new political party, Tisza. On June 9th the upstarts won an extraordinary 30% of the vote in the country's European Parliament election; Mr Orban's long-ruling Fidesz party took 45%.

Now Mr Magyar is trying to build his party into a contender for parliamentary elections due in 2026. In a YouTube broadcast to supporters on July 21st, he said the party would need "well over 2m" voters—the number Fidesz won in the European election. Tisza has started building a nationwide party infrastructure, and its seven MEPs have joined the centre-right European Peoples' Party group.

What comes next will depend on Mr Magyar's ability to build his party. His supporters come mainly from the old, largely ineffectual opposition. He will need to win over Fidesz voters who are weary of the party's corruption and nepotism but cling to the devil they know. Mr Magyar has reinvigorated a Hungarian political landscape long sunk in Fidesz-dominated torpor.

Flower of positive thinking

Take singing at rallies, for example. Hungary's socialists and liberals mumble through the national anthem; Fidesz rallies sound like football-stadium crowds in full throat. Mr Magyar's impressive election campaign, in which he visited 200 towns and villages in a 45-day whirlwind tour broadcast live on Facebook, upended this. After each rally he stood with the crowd to belt out a rousing version of *Tavaszi szel vizet araszt*, a folk song of the Csangos, a small Hungarian ethnic group in Romania. ("Who should I choose now, my flower, my flower? You choose me, and I choose you"—not a bad political anthem.)

Unlike previous newcomers, Mr Magyar has "made it clear that he will not cooperate with the existing opposition parties", says Robert Laszlo of Political Capital, a Hungarian think-tank. "This dynamic proved very attractive for disillusioned voters." Mr Orban's campaign theme was that other parties would somehow involve Hungary in the war in Ukraine, a message that won him a resounding victory in the general election in 2022.

Mr Orban has held power since 2010. He has altered the constitution, taken over the courts and media, changed the electoral system and extended control over banks and the economy. Mr Magyar refers to Fidesz as Mr Orban's "family business". He should know: through Judit Varga, his ex-wife and Mr Orban's justice minister until 2023, Mr Magyar understands the transactions of the complex business empire that keeps Fidesz afloat, and knows the nicknames its players use for secrecy. His speeches are filled with attacks on corruption among Mr Orban's closest associates.

Mr Magyar is sharp-witted and can be hot-tempered. He stormed out of an interview with a television channel the day after the election. An incident in a nightclub (engineered, he claims, by Fidesz "agents") led to accusations of drunkenness and inappropriate behaviour towards young women. What he misses most from his previous life, he told your correspondent in an interview, is his three young sons, all keen footballers. When his ex-wife was a politician he had the quality time with them few dads enjoy.

Now the roles are reversed. Since she quit politics in February (for helping pardon a man who protected a paedophile), Ms Varga has retrained as a carpenter. Mr Magyar, for his part, fancies himself a bricklayer: at rallies, he leads a chant promising to rebuild Hungary's system of checks and balances "brick by brick". Is it tempting, your correspondent asked him, to use instead the power Mr Orban accumulated for his own ends, if he wins? Absolutely not, he replied: "We will change everything, the whole power factory." ■

CHARLEMAGNE
Apocalypse Newt

To understand the perils of AI, look to a Czech novel—from 1936

WHEN HISTORIANS in future centuries compile the complete annals of humankind, their output will be divided into two tomes. The first will cover the hundreds of thousands of years during which humans have been earth's highest form of intelligence. It will recount how souped-up apes came up with stone tools, writing, sliced bread, nuclear weapons, space travel and the internet—and the various ways they found to misuse them. The second tome will describe how humans coped with a form of intelligence higher than their own. How did our sort fare once we were outsmarted? Rather thrillingly, the opening pages of that second volume may be about to be written. Depending on whom you ask, artificial general intelligence—systems capable of matching humans, and then leaving them in the cognitive dust—are either months, years or a decade or two away. Predictions of how this might pan out range from everyone enjoying a life of leisure to the extinction of the human race at the hands of paperclip-twisting robots.

ChatGPT is but a couple of years old; AI bigwigs disagree whether its intelligence can yet be compared to that of a cat. If that sounds reassuring, consider the newt. Not just any salamander, but rather the fictional heroes of "War with the Newts" by Karel Capek, published in Czechoslovakia in 1936—an excellent beach read *and* a chillingly prophetic allegory of developments in AI. In the satirical novel, the captain of a Dutch ship stumbles upon a breed of sea creatures in Indonesia. The crew is bemused when the child-sized beasts playfully throw stones back at them, and seem to respond to human prompts. How clever! Just as we were all amused in 2022 by AI's ability to generate an image of dogs playing poker in the style of Caravaggio, our fictional forebears marvelled at how these fast-learning new forms of intelligence could extract valuable pearls. Then as now, an opportunity to profit is spotted. Soon the newts demand knives so as to produce more pearls. Sure thing, for what could possibly go wrong?

The comedy of unintended consequences that ensues will sound familiar to AI worrywarts. The knives help the salamanders defeat predatory sharks that had been holding their numbers in check, resulting in a demographic boom worthy of Moore's Law. As the newts multiply, it is clear they are dimmer than humans but evolving at a startling clip. Before long they are conversing as fluently as a chatbot. A nebulous "Salamander Syndicate", a sort of Big Tech selling newts by the millions, finds new ways to train the plentiful creatures and put them to work in farms and factories. The Panama Canal is expanded at little cost to humans. Fears that this is all happening a little too fast are dismissed as reheated Luddism. The bonanza of cheap worker-newts is decried as "antisocial" by the International Labour Organisation; today, it is the IMF warning that 40% of jobs may be affected by AI. Australia imposes a levy on newts, akin to the tax on robots that Bill Gates, a prolific enabler of machines, once suggested.

Not everyone is happy about this "Salamander era", a forerunner of today's "age of AI". The creatures' consumption of the global food supply worries critics, much as machine-learning models are now criticised for their electricity usage. Questions are asked about whether humans who hire newts are liable for their actions, just as a tribunal recently forced Air Canada to honour a discount made by an AI-enabled chatbot that had hallucinated the policy. Some people get attached to newts as they learn to dance and sing. The *Daily Star* asks "Have Newts got a soul?"; in 2023 *America*, a Catholic magazine, went for "Does ChatGPT have a soul?" Many today feel software is metaphorically eating the world. Capek's newts instead guzzle land, creating new coastal habitats to host their ever-increasing numbers.

The reassuring newt salesmen argue that their products merely mimic humans and cannot surpass them (this also sounds familiar today). Inevitably, the once-dim creatures eventually do just that. By the time people realise they have no idea how newts actually work—what happens under water is as mysterious to Capek's humans as what happens in the cloud is to today's AI users—it is too late. People are too wrapped up in their own obsessions to notice what is going on—the Germans are busy arguing that their newts are ethnically superior to other ones. The newts can always find some greedy human to sell them explosives or submarines.

Newtvidia

Capek was active in Czech political circles and studied philosophy in Paris and Berlin. There is something archetypally European about his fear of the New Thing. There are good reasons for Europe to fret about rapid changes brought forth by fast-evolving newts or computers. Particularly in southern Europe, social systems depend on things evolving at a pace with which the often overbearing state can keep up. In the book the French are the first to try to restrain the newt takeover. Today, even as America does much of the investing in AI, it is the European Union that has spearheaded its regulation. The bloc's AI Act, thus far the world's most stringent straitjacket on the technology, will formally come into force in August. Machines that recognise faces in public and Chinese-style "social scoring" systems will be banned.

Capek also imagined a dystopian future at the hands of robots, a term he coined in an earlier work (it is Czech for "serf"). But not even a science-fiction writer could fathom a human-made technology evolving at the pace of today's AI—hence the newts. In the book, the weak-willed humans hand over China to their new overlords in the hope of buying peace. In 1938, just weeks before Capek died, his homeland was similarly sacrificed to appease Nazis. "War with the Newts" has been praised for its depiction of 20th-century humans' hubris and greed. It may someday end up being remembered for its understanding of 21st-century machines. ■

Britain

Labour's honeymoon

Is Britain's economy finally moving?

Sticky inflation and a weakening job market could still spoil the mood

IN ITS FIRST weeks in office the new Labour government is hammering away at one message: on prisons, the National Health Service, the armed forces and more, the Tories left behind a terrible inheritance. It is no different for the economy. Rachel Reeves, the chancellor, says Labour has been handed the worst economy of any incoming government since 1945, when Britain was loaded with wartime debt and its cities pockmarked with craters.

Much of the gloom is warranted. Britain's productivity record since the financial crisis has been feeble. Parts of the previous government's agenda, especially around Brexit, contributed to the sense of stagnation. The public finances are stretched thin. Hence Labour's emphasis on growth: central to its election campaign was a promise to get Britain's economy growing faster than any other G7 country's. Muddying the picture somewhat, however, is the fact that a version of this milestone may already have been passed—under the Tories.

Britain has resoundingly bounced back from its brief recession in late 2023, and at a speedier pace than most forecasters expected. The economy grew by around 1.1% (a 2.3% annualised rate) over the first half of 2024. That compares with 0.8% or so for America and Canada over the same period, and 0.3% to 0.5% for France, Germany and Italy. Throw in Japan's lacklustre numbers and Britain is likely to have outpaced the rest of the G7 over the final months of Rishi Sunak's premiership (see chart 1 on next page). This expansion was almost entirely services-driven, and was probably helped along by a strong rebound in household borrowing after a painful adjustment to higher interest rates.

That is not the only way in which the picture now looks sunnier. Annual headline inflation is back at the Bank of England's target of 2%. The main gauges of underlying inflation are also falling, if bumpily (see chart 2). One particular fixation for central bankers is services inflation, thought to better reflect how entrenched inflation has become by peeling away all goods prices, not just those of volatile commodities like food and energy. Some go further and also exclude services like flights and hotels, which can move sharply and idiosyncratically. These declines should tee up a first cut to interest rates, perhaps as soon as the next meeting of the Bank of England's monetary-policy committee on August 1st. Financial markets expect two quarter-of-a-percentage-point cuts before the end of 2024.

Sterling has also crept back to its pre-Brexit level against a basket of foreign currencies, though it remains weaker against the dollar. The FTSE 100 share index has ▸▸

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risen by 5.8% this year, more than in the four prior years combined.

Caution is in order. A few good months, however welcome, cannot undo years of underperformance. At best, it might persuade the Office for Budget Responsibility, a fiscal watchdog, not to nudge down its optimistic productivity-growth numbers, which would make Ms Reeves's spending choices, already tough, even more constrained. But it is still in everyone's interests that this growth spurt is maintained. Can it be?

Labour is trying to keep the momentum going with an early blitz of policy announcements. But they will take a while to have an impact. Take Labour's aspiration to build more houses and infrastructure. Boosters say that the ensuing construction activity will instantly raise growth. But Britain already has a high employment rate and limited appetite for more migration. An investment boom would mean redirecting workers from other (admittedly less productive) projects, dampening the uplift to aggregate growth. What matters more would be the boost to the supply side of the economy if and when all those homes, pylons and wind farms get built. Those gains would raise the growth numbers later and only gradually.

So the question is whether this recovery can carry on under its own steam. One risk is that inflation hasn't quite been shaken off. Persistent inflation would force the Bank of England to keep interest rates elevated, weighing on asset prices and the economy. Pessimists point to the fact that core inflation (excluding food and energy prices) is still running at a 3.6% annual rate, well above target. Services inflation is even higher, at 5.7%. Overall headline inflation has been flattered by big declines in energy and durable-goods prices, but those are probably one-off drops.

Wages, which feed into inflation, are rising at 5.2% annually, a rate far too high to be consistent with the bank's target inflation rate. Wage growth on new job contracts, a more forward-looking measure, is still around its peak of 7%, according to a tracker from Indeed, a jobs site; something like 3-4%, which is where America and the euro zone stand on this gauge, would be normal. Ms Reeves is currently deciding whether to accept a 5.5% pay rise for some public-sector workers that has been proposed by independent pay bodies (the Treasury had previously budgeted for 3%).

The other big risk is that growth falters because consumers pull back or because of changes in the labour market. Recently released retail-sales figures for June were well below forecasters' expectations. More significantly, much of Britain's labour-market loosening since June 2022 has been due to falling vacancies but unemployment has also started to rise and now stands at 4.4%. Historically, quick rises in the unemployment rate have often presaged recessions. An American economist, Claudia Sahm, formalised this pattern into the "Sahm Rule", a real-time recession indicator that is met whenever the three-month average of the unemployment rate rises by at least 0.5 percentage points within a year. Britain has now triggered this threshold (though the rule was designed for America and has misfired in Britain before).

If Labour gets lucky, these two risks might offset each other. A softening labour market could pull down inflation and make space for looser monetary policy to buffer growth. But they could as easily knock things off course. A persistent-inflation scenario would be especially troubling. The Bank of England's credibility has been tarnished but not shattered by the inflation surge Britain has experienced in recent years—another jolt could do real damage.

Real as these risks are, the economy seems to be doing fine for now. The stronger showing complicates Labour's insistence that its inheritance has been uniquely dire. But listen at the door of Number 11 Downing Street and you may hear sighs of relief. Labour needs the economy to grow faster if living standards and public services are to improve. Just don't expect it to admit an upswing was already under way. ■

Royal birds

Swan-upmanship

ABINGDON

How Charles III counts his swans

CHARLES III, the Most High, Most Mighty and Most Excellent Monarch of the United Kingdom of Great Britain and Northern Ireland and of His other Realms and Territories, has many grand titles, some sensible and plenty not. He is Head of the Armed Forces and the Defender of the Faith. He is Sovereign of the Most Noble Order of the Garter and Chieftain of the Braemar Gathering. He is also Seigneur of the Swans, a title which tends to be forgotten partly because it is ridiculous and partly because it does not matter. Unless you are a swan. Because as Seigneur of the Swans, Charles III has droits over you. And in July, he exercises them.

Which is why, on a hot summer day, six small wooden boats are making their way along the River Thames. This is not yet the great, grey Thames that slides through London but the gentler, greener river that flows towards it. A few miles upstream, punts take to the water in Oxford; a few miles downstream is the house that is said to have inspired Toad Hall. Here, there is sun on the water and wind in the willows. And here is also where the annual "Swan Upping" census takes place, a five-day-long, 800-year-old ceremony in which mature swans and cygnets are caught and counted, and mature men dress up as sailors in scarlet blazers and Breton tops and shout "All Up" whenever they see a swan.

What this has to do with the king is complicated. Europe's monarchs are al- ▸▸

Modern Britain

most all gone. The powers of those that remain are watered down and, in the case of Charles III, oddly watery: he has a right to claim Britain's whales, great sturgeons and mute swans. Once the royal Swan Uppers counted swans because the king liked to eat them. Today swans are "a protected species", says David Barber, the King's Swan Marker; the census is done for education and conservation purposes. Mr Barber wants to "modernise" Swan Upping. Though given that he is called the "King's Swan Marker" and is wearing a cap with a swan's feather in it, the pace of modernisation appears to be gentle.

Not gentle enough for the swans. Prince Harry once observed that swans are "grumpy" birds. Their mood is rarely improved if you catch them, hold down their wings and tie their feet. A swan cannot break a man's arm—this, says Mr Barber, is "myth"—but they can give you a "nasty bruise". The trick, as one Swan Upper explains, is to be "subtle".

In other respects, however, subtlety is not the Swan Uppers' strong suit. There are pennants and braiding; there are flags and feathers in caps. The overall effect is less environmental study than as if the cast of "The Pirates of Penzance" had taken to the river in punts. On the bank, a swan is spotted. The cry goes up. The Swan Uppers, servants of one protected species, paddle off to count another. ■

Elections

Turnout trouble

EBBW VALE

Britain is suffering from structural non-voting, not just the cyclical kind

"I DIDN'T EVEN know it was on," says Jonathan in Ebbw Vale, a small town in south Wales. Along with four other construction workers who have gathered for a post-work pint in the Picture House pub, he says he did not vote in the general election. He does not remember a canvasser knocking on his door, and says the only leaflets he received before the election came from local kebab shops. In the chair next to him, Kyle is even more apathetic. "I'm 35 and I've never voted," he says. "Never have, never will."

Many Britons did not participate in the general election on July 4th. Turnout, defined as the proportion of registered voters who cast valid votes, was the second-lowest in a century, at just under 60% (see chart). In Wales turnout was 56%, 11 percentage points lower than in 2019 and the lowest for at least a century. And in the constituency of Blaenau Gwent and Rhymney, which includes Ebbw Vale, it was a measly 43%.

One low-turnout election should worry nobody. Britons rush to vote when they believe the Conservative and Labour parties are wildly different, as they were in the 1980s and again in the late 2010s, when Labour was led by Jeremy Corbyn, a far-left politician. Competent, unthreatening leaders like Sir Tony Blair and Sir Keir Starmer tend to drive turnout down and the quality of politics up. The same is true in other countries. Turnout was high in France's legislative elections on June 30th and July 7th, when the far left and the far right both threatened.

In individual constituencies, competition drives voting. The Labour Party fought hard in Monmouthshire, east of Blaenau Gwent, and defeated the Conservatives on a hefty turnout of 68%. By contrast, Blaenau Gwent and Rhymney is a safe Labour seat; the victor, Nick Smith, says that only Plaid Cymru (a Welsh nationalist party) really competed with him. The candidate for Reform UK, an anti-immigration party, withdrew after reports of unwise social-media activity.

If cyclical non-voting is fine, the structural kind is more alarming. Ben Ansell and Jane Gingrich, political scientists at Oxford University, have shown that younger people in Britain used to vote almost as reliably as older people but began to fall behind in the 1990s. A large income gap appeared a decade later. Members of the poorest quintile have become about 20 percentage points less likely to turn out than members of the richest.

It could be that the politicians are not appealing to young working-class people, who have become disaffected as a result. But Stuart Fox, who follows the subject at Exeter University, rejects that notion. As he points out, there is little sign that the young are especially discontented. In 2023 a "veracity index" by Ipsos, a pollster, showed that huge majorities of people in every age group and every social class did not trust politicians to tell the truth. It is more likely that the old vote because they feel they should, and the young do not because they feel no such sense of obligation.

Nine middle-aged and older people gathered for tea after a service in St David's Church in Rhymney seem to confirm that hunch. All say they voted, which is perhaps not surprising: the impulse that sends a person to a polling station is similar to the impulse that sends a person to a mid-week service. They have many complaints about politicians but they regard voting as a duty. Several describe arguments with their children on this point. "My son said, 'I'm not voting, they're all corrupt'," says Jean, a retired sewing machinist. "Well, maybe so, but you've got to vote."

If voting and not voting are enduring habits, it might help if people were invited to do it before they turn 18, when lives often become busy and school civics lessons begin to fade from memory. Scotland allowed 16- and 17-year-olds to vote in the 2014 independence referendum and has continued to do so in Scottish Parliament elections since. Jan Eichhorn and Christine Hübner, two academics, have shown that the pioneer cohort has remained unusually politically engaged, although the lingering thrill of voting on independence may explain some of that. Labour pledged to lower the voting age to 16 in its manifesto. Critics scent a partisan ploy to attract left-leaning teens. It may make wider sense. ■

Defence

Fighting talk

The army chief fears war may come sooner than anyone thinks

THE HALL OF Church House, nestled next to Westminster Abbey, is full of pious exhortations to peace and love. On July 22nd-23rd it was filled with military officers debating how to kill people more efficiently. General Sir Roly Walker, who became chief of the general staff in June, was one of those addressing the army's annual land-warfare conference, run by the Royal United Services Institute (RUSI), a think-tank. In his speech he set out his aim "to double our fighting power in three years and triple it by the end of the decade".

In the past that might have been seen as a cynical ploy to pitch for more money and troops. Unusually, General Walker said he was not asking for either. Instead his plan reflects a fear that war might come sooner than anyone thinks. General Walker sees 2027-28 as a moment in which Russian rearmament, China's threat to Taiwan and Iran's nuclear ambitions might come to- ▸▸

gether in a "singularity". (Admiral Sir Tony Radakin, the chief of the defence staff and General Walker's boss, is more relaxed: he argues that Russia would need five years to rebuild its army to the pre-2022 standard, and another five to fix deeper problems.)

Before the war in Ukraine, the British Army's aim was to modernise slowly in the hope of building a battle-ready force by the early 2030s. That timeline has been shredded. General Walker's plan is to eke out more combat power from the force at his disposal now. His idea is to create an "internet of military things" in which any sensor (a satellite or drone, say) can funnel data to any weapon, the entire process fuelled by artificial intelligence. "We will sense twice as far, decide in half the time, deliver effects over double the distance with half as many munitions," he says, pointing to Ukraine's military ingenuity.

Sceptics retort that the army is running on fumes. On July 23rd John Healey, the new defence secretary, reaffirmed Britain's commitment to offer NATO a corps in any war with Russia—roughly, three divisions' worth of troops, comprising six combat brigades plus enablers such as engineering and artillery units. That is fanciful. The army currently has around 75,000 regular troops. In April General Sir Nick Carter, an ex-army chief, told Parliament that the army had calculated it would need 82,000 troops just to generate a single "warfighting" division. Manpower is not the only issue. RUSI estimates that deploying a single armoured brigade would absorb 70-80% of the army's engineering capabilities for crossing rivers or minefields.

"The British Army has been handed a policy commitment by wider government that it is not resourced to deliver," says Jack Watling, a RUSI expert whose writing has acquired cult status among generals. It is not the army's place to set policy, he acknowledges. "But the rest of government needs to realise that demanding the impossible is grossly irresponsible." The idea of a corps is a "fantasy", says an American general who has worked closely with the British Army. "They could project maybe two understrength brigades." He suggests that Britain look to the US Marine Corps and do away with tanks entirely in favour of a smaller and lighter force that could "plug in" to an American division.

The task of advising on military priorities will fall to three outsiders undertaking a "root-and-branch" defence review announced by Mr Healey on July 16th. Lord Robertson, a NATO secretary-general in 1999-2003, will take the lead, supported by Sir Richard Barrons, a retired general, and Fiona Hill, a British-American expert on Russia who served in Donald Trump's national-security council. That may lead to more resources for General Walker. But he isn't banking on it. ■

Harland and Wolff

Taking on water

BELFAST

A storied shipyard is fighting to stay afloat

When it built the *Titanic* in 1911, Harland and Wolff was the world's biggest shipyard. Where it once employed 35,000 people, there are now just a few hundred workers. But the 163-year-old company remains an institution whose significance to Belfast outweighs its size. Its own increasingly desperate struggle to stay afloat is of symbolic importance to the city and the wider shipbuilding industry. It also provides clues to the willingness of the new Labour government to help out troubled firms.

The company was central to the boom which built Belfast into a manufacturing behemoth of the early 20th century. The yard's massive yellow gantry cranes, Samson and Goliath, have become emblematic of Northern Ireland's capital. A marble statue of Edward Harland still stands outside Belfast city hall. The firm he built has a darker resonance, too. As Ireland moved towards partition in 1920, more than 2,000 Catholic workers were violently expelled from the yard. To this day, just 10% of its workforce is Catholic.

The sprawling yard at Queen's Island, a reclaimed area on the city's waterfront, tells the story not just of 20th-century Belfast but of Britain. From it came the aircraft-carriers, cruisers and tanks which helped defeat Nazi Germany. It built Sea Quest, the rig which discovered Britain's first North Sea oil; more recently it has assembled some of the giant wind turbines weaning the economy off that same oil.

Get the lifeboats

Harland and Wolff also tells the story of the post-war shipbuilding industry in Britain. Increased air travel, a shrinking navy and cheaper foreign competition undermined it. Nationalisation was tried, and then reversed. In 2019 the firm almost collapsed, only to be bought for £5.3m ($6.9m) by InfraStrata, a London-based energy firm that promised a new start. Last year the Belfast yard built its first new vessel in 20 years—a barge to carry rubbish. Greater things were in store. In early 2023 the Tory government announced that naval shipbuilding would return to Belfast; the contract is meant to see three Royal Navy support ships assembled in the city.

Whether Harland and Wolff will be around to do the work is very uncertain. The company failed to file its audited accounts on June 30th, meaning that trading in its shares was suspended; they still haven't materialised. (The firm declined to make anyone available for interview and failed to respond to our written questions.) Another key venture has stalled: an ambitious plan to provide a quarter of Britain's natural-gas storage capacity in caverns 1,500m below Larne Lough, 15 miles from Belfast, is in doubt after a judge quashed licences for the project.

This is more than an issue for one medium-sized company (Harland and Wolff has three other yards in England and Scotland, employing 1,500 people in all). It has also turned into an early test of the new Labour government's appetite for market intervention. On July 22nd the government confirmed that after a good look at the company's financial data it had refused to underwrite a £200m loan and also ruled out any emergency liquidity funding. In a gloomy assessment, the government said there was "a very substantial risk that taxpayer money would be lost" if it underwrote the loan. The market, it said, is best placed to resolve the issue. The company's CEO, John Wood, promptly stepped down.

The firm may yet be able to gain access to credit at high interest rates. But if the business does go under, its home patch will continue to flourish. In 2003 Harland & Wolff sold 75 hectares (185 acres) of land and buildings for £47m (36 hectares are left). This industrial wasteland has since been redeveloped into Titanic Quarter, an area filled with apartments, IT jobs and creative industries rather than welders streaming to build ships. The vast paint hall used for *Titanic* is a film studio where dramatic scenes in "Game of Thrones", a dragons-and-gore TV series, were shot. The old drawing offices where ships were planned are now the splendid bar of the Titanic hotel, opened in 2017. The romance of the area centres on its greatest failure. That will endure even if the shipyard that built the doomed liner does not. ■

BAGEHOT

The limits of hippy-punching

Bashing lefties may be enjoyable. But it carries risks for the new Labour government

HIPPY-PUNCHING IS A simple concept. To gain the trust of voters, leaders of centre-left parties must hunt down their most left-wing members and pummel them. Once an Americanism, it is associated in Britain with Sir Keir Starmer, the Labour leader who won power with his knuckles covered in leftie blood.

Jeremy Corbyn, Labour's most left-wing leader in a generation, was the first to be punched. Sir Keir removed the allotment-tending peacenik from the party. *Pow!* Hippy-friendly pledges were next. Free tuition fees for university students? Those layabouts? *Bam!* A Labour scheme to spend £28bn ($36bn) a year on greenery? Not in this election campaign, Swampy! *Bosh!*

The blows have continued in office. On July 23rd Sir Keir suspended seven left-wing Labour MPs after they supported an opposition-party amendment to remove the two-child benefit cap, a policy that limits welfare payments to bigger families. Cabinet ministers had spent the day hinting to MPs that a change to the cap was in the offing once ministers had worked out how to cover its £3.4bn annual cost. This was not enough to deter a cabal of socialist MPs from voting against their own party, triggering Sir Keir's own pugilistic response. *Thwack!*

Hippy-punching is in vogue for two reasons. Partly, Labour's leadership think it is good politics. More voters lurk to Labour's right than to its left. It can afford to lose vegan constituencies such as Bristol Central to the Green Party. In this Labour follows the political version of Luke 15:7: more joy shall be in Heaven over one swing voter that repenteth, than 99 loyal voters who need no repentance. A single voter in marginal Leigh is worth more than a pile of them in the Labour heartland of Liverpool; a positive piece in the *Sun*, a reactionary tabloid, is worth 99 simpering editorials in the *Guardian*, the hippy bugle.

Partly, Labour's leaders simply enjoy it. The party has a near-psychotic approach to its internal politics, and people now at the top have long dreamed of kicking lefties out the party. "Country first, party second" is a well-worn slogan of Sir Keir's Labour. Factionalism still comes before both. Work combines with pleasure.

But hippy-punching has its limits. Pain has to serve an electoral purpose, points out Marcus Roberts, a pollster at YouGov. People re-elected the Conservatives in 2015 after five years of swingeing cuts because George Osborne, a former chancellor, promised better days ahead. Promise pain and then relief, and voters will reward your honesty. Promise only suffering and voters will eventually turn elsewhere. Which is where jabbing to the left can easily become a fetish rather than a strategy.

This is most apparent when it comes to the cause of this week's small rebellion. Practically all Labour MPs wish to see the two-child benefit limit abolished; most expect the Labour government to end up doing so, even if they do not agree on when it should happen. Yet this issue has become a "virility" test in the eyes of some advisers, for whom looking tough trumps policy outcomes. For a party often accused of being run by effete liberals, Labour is prone to such testosterone-addled thinking. It has a bloke problem rather than a woke problem.

The war in Gaza was another virility test. Palestinian flags felt more common than Union flags during Mr Corbyn's tenure, when Labour also struggled to stamp out antisemitism in the party. What better way to emphasise a changed party than by refusing to heed initial calls for a ceasefire, even when it was supported by a vast majority of Labour voters? In the election on July 4th, the hippies hit back. Wes Streeting, the health secretary, and Shabana Mahmood, the justice secretary, almost lost their seats to pro-Palestinian candidates; other senior party figures actually did so. Now Labour scrambles to repair the damage, calling loudly and proudly for a ceasefire. What was once a demand to be ignored is now party policy. But the damage is done. Predominantly Muslim inner-city seats are nailed on no more; the Greens have a foothold.

Even those who are far from radical can suffer the consequences of the anti-hippy bloodlust. A grandmother with a European Union flag on her Facebook profile is no hippy but has still been hammered. Although Labour voters overwhelmingly support rejoining the EU, nodding to this is *verboten*. A youth-mobility scheme proposed by Eurocrats in Brussels before polling day was met with a metaphorical headbutt from Labour. On the eve of the election Sir Keir offered an out-of-the-blue promise that Britain will not rejoin the EU while he draws breath. *Smack!*

Make war, not love

Treating your own voters with contempt has become a common disease in British politics. The Conservatives attacked their own supporters until the more prosperous corners of Britain turned against them. They tried to appeal to Hartlepool in the hope that Henley-on-Thames would suck it up. Instead, they lost both.

The danger for Labour is that it could go down this same path. The party's strategy of shedding liberal votes in places where it could afford to for the sake of voters where it really needed them worked almost too well at the election. Labour's gigantic parliamentary majority is built on an absurdly narrow vote share of 34%. Boasting about its efficacy is akin to a lecture on the merits of airport punctuality from someone caked in sweat after sprinting through a departures lounge. Labour is cutting it too fine to be beating up its natural supporters.

Refusing to pander to a base is wise politics. Repeatedly punching your own voters is not. What is dismissed as hippy-ranting is often just bog-standard centre-left thought, whether reducing child poverty, drawing closer to the EU or supporting a ceasefire in Gaza. Hippy-punching has worked so well that it is hard to know when to stop—especially when it is such fun. *Kapow!* ■

International

How to stage a sporting extravaganza

Changing the games

PARIS

The Paris Olympics will test the success of new solutions to old bugbears

THE OLYMPIC flame will illuminate the City of Light from July 26th, when the world's greatest sporting spectacle gets under way in Paris. Although France still lacks a government after a snap national parliamentary vote in recent weeks, its capital will host the 33rd Olympiad in style. Dressage events will take place in the magnificent grounds of Versailles; volleyballs will whizz over nets by the Eiffel Tower. Organisers hope to show the best of France to visiting sports fans, business executives and foreign politicians. One of the thousands of volunteers involved describes "an infectious positive energy".

Not all locals are so enthused, however. Security is tight over terrorism fears and much of central Paris has been zoned off. Restaurants and other businesses in these areas are emptier than normal and bookings at the poshest hotels were down between 20% and 50% in July, according to UMIH Prestige, which represents them. Overall, 44% of Parisians consider the games to be a "bad thing", according to recent polling; 50% said they would consider leaving the city to escape them. "I want this event to be amazing," explains Paul Hatte, a Parisian councillor who represents the city's 17th arrondissement, "but it feels more like it will be an international party in Paris without the Parisians."

Such responses are hardly unusual in an Olympic host city; no one likes disruption. But the Paris games are stirring up other well-worn concerns, too: Is hosting the games really worth it? Need they be an environmental calamity? And what of the tricky political decisions around participation and protest? The International Olympic Committee (IOC) has been wrestling with such matters in a bid to break the cycles of doubt that seem to accompany each Olympiad. The games in Paris will reveal whether it has found smart new solutions to stubborn old problems.

It is a century since the French capital first held the Olympics. Back then, 3,000 athletes representing 44 countries competed in 126 medal events. This year's extravaganza will feature 10,500 athletes from 206 countries and 329 medal events. Almost 9m tickets have been sold—a new record. The approach of the games has encouraged vast investment in Paris's amenities. The Metro network is in the middle of a 200km-long expansion costing €42bn ($46bn), and over €1.4bn has been spent on cleaning up the River Seine.

But do cities benefit from holding the games? The economics of hosting the Olympics are challenging. In 2016 a review of studies examining the economic impact of the games concluded that the short-term effects are "near-zero" and that the long-run ones are "elusive". Ten of the 13 summer games until 2016 had resulted in losses, and all of them ran over budget. Recent research by Alexander Budzier and Bent Flyvbjerg at Oxford University estimates that each Olympiad overshoots its original budget by an average of 195%. In Paris the figure is projected to be 115%.

The financial hurdles

As the Olympics have grown, they have attracted more media interest and larger pots of sponsorship money. At present the IOC still retains the bulk of the games' earnings from broadcasters and sponsors. Broadcast revenue rose from $2.2bn in the 1993-96 cycle to $4.5bn in 2017-21 (at 2021 ▸▸

prices), while top-tier sponsorship jumped from $480m to $2.3bn over the same period. Major sponsors of the Paris games include LVMH, the French luxury empire (see Business section). But costs have grown even faster than sponsorship has. In 1924 the Paris games cost around $9m in 2022 prices; this time the estimated cost is around $9bn (see chart). The Parisian organising committee, however, will almost certainly need to stump up more because of overruns. The private sector will foot most of the total bill through the IOC, partner firms, tickets, licensing and more.

Team effort

In the past, prospective hosts spent heavily to try to beat out rivals. Huge demands were then heaped on a single city for shiny new venues to be built according to a tightly fixed schedule. Sometimes they were abandoned later. In the year after Rio de Janeiro's games of 2016, 12 of the 27 venues failed to host another sports event. Judging by previous games, "The value proposition was not appealing," admits Christophe Dubi, the IOC's executive director.

All this hardened public opinion. A decade ago voters in Munich rejected a proposal to host the Winter Olympics in 2022, as did those in Krakow and St Moritz. Beijing won them instead and covered an area of 800,000 square metres with fake snow. A bid for this summer's games was knocked back by the people of Hamburg. Only two cities—Paris and Los Angeles—wound up bidding. That was down from nine cities wanting the 2012 games; seven battling for the 2016 ones and six for the 2020 ones. Officials gave Paris the 2024 games and Los Angeles the 2028 ones.

Crucially, the IOC seems to have learned from the episode and has altered the way countries now bid for competitions. It has moved from a "beauty contest" to a collaborative means of finding a "preferred partner", according to Mr Dubi. Opponents say this is more opaque; the IOC reckons it should cut bidding costs by 80%. Brisbane is the first partner picked this way and it will hold the 2032 games; Seoul was among those miffed at the outcome. Possible hosts for 2036 are lining up already.

At the same time, the committee wants to rein in the Olympics' growth to reduce both costs and environmental damage. It has capped the number of athletes for summer games and prioritised bids that require minimal new infrastructure. Of the new venues to be used in Paris, only three are permanent, purpose-built structures. Organisers hope that sublime backdrops will compensate for pop-up seating.

Greenery is front-of-mind in all this. The games in Rio and London each produced more than 3m tonnes of carbon-dioxide equivalent, roughly equal to the annual emissions of Iceland, a country of 380,000 people. In Paris organisers want the "greenest-ever" games and hope to cut emissions in half from Rio and London levels. They plan to use only renewable energy and to offset emissions through carbon-credit purchases. Environmentalists are sceptical and some initiatives seem superficial. Air-conditioners are banned from the Olympic village despite the fact that they, like most electrical appliances in France, would be powered by nuclear energy. Many teams are just bringing their own.

Alongside the financial and environmental issues, the IOC is dealing with tough political concerns. The original idea was for the Olympics to stay above politics as a "mighty ally" for peace, as the father of the modern games, Pierre de Coubertin, put it. Yet on occasion they have become a stage for geopolitical flexing. Most notoriously, the Berlin games in 1936 were a propaganda tool for Nazi Germany. Consecutive games in Moscow and Los Angeles in the 1980s became another front in the cold war. And the Olympics have not escaped accusations of "sportwashing": in 2008 China used the Beijing games to announce itself as a superpower. Saudi Arabia might try to show its clout by hosting in 2036.

Questions around participation attract particularly intense scrutiny. The IOC recognises 206 National Olympic Committees (NOCs)—for context, the UN has 193 member states—and welcomes entities including Kosovo and Palestine. For those seeking nationhood, the Olympics can be a powerful platform for their cause. Participation is at the IOC's discretion. In Paris, there will be neither Russian nor Belarusian flags. Both these countries' teams have been banned over the war in Ukraine, but some of their athletes can compete as neutral individuals. That appears to have irked some. A Russian chef was arrested in Paris just days before the opening ceremony on suspicion of plotting acts of "destabilisation". An investigation is under way into his possible links to members of the Russian intelligence services.

Missing gold

Summer Olympics, cost, 2022 prices, $bn

Source: "The Oxford Olympics study 2024: are cost and cost-overrun at the games coming down?", by A. Budzier and B. Flyvbjerg, working paper *Estimate

Meanwhile, the IOC has refused to ban Israel for its war in Gaza and its lawyers have dismissed comparisons with Russia. Critics still perceive inconsistency. One far-left French MP was condemned recently for suggesting that Israel's team would not be welcome in Paris. The entire issue is intensified by past tragedy: at the Munich Olympics in 1972 a Palestinian terror group killed 11 Israelis.

Doping is another heated area. After the discovery that Russia had run a state-sponsored doping programme at the winter games in Sochi in 2014, the World Anti-Doping Agency (WADA) recommended that all Russian athletes be banned from competing at the summer games in Rio. The IOC kicked the can down to the individual sporting federations. Several still allowed Russian athletes to take part.

America is also at loggerheads with WADA for failing to act against Chinese swimmers who tested positive for a performance-enhancing drug months before the Tokyo games in 2021. Members of this group went on to win three gold medals. WADA maintains it has no case to answer; China has accused America of "slander". Should any of the implicated swimmers win in Paris, tensions are bound to flare.

Racing ahead

The IOC's reforms are a welcome start. But more could be done in future to make the games easier to host. One idea is to spread the Olympics out. Different cities in different countries could host different events. For economists this is the surest way to cut costs: more places spending on events would mean a smaller bill for each. And a multi-city model could also help assuage local concerns by reducing the pressure on any single host. It might also make it more difficult for autocrats to use the games for their own agendas. There could be environmental benefits, too. At present the IOC rejects such decentralisation. It would "undermine the unifying power" of the games, says Mr Dubi. Yet it is already happening to an extent. For Paris, some basketball and handball matches will take place in Lille, a town 140 miles away. And surfing is in Tahiti, some 10,000 miles away.

In reality, the tremendous power of the games does not come from bringing people together physically but from captivating the world's attention for a fortnight. Over 3bn viewers tuned in to Tokyo and even more are expected to do so for Paris (see Briefing). "People believe the Olympics transcends issues like doping, geopolitics and corruption," reckons Terrence Burns, a former IOC consultant. He points out that the games have survived far trickier geopolitical moments, including the cold war and two world wars. "The Olympics are the last best place where we can come together as a species," he says. ■

Business

Energy

A fossil-fuel fantasy

Donald Trump's promise of a golden age for the oil business is far-fetched

"WE WILL DRILL, baby, drill!" So thundered Donald Trump in his speech on July 19th at the Republican National Convention, where he accepted his party's nomination as its presidential candidate. Encouraged by rapturous applause, he warmed to the theme, vowing to boost domestic production of fossil fuels to "levels that nobody's ever seen before", making America so "energy dominant" that it "will supply the rest of the world".

Mr Trump is assiduously courting oil bosses. In April he invited a group of them to Mar-a-Lago, his private club in Florida, and promised to scrap what they see as President Joe Biden's onerous regulations on the industry if returned to the Oval Office. He asked only that they contribute $1bn to his bid for re-election, arguing that the figure would be a bargain compared with the windfall they would receive from lower taxes and looser rules.

Mr Trump and his team are keen both to set America's oil industry free and to unpick Mr Biden's clean-energy agenda. His supporters invoke vast undeveloped reserves of oil in Alaska and the Gulf of Mexico that would gush forth if only the green boot were removed from the industry's throat. Robert O'Brien, who served as national security adviser during Mr Trump's presidency, suggests that "the United States could be producing millions of barrels more per day." Yet the Trump team's plans are likely to be much less consequential for American energy, both brown and green, than it makes out.

America's oilmen have long complained about Mr Biden, and are likely to have similar reservations about Kamala Harris, the vice-president and almost certain Democratic nominee for November's presidential election after Mr Biden withdrew from the race on July 21st. His signature legislative accomplishment, the Inflation Reduction Act (IRA), for which Ms Harris cast the tie-breaking vote in the Senate, explicitly seeks to encourage the use of low-carbon energy through huge subsidies for green technologies.

Mr Biden has also regulated the fossil-fuel industry's emissions of methane, a potent greenhouse gas, and in January paused the approval of permits to export liquefied natural gas (LNG), enraging bosses. The American Petroleum Institute, a trade association, has decried a "regulatory onslaught". One lobbyist in Washington grouses that the White House makes the oil industry feel as though it is "unwelcome today and will become more unwelcome going forward".

Yet for all the complaints, America's fossil-fuel industry has done remarkably well under Mr Biden. Oil-and-gas production last year was greater than at any point during Mr Trump's term (see chart 1 on next page). Mr Biden's administration issued more licences for drilling during its first three years than Mr Trump's did (see chart 2). Exports have soared. Last year the president approved Willow, an $8bn oil project in Alaska opposed by environmentalists. The profits and dividends of Amer- ▸▸

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ica's oil giants have grown fatter under Mr Biden. The Dow Jones US Oil and Gas Index, which tracks the market value of the industry, sputtered on Mr Trump's watch. It has more than doubled under Mr Biden's, helped by a surge in prices.

One energy expert who has advised former Republican presidents acknowledges that "no federal policy meaningfully restrains near-term production" of oil or natural gas, and sees "no options that would enable oil-and-gas production to rise" by much more than what the market would have dictated anyway. Harold Hamm, a shale billionaire and ardent supporter of Mr Trump, declared recently that the industry is "producing everything we can".

Over the long run, sustained hostility from a future Democratic president could theoretically dampen investment in America's oil-and-gas resources, but such policies are not in evidence. The closest thing is the pause on export permits for LNG. That election-year wheeze, however, was halted by a federal judge earlier this month, and looks unlikely to survive.

Drill, maybe, drill

Ultimately, investment in the oil business "depends on global supply-demand balances and investor appetites", says Kevin Book of ClearView Energy Partners, an energy-research firm. The most important factor affecting those balances is not the White House but the Organisation of the Petroleum Exporting Countries, the oil cartel that sets production quotas with the aim of managing crude prices.

It is Wall Street, moreover, not America's government, that shapes how Big Oil adjusts its investments according to supply and demand. Since the bursting of the shale bubble, a period of reckless expansion after the financial crisis during which the cowboys of the industry burned through some $300bn of cash, investors have sought to rein in oil bosses. Rystad Energy, another research outfit, characterises the prevailing ethos in the shale patch as "persistent capital discipline". It is not clear how much a new president would change the mood.

Well, well, well 1

US, oil and gas production, barrels of oil equivalent per day, m

Sources: EIA; The Economist *Forecast

Greasing the wheels 2

US, federal drilling-permit approvals, '000

Source: Bureau of Land Management *Year beginning Jan 20th

A victory in November for Mr Trump may also do surprisingly little to slow America's shift towards clean power. Although Mr Trump has vowed to repeal the IRA, which he calls the "green new scam", he will probably not be able to do so, argues Neil Auerbach of Hudson Sustainable Group, a clean-energy investor. Some four-fifths of its benefits go to Republican congressional districts.

What is more, for all their hostility to Mr Biden, brown industries are just as keen on handouts as green ones. Dan Brouillette, who served as energy secretary under Mr Trump and now heads the Edison Electric Institute, an association for America's private-sector power utilities, has vowed to defend the IRA. One oil-and-gas lobbyist says his clients, who benefit from the law's subsidies for hydrogen production and carbon-capture technologies, "will go to the mat" to prevent its repeal.

Green machine

A second Trump administration could still slow the greening of America's economy by fiddling with regulations and abandoning targets for decarbonisation, notes Wood Mackenzie, one more energy-research firm. It reckons that America is on course to invest $7.7trn in low-carbon energy between 2023 and 2050, and expects that figure would drop to $6.7trn if Mr Trump were to return to the White House. That is unwelcome, given that America probably needs closer to $12trn of investment to reach net-zero emissions by 2050; but it would hardly sound the death knell for America's green industries.

Wood Mackenzie's analysis predates Mr Biden's exit from the presidential race. Ms Harris may have greener instincts than her boss; during her brief presidential bid four years ago she voiced support for a ban on fracking (though she reversed her position after joining Mr Biden's ticket). As Ms Harris targets younger voters, she is likely to "pitch climate ambition", reckons Mr Book of ClearView. As it stands, though, she has not made any new promises to expand efforts at decarbonisation.

No matter what happens come November, America's low-carbon economy has gained a momentum of its own. Even without subsidies, adding power to the grid with a solar farm is cheaper these days than doing so with a new coal-powered plant. Over 90% of the additional power-generation capacity coming online in America this year will be carbon-free. Big commercial customers, such as the tech giants, which need ever growing amounts of power for their data centres, have made public commitments to cut their net emissions to zero. NextEra Energy, a Florida-based utility that is one of the world's biggest developers of clean energy, is committed to investing roughly $100bn in solar, wind, batteries and transmission by 2027 regardless of who wins the White House.

Mary Landrieu, a former Democratic senator for energy-rich Louisiana, likes to say that "you can't run US Steel on windmills or solar panels". Nonetheless, she is convinced that in the years since Mr Trump left office the oil-and-gas industry "has reached a tipping point in embracing a lower-carbon future". Even fossils, it seems, can change. ■

Self-driving cars

Bump start

WUHAN

China's robotaxis are racing ahead

IF AUTONOMOUS CARS are supposed to make life easy, then Apollo Go, the robotaxi unit of Baidu, a Chinese tech giant, still has work to do. When your correspondent tested its service in the city of Wuhan he had to find his way to a designated pick-up location and end his journey at an approved drop-off spot—more like taking a bus than a cab.

Yet Apollo Go, which launched in Wuhan in 2022 and has since expanded to ten other Chinese cities, has been a hit. Its service has carried out 6m rides nationwide since launching. It now has more than 400 driverless cars on the road in Wuhan and plans to have 1,000 running by the end of this year. Chinese carmakers including Hongqi and Arcfox make the vehicles for Baidu, which provides the technology. Most of its cars in Wuhan have "level four" autonomy, which means they do not require human intervention in most situations on the road but can get muddled in areas such as parking garages—which might explain why it asks customers to ▸▸

trudge through the city's sweltering heat.

The reason Apollo Go has, nevertheless, gained such favour with riders is that it is astonishingly cheap. Your correspondent's 11-minute spin cost just 9.84 yuan ($1.35). Such fares are possible thanks to the largesse of Baidu, which is covering around 60% of the cost of a ride. That is not sustainable. But, thanks to plummeting costs, the company reckons its robotaxis in Wuhan will break even by the end of the year and turn a profit in 2025.

Drivers account for about half of the total cost for a conventional ride-hailing service. But an assortment of other expenses associated with autonomous vehicles—from maintenance and cleaning to sensors and, most importantly, the software on which they run—have so far prevented them being a cheaper substitute. Baidu sees that changing. In May it unveiled its sixth-generation vehicle, which costs less than half the previous model, and plans to upgrade the fleet in Wuhan. As the business has expanded the supply chain has matured and Baidu has been able to spread the cost of developing and updating its technology over more vehicles.

One group that is not thrilled by Baidu's success is Wuhan's cabbies. When asked whether taxi drivers' jobs will be affected, one insists that it "is already happening". Another driver says he admires Baidu's technological advances but worries his job will be "stolen". Last month a taxi company in the city published an open letter warning of the threat that autonomous cars posed to employment.

About 10m people are employed as cabbies in China. Of those about 7m work for ride-hailing firms, in many cases after losing their jobs in another industry. It is unclear how sympathetic China's government will be to their plight. The country's leaders are eager to gain an edge in emerging industries. Local officials are already competing for business. In June the city of Beijing drafted a new set of guidelines for autonomous driving that HSBC, a bank, says will make regulation of the industry more "transparent and predictable".

Elsewhere, efforts to develop robotaxis have stalled. Last year General Motors, an American carmaker, suspended operations at Cruise, its robotaxi business, after one of its cars injured a pedestrian in San Francisco, leading California to revoke its licence to operate in the state. On July 23rd it said it would relaunch the service in Dallas, Houston and Phoenix, but with a human supervisor in the vehicle.

That same day Tesla, America's electric-vehicle giant, said it would push back the unveiling of its robotaxi from August to October. In May China's government offered to let the company test its service in the country. If it does, expect more hand-wringing from China's taxi drivers. ■

The luxury business

Prestige and the podium

LVMH is splurging on the Olympics

PAY CLOSE attention as the medals are draped over the victors of this year's Olympic games in Paris and you may spot a hexagonal piece of wrought iron at their centre. That is a piece of the Eiffel Tower, kept after a renovation. The medals, designed by Chaumet, part of the luxury giant LVMH, are but one example of how the conglomerate's *maisons* will be adding an opulent touch to the games. France's team will don Berluti garments for the opening ceremony on July 26th. VIP lounges have been stocked with the *cuvées* of Moët Hennessy. Even the torch has been kept in a Louis Vuitton checkerboard trunk.

LVMH is not only the "creative partner" for this year's games, but also one of its largest benefactors, thanks to a sponsorship deal reportedly worth €150m ($166m). That is a little over a tenth of the $1.3bn in total sponsorship that the games is expected to receive, according to Ampere Analysis, a research firm—a 60% increase on the amount brought in by the previous, albeit pandemic-afflicted, games in Tokyo. Bernard Arnault, LVMH's boss, has charged his eldest son, Antoine, with overseeing the partnership with this year's event.

At first glance, LVMH's close involvement in the games may seem odd. Luxury brands that sponsored sports traditionally limited themselves to ones with a strong whiff of old money about them (think Hermès and horse-riding or Rolex and tennis). In recent years, however, LVMH has shown a surprising absence of snobbery in its associations. In 2020 Louis Vuitton became a sponsor of the NBA, an American basketball league, and in 2023 it supported the Rugby World Cup. Nor is it alone. Prada, an Italian rival, announced a partnership with the Chinese women's football team last year.

That may reflect what industry-watchers call the "democratisation of luxury". The industry now makes much of its money peddling its goods to shoppers who want to look richer than they are. When unveiling LVMH's sponsorship of the games, the elder Mr Arnault praised its "values of passion, excellence and inclusion". Of greater interest, though, may be its billions of spectators. LVMH will hope to persuade at least some of them to indulge themselves—especially with business slowing in China, as the firm reported on July 23rd.

Whether its own splurge on the Olympics pays off will be difficult to assess. Measuring the return on such sponsorships is notoriously tricky. An executive at a sportswear brand that has supported previous games says his company never noticed much of an impact. For LVMH, though, this may be more of a marathon than a sprint.

Aviation

Dogfight

FARNBOROUGH

Can China smash the Airbus-Boeing duopoly?

EACH YEAR Airbus and Boeing, the two halves of the global aircraft duopoly, face off at the world's most prestigious airshow, which alternates between Paris and Farnborough, in the countryside close to London. This year's event in Farnborough, which opened on July 22nd, was a more subdued clash than usual. Both firms announced some orders from airlines, but these were mostly small.

Boeing is still reeling from the consequences of a panel blowing off a 737 MAX, its short-haul aircraft, in January. That model, which first flew in 2016, has been bedevilled with safety issues. The company has had to slow down production as regulators have investigated its safety procedures, enraging airlines whose deliveries have been delayed. Airbus, which had more planes on display at Farnborough than its chastened rival, has had troubles of its own. Snags in its supply chain have forced it to delay plans to ramp up deliveries of its short-haul jets. At current production rates it will take Airbus nearly 12 years to produce the 8,600 planes it has on its order books, and a similar time for Boeing to meet its 6,150 unfilled orders.

The backdrop is one of soaring demand. Boeing reckons that over the next 20 years the global fleet of passenger planes will need to double to meet the world's growing appetite for flying, requiring 44,000 new aircraft. That is roughly twice as many planes as the duopoly managed to deliver in the past 20 years.

Could this open the door to aviation's twosome becoming a threesome? Rob Morris of Cirium, a consultancy, thinks "it is more a case of when, rather than if". Yet the barriers to becoming a maker of large passenger planes remain formidable.

It would cost Boeing and Airbus perhaps $20bn-30bn to develop a new plane. The expense would be even greater for any newcomer. They would need a decade or more to prepare designs, set up factories, establish a supply chain and obtain the blessing of regulators before any revenue rolled in. What they produce would need to match or beat the price and performance of the duopoly's competing planes. They would then have to convince airlines, which benefit from lower costs when running a single-make fleet, to switch. And they would need to build the vast network of service technicians any customer would require before signing a cheque.

Embraer, a Brazilian aerospace firm, is rumoured to be contemplating a tilt at the duopoly. Its regional jets seat a maximum of around 145 passengers, compared with typically between 150 and 240 for Boeing's 737 MAX and Airbus's A320 family of short-haul planes. Few pundits dispute that it has the engineering prowess. Yet the experience of Bombardier, its one-time rival in regional jets, suggests that is not enough. The Canadian firm invested vast sums developing its CSeries jet, larger versions of which could compete with smaller versions of Airbus's and Boeing's short-haul planes. The financial strain this placed on the company, coupled with tariffs imposed by America after an anti-dumping complaint by Boeing, led it to sell the programme in 2017 to Airbus, which now markets the aircraft as the A220. Bombardier ceased making regional planes altogether in 2020, though it still makes business jets.

Taking on the duopoly from a standing start would be even riskier. After 15 years of soaring costs and technical snafus Mitsubishi Heavy Industries, a Japanese industrial giant, called time last year on its project to develop SpaceJet, a small regional plane that would have been its country's first homegrown passenger aircraft in decades. The MC-21, a much delayed narrowbody jet from Russia's United Aircraft Corporation, is said to be too heavy and suffers from a shorter range and lower capacity than planned. While it may begin commercial service next year, and has a few hundred domestic orders, it is unlikely to do much flying outside Russian airspace.

Scheduled for take-off

Flight risk

China's determination to become an aerospace superpower—and its willingness to throw fistfuls of yuan at the effort—presents the biggest threat to the duopoly. The Centre for Strategic and International Studies, an American think-tank, reckons that by 2020 China's government had handed up to around $70bn in subsidies to COMAC, the country's state-owned aerospace champion, to develop the C919, a narrowbody rival to the 737 MAX and A320 family. Conceived in 2006, it made its long delayed first flight in 2017. COMAC has now delivered six of the planes to customers, and has orders for over 1,000 more.

The C919's range and capacity, however, fall short of the competition. Christian Scherer, boss of Airbus's commercial-aircraft business, regards COMAC as a serious competitor, but points out that the C919 offers no new technology or features. Attracting international buyers will be tough. Outside its home market, only a startup in Brunei with Chinese backers has ordered the C919. Western aviation regulators will be wary of approving a new jet from a new manufacturer, and Western politicians could grumble about domestic airlines purchasing Chinese planes.

Even if COMAC meets its goal of making 150 C919s a year in five years' time, which seems ambitious, it will remain a minnow. Cirium reckons 1,800 short-haul jets will be sold annually by then, meaning COMAC would account for less than a tenth of the total. Boeing still hopes it will ▸▸

ramp up production of its 737 MAX to 50 a month by 2026. Airbus intends to be making 75 A320s a month by 2027.

That said, a slow climb does not mean COMAC will never reach altitude. Mr Morris of Cirium reckons that over the next 20 years it can capture 20-30% of a Chinese market for 6,000 short-haul planes. China's domestic aerospace supply chain should also develop further. Only 14 of the 82 suppliers for the C919 are Chinese, and many of the most complex components come from America and Europe. But China's government is endeavouring to change that. It is even said to be planning an attempt to break into the jet-engine business, taking on Western incumbents.

Airbus, too, was heavily dependent on government largesse when it first began making big jets (though it had the advantage of being formed out of a consortium of longstanding European aerospace firms with experience making planes). Its first passenger jet, the A300 it launched in 1969, was a commercial disappointment. But it laid the groundwork for planes that followed. COMAC may similarly learn from the C919. Though details are scant, it is now developing the C929, a model of which was on display at Farnborough. The long-haul plane would compete with Boeing's 787 Dreamliner and Airbus's A330. COMAC is also said to be developing the C939, which would take on the even larger Boeing 777 and Airbus A350. The incumbents should watch their tails. ■

BARTLEBY

Machines and the meaning of work

Robots and AI might not take your job. But they could make it worse

JULY 19TH was a day for help-desk heroes and support superstars. A routine software update by CrowdStrike, a cyber-security company, caused computer outages in offices, hospitals and airports worldwide. Most white-collar workers looked disconsolately at their screens and realised just how useless they are if they cannot log in. People in IT came to the rescue of helpless colleagues and stranded passengers. Their work that day was full of stress—but also full of meaning.

If machines can add purpose to some jobs when they fail, what about when they work properly? This is not an idle question. Discussions about artificial intelligence (AI) in particular easily get lost in hypothetical debates about wholesale job losses or, worse, the nature of consciousness. But technologies tend to spread in less dramatic ways, task by task rather than role by role. Before machines replace individuals, they change the nature of the work they do.

That is likely to affect job satisfaction. Many employees put a higher premium on non-monetary than monetary rewards. A recent Federal Reserve discussion paper by Katherine Lim and Mike Zabek surveyed American workers who had switched jobs to find out whether and why they thought their new positions were better; they found that interest in the work mattered more to people than pay and benefits.

Which is why another recent paper, from Milena Nikolova and Femke Cnossen of the University of Groningen and Boris Nikolaev of Colorado State University, makes for sobering reading. The authors looked at the prevalence of robots in industrial settings and how that affected workers. Robots reduced the perceived meaningfulness of jobs across the board, irrespective of age, gender, skills and the type of work. In theory, machines can free up time for more interesting tasks; in practice, they seem to have had the opposite effect.

In a separate paper, Ms Nikolova and Ms Cnossen, along with Anthony Lepinteur of the University of Luxembourg, explore why this might be. They find that industrial robots make jobs less physically taxing. But the number of tasks that remain open to humans dwindles, hurting both the variety of work and people's understanding of the production process. Work becomes more routine, not less.

Machines need not have a dulling effect. In their research Ms Nikolova and her co-authors found that people did not perceive a loss of autonomy if they were working with computers, where they have more control of the machine than the other way round. (Presuming, of course, you can turn it on.) And automation may well have a different impact on service industries like health care, where less time spent on drudge work might indeed mean more time with patients.

A paper from 2011 by Michael Barrett of the University of Cambridge and his co-authors found that the introduction of drug-dispensing robots into hospital pharmacies had disparate effects. Pharmacists felt the quality of their jobs had improved because they had more time for patient counselling. Like the IT administrators rolling back the CrowdStrike update, technicians enjoyed the enhanced status that came with knowing how to fix the robots. Pharmacy assistants had a more miserable time of it, however, as their role shrank to loading medicine into the machines.

Consumer reactions to automation can also vary. An experiment conducted by Eugina Leung, now of Tulane University, and her co-authors tested how customers reacted to different descriptions of a cooking set. People who prided themselves on being skilled chefs really didn't like products that promised to do everything at the touch of a button. A technology that cuts down on boring tasks is fine; one that threatens your sense of identity is not.

It is still too early to know how AI will affect the quality of work. Some will surely enjoy using a bot to brainstorm ideas and take care of menial tasks. Yet research by Pok Man Tang of the University of Georgia and his co-authors also suggests that workers who interact more with AI assistants feel lonelier and crave more social contact. The thing for managers to remember is that machines can make employees feel differently about their work. So it matters whether new technologies are introduced in collaboration with employees or imposed from above, and whether they enhance or sap their sense of competence. Bosses who ignore these issues are missing something meaningful.

SCHUMPETER

Augustus on the open-source warpath

Mark Zuckerberg makes a good case for giving away Meta's crown jewels

As ALTER EGOS go, Augustus Caesar is not a bad one for Mark Zuckerberg, *pontifex maximus* of Meta, owner of the Facebook family of apps. Both men started their march to power as teenagers. Both stopped at nothing to build empires—though unlike the impetuous Mr Zuckerberg, Augustus's motto was "make haste slowly". Both gave the illusion of sharing power (Augustus with the Senate, Mr Zuckerberg with shareholders) while wielding it almost absolutely. The Roman emperor is Mr Zuckerberg's role model. In a recent podcast he used the 200-year era of stability ushered in by Augustus to illustrate why he is making Meta's generative artificial-intelligence (AI) models available in a way that, with some poetic licence, he calls open source.

On July 23rd Mr Zuckerberg issued a manifesto laying out in greater detail the business case for open-source AI. That coincided with the release by Meta of Llama 3.1, a freely available large language model (LLM) whose most powerful version, it says, rivals the top offering from OpenAI, maker of ChatGPT. Mr Zuckerberg said Meta's intent was to liberate itself from the sort of gatekeepers that have constrained it in the past, such as Apple and its iPhones. That sounds sensible. It was lost on no one, though, that Meta is Llama's sole gatekeeper.

Meta's new model is certainly an attention-grabber. The biggest version has 405bn parameters (a common definition of LLM power), almost six times those in its predecessor. Mr Zuckerberg claimed that by next year the company's models will reign supreme, throwing down the gauntlet to rivals like OpenAI that have taken a closed approach. As both open and closed models get bigger, the debate over which is better is developing an almost theological intensity. On one side are the open-source purists in favour of decentralised "little tech". On the other are closed-source realists who argue that greater centralisation and control are better for safety and national security.

Mr Zuckerberg's manifesto further stirs that debate. Though questions remain about how genuinely open Meta's models are, and its commitment to the approach, he makes a good case.

As he points out, open-source software has an illustrious pedigree. In the 1990s Linux, an obscure operating system created by a university student, eventually became the industry standard for servers, thanks in part to the backing of IBM, a tech giant of its day. The beauty of Linux's approach was that it provided full access to its source code, enabling developers to modify and improve it. That differs subtly from Meta's approach to AI. Percy Liang, co-founder of Together AI, a cloud-computing startup that will use Llama 3.1, calls the tech giant's models "open weights", rather than open source. Meta makes available the numerical values used in its models, known as weights, but doesn't reveal the data on which the models are trained, which is the equivalent of the source code. That may reduce the ability of developers to customise its models. It is better than nothing, though.

This also raises the question of whether or not Meta might change its approach, leaving developers that rely on its models high and dry. Meta is not a charity, and building LLMs can be costly. Investors have shown in their hostile reaction to Mr Zuckerberg's metaverse ambitions that, despite his control of the company's voting shares, he does not have a blank cheque to splurge on whatever he likes. If Meta does not get the commercial benefits it expects, it may be forced to reconsider its approach.

Openness, meanwhile, raises two big safety concerns. The first is harm-prevention. Though Meta has probed Llama 3.1 for dangers, the bigger models get, the more risk there is that they could go rogue or be misused. Once released, such models do not have a kill switch. That, in turn, raises the issue of liability. Who bears responsibility if these models fall into the hands of bad actors? Regulators are grappling with such questions; a clampdown could affect the long-term viability of open-source AI.

Mr Zuckerberg's rebuttal starts with self-interest. Meta benefits from its interactions with the open-source community, which will suggest ways to make its models better, he argues. Better models should in turn help the firm improve the performance of the AI products it offers to users of Facebook, Instagram and WhatsApp, boosting engagement and profit. Meta's business is based on advertising, rather than subscriptions, so it has no risk of cannibalising itself. What is more, though he does not say this, making its large language models available for free helps commodify the industry, undercutting the prospects of rival tech giants. As with IBM, which backed Linux against Microsoft's Windows, Meta's megabucks and clout are giving open-source AI a tailwind. Big firms such as Nvidia, creator of generative-AI chips and supplier of related offerings, and Amazon Web Services, a cloud provider, are incorporating Llama 3.1 into their products.

Mr Zuckerberg also insists that it is safer to have power concentrated in the hands of the many rather than the few. When it comes to national security, closing models to prevent China getting its hands on them would be counter-productive, he writes. It would hurt American innovation, and China might be able to steal the secrets anyway.

Actium man

Mr Zuckerberg's long-term bet is that openness will be good for the world as well as Meta. He has likened it to Augustus's *Pax Romana*. After years of civil war in the wake of Julius Caesar's death in 44BC, few in Ancient Rome could conceive of the idea of a prolonged period of peace and prosperity. Likewise, he reckons, few investors at this point are able to imagine the long-term potential of Meta giving away its crown jewels. Like his hero, he has battles to fight before his position is secure. But he is on the warpath. ■

AI Briefs

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Mining the net

AI firms will soon exhaust the internet's data. Can they create more?

IN 2006 FEI-FEI LI, then at the University of Illinois, now at Stanford University, saw how mining the internet might help to transform AI research. Linguistic research had identified 80,000 "noun synonym sets", or synsets: groups of synonyms that described the same sort of thing. The billions of images on the internet, Dr Li reckoned, must offer hundreds of examples of each synset. Assemble enough of them and you would have an AI training resource far beyond anything the field had ever seen. "A lot of people are paying attention to models," she said. "Let's pay attention to data." The result was ImageNet.

The internet provided not only the images, but also the resources for labelling them. Once search engines had delivered pictures of what they took to be dogs, cats, chairs or whatever, these images were inspected and annotated by humans recruited through Mechanical Turk, a crowdsourcing service provided by Amazon which allows people to earn money by doing mundane tasks. The result was a database of millions of curated, verified images. It was through using parts of ImageNet for its training that, in 2012, a program called AlexNet demonstrated the remarkable potential of "deep learning"—that is to say, of neural networks with many more layers than had previously been used (see previous brief). This was the beginning of the AI boom, and of a labelling industry designed to provide it with training data.

The later development of large language models (LLMs) also depended on internet data, but in a different way. The classic training exercise for an LLM is not predicting what word best describes the contents of an image; it is predicting what a word cut from a piece of text is, on the basis of the other words around it.

In this sort of training there is no need for labelled and curated data; the system can blank out words, take guesses and grade its answers in a process known as "self-supervised training". There is, though, a need for copious data. The more text the system is given to train on, the better it gets. Given that the internet offers hundreds of trillions of words of text, it became to LLMs what aeons of carbon randomly deposited in sediments have been to modern industry: something to be refined into miraculous fuel.

Common Crawl, an archive of much of the open internet including 50bn web pages, became widely used in AI research. Newer models supplemented it with data from more and more sources, such as Books3, a widely used compilation of thousands of books. But the machines' appetites for text have grown at a rate the internet cannot match. Epoch AI, a research firm, estimates that, by 2028, the stock of high-quality textual data on the internet will all have been used. In the industry this is known as the "data wall". How to deal with this wall is one of AI's great looming questions, and perhaps the one most likely to slow its progress.

One approach is to focus on data quality rather than quantity. AI labs do not simply train their models on the entire internet. They filter and sequence data to maximise how much their models learn. Naveen Rao of Databricks, an AI firm, says that this is the "main differentiator" between AI models on the market. "True information" about the world obviously matters; so does lots of "reasoning". That makes academic textbooks, for example, especially valuable. But setting the balance between data sources remains something of a dark art. What is more, the ordering in which the system encounters different types of data matters too. Lump all the data on one topic, like maths, at the end of the training process, and your model may become specialised at maths but forget some other concepts.

These considerations can get even more complex when the data are not just on different subjects but in different forms. In part because of the lack of new textual data, leading models like OpenAI's GPT-4o and Google's Gemini are now let loose on image, video and audio files as well as text during their self-supervised learning. Training on video is hardest given how dense with data points video files are. Current models typically look at a subset of frames to simplify things. ▸▸

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Whatever models are used, ownership is increasingly recognised as an issue. The material used in training LLMs is often copyrighted and used without consent from, or payment to, the rights holders. Some AI models peep behind paywalls. Model creators claim this sort of thing falls under the "fair use" exemption in American copyright law. AI models should be allowed to read copyrighted material when they learn, just as humans can, they say. But as Benedict Evans, a technology analyst, has put it, "a difference in scale" can lead to "a difference in principle".

Different rights holders are taking different tactics. Getty Images has sued Stability AI, an image-generation firm, for unauthorised use of its image store. The *New York Times* has sued OpenAI and Microsoft for copyright infringement of millions of articles. Other papers have struck deals to license their content. News Corp, owner of the *Wall Street Journal*, signed a deal worth $250m over five years. (*The Economist* has not taken a position on its relationship with AI firms.) Other sources of text and video are doing the same. Stack Overflow, a coding help-site, Reddit, a social-media site, and X (formerly Twitter) are now charging for access to their content for training.

The situation differs between jurisdictions. Japan and Israel have a permissive stance to promote their AI industries. The European Union has no generic "fair use" concept, so could prove stricter. Where markets are set up, different types of data will command different prices: models will need access to timely information from the real world to stay up to date.

Model capabilities can also be improved when the version produced by self-supervised learning, known as the pre-trained version, is refined through additional data in post-training. "Supervised fine-tuning", for example, involves feeding a model question-and-answer pairs collected or handcrafted by humans. This teaches models what good answers look like. "Reinforcement-learning from human feedback" (RLHF), on the other hand, tells them if the answer satisfied the questioner (a subtly different matter).

The best labellers can earn up to $100 an hour

In RLHF users give a model feedback on the quality of its outputs, which are then used to tweak the model's parameters, or "weights". User interactions with chatbots, such as a thumbs-up or -down, are especially useful for RLHF. This creates what techies call a "data flywheel", in which more users lead to more data which feeds back into tuning a better model. AI start-ups are keenly watching what types of questions users ask their models, and then collecting data to tune their models on those topics.

Scale it up

As pre-training data on the internet dry up, post-training is more important. Labelling companies such as Scale AI and Surge AI earn hundreds of millions of dollars a year collecting post-training data. Scale recently raised $1bn on a $14bn valuation. Things have moved on from the Mechanical Turk days: the best labellers earn up to $100 an hour. But, though post-training helps produce better models and is sufficient for many commercial applications, it is ultimately incremental.

Rather than pushing the data wall back bit by bit, another solution would be to jump over it entirely. One approach is to use synthetic data, which are machine-created and therefore limitless. AlphaGo Zero, a model produced by DeepMind, a Google subsidiary, is a good example. The company's first successful Go-playing model had been trained using data on millions of moves from amateur games. AlphaGo Zero used no pre-existing data. Instead it learned Go by playing 4.9m matches against itself over three days, noting the winning strategies. That "reinforcement learning" taught it how to respond to its opponent's moves by simulating a large number of possible responses and choosing the one with the best chance of winning.

A similar approach could be used for LLMs writing, say, a maths proof, step-by-step. An LLM might build up an answer by first generating many first steps. A separate "helper" AI, trained on data from human experts to judge quality, would identify which was best and worth building on. Such AI-produced feedback is a form of synthetic data, and can be used to further train the first model. Eventually you might have a higher-quality answer than if the LLM answered in one go, and an improved LLM to boot. This ability to improve the quality of output by taking more time to think is like the slower, deliberative "system 2" thinking in humans, as described in a recent talk by Andrej Karpathy, a co-founder of OpenAI. Currently, LLMs employ "system 1" thinking, generating a response without deliberation, similar to a human's reflexive response.

The difficulty is extending the approach to settings like health care or education. In gaming, there is a clear definition of winning and it is easier to collect data on whether a move is advantageous. Elsewhere it is trickier. Data on what is a "good" decision are typically collected from experts. But that is costly, takes time and is only a patchy solution. And how do you know if a particular expert is correct?

It is clear that access to more data—whether culled from specialist sources, generated synthetically or provided by human experts—is key to maintaining rapid progress in AI. Like oilfields, the most accessible data reserves have been depleted. The challenge now is to find new ones—or sustainable alternatives. ■

→ Hitting the data wall

Source: EpochAI

Finance & economics

Closing the door

The anti-immigration revolt

Moderate politicians want to limit numbers. Radicals hope for mass deportations. What does this mean for economies across the rich world?

MIGRANTS ARE increasingly unwelcome. Over half of Americans favour "deporting all immigrants living in the US illegally back to their home country", up from a third in 2016. Just 10% of Australians want more immigration, a sharp fall from a few years ago. Sir Keir Starmer, Britain's new centre-left prime minister, wants his country to be "less reliant on migration by training more UK workers". Anthony Albanese, Australia's slightly longer-serving centre-left prime minister, recently said his country's migration system "wasn't working properly" and wants to cut net migration in half. And that is before you get to Donald Trump, who pledges mass deportations if he wins America's presidential election—an example populist parties across Europe may wish to follow.

It is not just words. Australia, Britain and Canada are cracking down on "degree mill" universities offering courses that allow in people whose true intention is to work. This year Canada hopes to cut the number of study permits by a third. Other countries are making it harder for migrants to bring family with them. President Joe Biden has announced measures to bar those who unlawfully cross America's southern border from receiving asylum. In France President Emmanuel Macron wants to speed up deportations; Germany is enacting similar plans. And worse could be on its way. Mr Trump's plans imply the removal of perhaps 7.5m people. What will all this mean for rich-world economies?

The change of approach follows a period of sky-high immigration. In the past three years 15m people have moved to rich countries, the biggest surge in modern history. Last year more than 3m people migrated to America on net, 1.3m went to Canada and about 700,000 turned up in Britain. The arrivals are from all over, including hundreds of thousands of Ukrainians fleeing war and millions from India and sub-Saharan Africa.

Now there are signs the boom may be ending. Net migration to Canada has fallen by almost half from its recent peak, while in New Zealand it is dropping sharply. The rich world has fewer job vacancies than before, giving potential migrants less reason to move. The flood of refugees from Ukraine has slowed to a trickle. New anti-migrant measures are also starting to play a part. In the EU the number of third-country nationals who were returned to their home country, following an order to leave, has risen by 50% over the past two years. In the first quarter of 2024 "enforced returns" from Britain rose by 50% year on year. Illegal crossings at America's southern border recently fell to a three-year low.

Some anti-immigration measures, especially large-scale deportations, could prove immensely damaging to economies. When Canada ramped up deportations during the Depression, it came at a large fiscal cost and clogged the ports. In 1972 the Ugandan government expelled thousands of people of Asian descent, whom it accused of profiteering. "There are virtually ▸▸

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no African entrepreneurs left to take over the commerce," a confidential CIA memo reported that year. It also noted it had become impossible to get a haircut in Kampala as all the barbers had shut.

Those close to Mr Trump argue that "Operation Wetback"—Dwight Eisenhower's mockingly named policy in the 1950s which expelled thousands of undocumented Mexicans—shows mass deportations can work without ill effect. True, the period was one of strong economic growth, and inflation remained low. Yet the comparison is misleading. During the 1950s legal Mexican immigration to America sharply rose, rather than fell. There is little doubt that Mr Trump's proposal would cause economic chaos, as entire industries would be forced to find new staff. Warwick McKibbin of the Peterson Institute for International Economics, a think-tank, reckons that in the unlikely event Mr Trump successfully managed to deport 7.5m people, American GDP would fall by 12% cumulatively over three years.

There is greater uncertainty about the effects of more moderate anti-immigration policies, even if they are still likely to be damaging. In the short term, efforts to bring down sky-high migration would probably reduce inflation in the housing market. Research by Goldman Sachs, a bank, suggests that in Australia each 100,000 decline in annual net migration reduces rents by about 1%. As migration to Britain has slowed in recent months, so has the pace of rent rises (other factors are playing a role, too). In time, though, falling migration would probably push up other inflation. As labour supply declined, wages might grow faster than otherwise, raising the price of services such as hospitality.

A clampdown would also benefit GDP per person—the yardstick by which economists usually assess living standards. As immigration surged in 2022 and 2023, GDP per person in Britain fell. It has tumbled in Germany. In Canada it remains nearly 4% off its high in 2022. This has happened in part because the latest arrivals are on average less skilled than the resident population, meaning that they cannot command high salaries. Although this is a mechanical effect, rather than an actual hit to natives' living standards, reducing immigration could stop the slide in the short term.

For much longer?

Selected countries*, adult foreign-born population, % change on a year earlier

Sources: Eurostat; national statistics

*Weighted average of Australia, Britain, Canada, EU, Iceland, Norway and US

Not here to mess around

Britain, employment rate, %

Source: ONS

Working through it

But it would do so with long-term costs. New arrivals are finding jobs. For decades migrants in Britain were less likely than natives to work—no longer. The employment rate of migrants in Europe is the same as that for natives. Immigrants in America have long been likelier to work than people born in the country, and in recent months the gap has widened. Cracking down on migration risks provoking the re-emergence of labour shortages that plagued economies across the rich world in 2021 and 2022, and which drag on GDP per person by creating inefficiencies. In the long term, immigration also allows for more specialisation in the labour force.

Crucially, the new arrivals often work in unglamorous, poorly paid but nonetheless vital industries, including construction and health care. From 2019 to 2023 the number of foreign-born people in America's construction workforce rose sharply, even as the number of native builders fell. In Norway the number of foreign workers employed in health care has jumped by 20% since the covid-19 pandemic. The number of doctors working in Ireland but who trained elsewhere is up by 28%. During the same period the number of Chinese staff in Britain's struggling National Health Service has doubled, while the number of Kenyans has tripled.

Over time rich countries, which have ageing populations, will need more workers who are young and keen to work. This is because few politicians are talking about measures such as drastically raising the retirement age or making health care much more efficient. Although cracking down on arrivals may buy politicians support for now, economic logic means the policy will become an ordeal if maintained. ■

Currency intervention

Green dreams

WASHINGTON, DC

How Donald Trump and J.D. Vance might try to weaken the dollar

IN SEPTEMBER 1985, eight months after Ronald Reagan, America's 40th president, began his second term, finance ministers and central bankers from America, Britain, France, Japan and West Germany met at the Plaza Hotel in New York. They discussed ways to bring down the value of the dollar, which had risen by nearly 50% on a trade-weighted basis between 1980 and Reagan's second inauguration. Other countries had expressed alarm; the American trade deficit had ballooned. After the group announced that "orderly appreciation of the non-dollar currencies is desirable" and that they were ready to "co-operate more closely to encourage this", the dollar plummeted. By the late 1980s, it was back where it traded in 1980.

Despite the seeming success of the "Plaza Accords", currency intervention fell out of favour. Desire for control over monetary policy, as a way to keep inflation low, took precedence. It is infeasible for a country to have an independent monetary policy, an open capital account and a fixed exchange rate; even going for two of the three, and influence over the third, is not much easier. Currency markets are vast, deep and liquid. Time and again foreign-exchange traders have beaten into submission policymakers who have dared try to push them around, in either direction. ▸▸

Yet this may not stop a second Trump administration from trying. Donald Trump likes most strong things—strongmen, strong borders, strong China policy—but not a strong currency. "One would think that I would be thrilled with our very strong dollar," he said in 2019, "I am not!", explaining he thought it undermined American industry. He is joined in this dislike by J.D. Vance, his new running-mate. "When I survey the American economy...I see our mass consumption of mostly useless imports on the one hand and our hollowed-out industrial base on the other hand," he told a Senate hearing last year, before asking Jerome Powell, chair of the Federal Reserve, if there were downsides to having the world's reserve currency.

What tactics could a Trump-Vance White House use to bring down the dollar? A repeat of the Plaza Accords—surely this time at the Trump International Hotel, on the other side of Central Park—is unlikely. They were agreed, in part, as an alternative to levying tariffs or other trade-protection measures on allies, which were desired by Congress. America's trading partners are far more varied, numerous and hostile than in the 1980s. Fewer would be willing to help America out this time round.

Made in China

The Treasury could instead act of its own accord, selling dollars to buy foreign currency. But this might be expensive. From 2014 to 2017 China, which has robust capital controls and a thinner foreign-exchange market, spent $1trn, or 3% of GDP, a year trying to support the value of its currency. America is running a large budget deficit. Borrowing vast sums only to buy up foreign currency might not appeal, especially if funds are restricted by the debt ceiling and could finance tax cuts.

Perhaps Messrs Trump and Vance will try to coerce the Fed into action. Independent monetary policy is not something Mr Trump has ever cared much about. In his first term he often took to social media to chastise Mr Powell for being slow to cut interest rates, criticising him for having "no guts, no sense, no vision". If the central bank could be nudged into printing dollars or lowering rates, that would probably help bring down the value of the dollar. Yet it is unlikely Mr Powell could be bullied into doing this, not least because it would almost certainly cause inflation, which he is required to keep low and stable. Firing Mr Powell, and replacing him with a more pliable chairman, might not be legal.

Some kind of capital control is the only other tool. It is unthinkable that America would implement the kind of restrictions that China has in place, but it could make flows of capital a little less free, such as by imposing a tax on foreign purchases of American financial assets. This idea has been floated by Robert Lighthizer, Mr Trump's trade representative during his first term, as a tool to bring down the trade deficit. It, too, might have unwelcome consequences, including pushing up government-bond yields or pushing down stock prices. Given that Mr Trump likes issuing government debt and takes pride in a strong stockmarket, this could put him off.

If a second Trump administration simply does nothing, it might even get lucky. The jury has long been out on whether it really was the Plaza Accords that drove down the dollar. The currency's strength in the early 1980s was encouraged by the Fed's war on inflation, which it fought with eye-watering interest rates of almost 20%. By the end of the decade the battle was won, and rates had been cut sharply. A similar story seems to be playing out in America now. After more than two years of tight monetary policy, inflation at last appears to be subsiding. Rate cuts—and currency weakness—may soon follow. ■

Mighty uncomfortable

US dollar trade-weighted exchange rate*
January 3rd 2000=100

Source: LSEG Workspace *Against major currencies

Heterodox thought

The other Donald

Revisiting the work of Kamala Harris's father, a combative Marxist economist

IN A VIDEO clip that has gone viral recently, Kamala Harris quotes her mother asking her whether she thought she had just fallen out of a coconut tree. The probable Democratic nominee for president breaks into a laugh at the turn of phrase before explaining, somewhat philosophically, the message of the story: "you exist in the context of all in which you live and what came before you." For Ms Harris some of that context is esoteric economic theory. Her father, Donald, is an 85-year-old, Jamaican-born economist, formerly a professor at Stanford University.

As part of a tradition of heterodox economists, Mr Harris is tenacious and prosecutorial, with a terrier-like grip on the blind spots and misguided assumptions of the mainstream (as well as the foibles of his daughter, whom he publicly admonished for stereotyping Jamaicans when she admitted to smoking marijuana). He is a clear writer. There are few compound nouns or sentences that run for paragraphs. Yet he is still a Marxist and his writings are sprinkled with obscurantist theorising. Republicans who have mocked Ms Harris for word-salad speeches will find precedent in her father's writing.

Mr Harris's work shares some of the economic concerns of the Biden administration, in which Ms Harris is vice-president. His book, "Capital Accumulation and Income Distribution", published in 1978 and dedicated to Kamala and her sister, examines the pitfalls of relying on profit-seeking capitalists to direct an economy. The focus is on the connection between inequality and growth. Seeking to not only understand why some countries are rich and others poor but also why parts of all economies are backward, a pattern he calls "uneven development", Mr Harris rejected the work of Robert Solow, the father of mainstream growth theory, and aligned himself with post-Keynesians such as Joan Robinson and Piero Sraffa.

The two camps sparred often. In the 1950s Robinson's critique of Solow's growth model led to what became known as "the Cambridge Capital Controversy", owing to the fact it took place between neo-Keynesian economists in Cambridge, Massachusetts, such as Solow, and post-Keynesians in Cambridge, England. The latter alleged that their American peers improperly conceptualised capital. Aggregating the capital stock, the diverse mix of equipment an economy relies on, in terms of money involved circular logic: the return on capital was required to calculate its volume, which was then required to calculate its return. The American economists conceded the point but kept using their models. "If God had meant there to be more than two factors of production, he would have made it easier for us to draw three-dimensional diagrams," Solow quipped.

Mr Harris did not move on. In his 1978 book he developed a model of growth without an aggregate capital stock. Rather than the smooth "production function" of Solow, in which the rate of saving and population growth determines capital per worker, Mr Harris instead proposed that firms must choose from a "book of blueprints", which need different capital goods. Capitalists will compete to ensure the rate of profit is consistent across different industries, picking a blueprint based on the level of wages and profits in the economy. Unlike in Solow's model, each part of ▸▸

America's Ralph Miliband?

the economy does not use the maximum amount of capital per worker. There is no "steady state" path of growth, but multiple equilibria dependent on the level of wages and profits. Later he would suggest that constantly evolving technology inevitably leads to persistent unemployment.

In his diagnosis of capitalism as inherently insecure and, if left to its own devices, insufficient to improve living standards, there is an echo of themes in both American party's platforms; namely, the public investment and industrial policy in Bidenomics, which is intended to juice growth for the "middle class", and the more interventionist aspects of Donald Trump's economic nationalism. Americans across the political spectrum now seem to agree that the unfettered free market is not the route to widespread prosperity.

Trying completely to reconcile Mr Harris's work with the mainstream would bowdlerise it, though, as it is more unashamedly Marxist than anything in modern American politics. He is concerned with exploitation, the value form and the diminishing rate of profit. In one paper he dismissed the idea of America's black population as analogous to those living under colonial rule, arguing that the problem was capitalism rather than dominance by a foreign power. There is no reason why black workers would be better off under black capitalists than white ones, he wrote.

Today few politicians are keen to cite Robinson or Sraffa as intellectual influences. Mr Harris, for his part, retired from academia in 1998 to focus on policy work, including advising the Jamaican government. For all his earlier radicalism, he has recommended fiscal discipline and crime reduction, as well as export-led growth and industrial strategy. In the end, however, perhaps his greatest economic legacy will be his daughter. ■

Putin's problem

War and prices

Russia faces a nasty housing bubble

MORTGAGES USED to be a tough sell in Russia. Decades of Soviet propaganda, which denounced credit as an unbearable burden, had an effect. Even after the end of communism, Russians still referred to mortgages as "debt slavery", preferring to save until they could buy their homes outright. Vladimir Putin, the country's president, has spent two decades trying to convince his citizens to take a different view. In 2003, during his first term, he explained that mortgages might help solve "the acute problem of housing" facing Russians. His plea fell on deaf ears.

He is now having more success—and all it took was a heavy dose of statism, as well as the invasion of a peaceful neighbour. Over the past few years, the number of Russians taking out mortgages has soared, owing to a generous programme of state subsidies for buyers of new-builds. Mr Putin may have got more than he bargained for, however, since the state's subsidy binge has stoked an ultra-hot property market, sending house prices soaring. As such, the Kremlin has found itself picking up a giant and fast-growing bill.

In 2020, when Russia was gripped by covid-19, officials increased handouts for those buying freshly constructed properties in an attempt to bolster the economy. At first, banks offered mortgage applicants a preferential rate of around 6%, roughly two percentage points below the market rate, with the state making up the difference. Similar discounts, which had previously only been available to families, were then offered to IT workers and people moving to places including the Arctic, Siberia and occupied Ukraine. Still, mortgage volumes did not begin to really rise until Russia's economy went on a war footing. Banks issued mortgages worth 7.7trn roubles ($88bn, or 4% of GDP) last year, up from a total of 4.3trn in 2020. Most were supported by subsidies.

This reflects the fact that Russians are short of investment opportunities: sanctions weigh on the stockmarket and currency controls make it hard to move money abroad. Inflation, which came roaring back in mid-2023, has also played a role—and not just by giving Russians an incentive to put money into bricks and mortar. When the Central Bank of Russia (CBR) started raising interest rates, the scheme's appeal grew. As the CBR lifted its benchmark rate to 16%, the government kept its preferential rate low, raising it to just 8%. In June there was a gap of more than ten percentage points between the government's rate and the market rate for a mortgage.

As a consequence, the Kremlin is footing a hefty bill. The finance ministry has already spent nearly half a trillion roubles on the scheme. Costs could soon climb higher if, as most analysts expect, the CBR raises rates to 18% on July 26th. The boom in subsidised loans has also caused a housing bubble. Last year 110m square metres of housing were built, compared with an average of just 59m a year since the end of communism. At the same time, prices are soaring. The Moscow-based Institute for Urban Economics reckons they climbed by 172% in the biggest cities between 2020 and 2023. Elvira Nabiullina, the CBR's governor, is spooked. She has blamed the government's subsidies for "overheating" the housing market and said that they would pose a "pro-inflationary risk" if the Kremlin failed to wind them down.

Under pressure from the CBR and the finance ministry, the Kremlin has begun to do just that. In December it hiked the minimum deposit required for a loan from 20% to 30%. Earlier this month it ended its most popular scheme, which was for buyers of new-builds. The number of new mortgages could drop by some 50% in the second half of the year, according to one analyst quoted by state-affiliated media.

Russia's construction industry will suffer. So will banks, which have enjoyed record profits driven by rapid growth in mortgage portfolios. For now, though, the housing market may manage to avoid a collapse. Vasily Astrov of the Vienna Institute for International Economic Studies says "deceleration and possibly stagnation" are likelier than a big drop in prices. Russia's red-hot war economy, which has seen bumper wage growth this year, may yet prove able to sustain a robust property market even in the face of higher rates and slimmed-down state support. The economy has defied doubters so far. And Russians seem willing to bet the house on it. ■

The home front

Russia, monthly mortgage lending*, roubles bn

Source: Central Bank of Russia *12-month moving average

Strategic reserves

An ill wind

Why is Xi Jinping building secret commodity stockpiles?

OVER THE past two decades China has devoured enormous amounts of raw materials. Its population has grown bigger and richer, requiring more dairy, grain and meat. Its giant industries have been ravenous for energy and metals. In recent years, though, the economy has suffered from political mismanagement and a property crisis. Chinese officials are adamant that they want to shift away from resource-intensive industries. Logic dictates that the country's appetite for commodities should be shrinking, and shrinking fast.

In reality, the opposite is happening. Last year China's imports of many basic resources broke records, and imports of all types of commodities surged by 16% in volume terms. They are still rising, up by 6% in the first five months of this year. Given the country's economic struggles, that does not reflect growing consumption. Instead, China appears to be stockpiling materials at a rapid pace—and at a time when commodities are expensive. Policymakers in Beijing seem to be worried about new geopolitical threats, not least that a new, hawkish American president could try to choke crucial supply routes to China.

The fear is warranted, for China depends on foreign resources. Although it is the world's refining centre for many metals, it imports much of the raw material required, ranging from 70% of the bauxite it uses to 97% of cobalt. China keeps the lights on only with imported energy. It has a lot of coal, but its deposits of other fuels do not match its needs, forcing it to bring in 40% of its natural gas and 70% of its crude oil. China's dependence is most acute for food. In 2000 almost everything citizens ate was produced at home; today less than two-thirds is. The country imports 85% of the 125m tonnes a year of soya beans it uses to feed its 400m pigs. Its reliance on foreign farmers is near total for coffee, palm oil and some dairy products.

Aware of this vulnerability, China started building "strategic" stockpiles of grain and defence-related minerals at the end of the cold war, which it then added to at the peak of its economic boom with petroleum and industrial metals. Three recent events have prompted more stockpiling. In 2018 President Donald Trump imposed tariffs on Chinese exports worth $60bn a year, forcing China to retaliate by slapping duties on American soya beans. Next came covid-19, which disrupted supply chains and raised the cost of materials. War in Ukraine then inflated prices and showed America's will to use embargoes.

Against the grain

Source: JPMorgan Chase

Now Mr Trump, who makes no secret of his desire to hobble China, has a decent chance of returning to power. In a confrontation, America could restrict its own food exports to China, which have rebounded since a truce of sorts was reached, and lean on other big suppliers such as Argentina and Brazil to do likewise. It could try to influence countries that sell metals to China, including Australia and Chile. And most of China's commodity imports are shipped through a few straits and canals that America could seek to block for Chinese vessels by, say, posting military ships nearby.

China seems to be readying itself for a more hostile environment. Its preparations start with scaling up storage infrastructure. By contrast with America, where strategic reserves are state-controlled, in China they also take the form of private tanks, silos and warehouses, which officials in Beijing have access to in times of crisis.

Since 2020 China's crude-storage capacity has increased from 1.7bn to 2bn barrels. The location of many such sites is secret, but satellite imagery suggests that known ones have grown fast since 2022, says Emma Li of Vortexa, a data firm. Similarly, the capacity of underground gas caves grew six-fold between 2010 and 2020, to 15bn cubic metres (bcm); the target is to reach 55bcm by next year. China is also building a dozen or so tanks to hold liquefied gas along its coast. JPMorgan Chase, a bank, forecasts that total gas-storage capacity will hit 85bcm by 2030.

China is now filling these facilities. In another sign of increasing caginess, state statisticians have stopped releasing data for stocks of many commodities. Yet there are ways to gauge the degree of concern. America's Department of Agriculture forecasts that, by the end of the current growing season, China's wheat and maize stocks will represent 51% and 67% of the world's, respectively, up five to ten percentage points from 2018. These are thought to be enough to cover at least a year's demand. Stocks of soya beans, China's biggest farming import, have doubled since 2018, to 39m tonnes, and are projected to hit 42m tonnes by the end of the season.

More striking still has been China's effort to stash metals and fuel. By estimating the amounts of copper, nickel and various other metals that China could have consumed and comparing it with supply, Tom Price of Panmure Liberum, a bank, finds that the country's inventory build-up since ▸▸

Storing up trouble

2018 has been sufficient to cover at least 35% to 133% of its annual demand, depending on the commodity. By the end of spring China also had 25bcm of gas in storage, enough to meet 23 days of consumption, and up from 15 days' worth five years ago. Parsley Ong of JPMorgan expects that this cover will reach 28 days by 2030.

Crude stocks, meanwhile, have risen by 900,000 barrels a day (b/d) since the start of the year, estimates Rapidan Energy, a consultancy. At 1.5m b/d, the filling rate was fastest in June, suggesting that it is accelerating. This has helped China's inventory near 1.3bn barrels, enough to cover 115 days of imports (America holds 800m barrels). On top of this, China has told oil firms to add 60m to stockpiles by the end of March. Rapidan thinks reserves will grow even faster, with China adding as many as 700m barrels by the end of 2025.

This stockpiling is worrying Americans, and not just because it could fuel inflation by raising commodity prices. The supplies China is after are those it would need to survive a conflict, perhaps as it blockades Taiwan. "When you juxtapose that against China's military build-up, it starts to be very concerning," says Gabriel Collins, a former analyst at America's defence department. For now, the evidence suggests that hoarding is more likely to be a defensive measure, since it is not yet on a scale to be secure in a hot conflict. American officials should watch closely for the moment that starts to change. ■

BUTTONWOOD

Democratic deficit

Turning a profit from political news is a lot harder than it looks

TO MEET THE world's biggest news junkies, head not to Washington or Westminster. Instead, make your way to a trading floor, where information from every corner of the globe must be parsed the instant it emerges. Whatever the news, from coups to company-earnings reports, it probably affects the price of something. This year, amid a seemingly never-ending series of elections, the addicts are not short of a fix. Electorates representing most of the world's population are heading to polling booths, and not just market-makers but investors everywhere face the tantalising prospect of trading on the results.

The rewards of doing so successfully are difficult to ignore, since an incoming government has a huge capacity to influence investors' returns. Its fiscal decisions will alter the course of sovereign-bond yields, company profits and foreign-exchange rates. Subsidies, tariffs and regulation will determine which industries get a boost and which are knocked for six. Less tangible, if no less important, the vibes that a new administration gives off concerning trade, cross-border investment and commerce in general will help decide whether foreign capital floods in or beats a quiet retreat. It all hits the bottom line.

This is where even the most ardent armchair politico should pause, take a breath and perhaps follow it with a cold shower. Elections offer endless streams of data (in the form of polls and betting odds) as well as constant twists and turns (a shock coalition in India; a candidate's withdrawal in America). They are like catnip to investors, while also burdening their portfolios with real risks. Still, the temptation of trying to make a quick buck from politics should be resisted. For most, it is simply too hard.

To see why, return to that trading floor. You might indeed have identified that a political development—a snap election in Britain, a president haemorrhaging support in America, a poll suggesting France's parliament might fall to the far right—is likely to affect asset prices. But the traders and their algos will have got there first. By the time you have placed your bet that a battered currency will recover, a yield curve will steepen or a bond spread will widen, most of the move will already have happened and the lion's share of your profits will have already gone.

Suppose you booked your trade in time for the juice to still be worth the squeeze. Perhaps it was the night of June 27th and Donald Trump had just trounced Joe Biden in a televised debate. You decided deficit-funded tax cuts under Mr Trump's presidency had just become more likely, which, all else being equal, would push up Treasury yields. And you were right: by July 1st the ten-year Treasury yield had risen by nearly 20 basis points. But all else is never equal. Over the next couple of weeks, even as Mr Trump's chances looked as strong as ever, weak employment figures and surprisingly cool inflation data would have brought yields back down and then some, putting your trade into the red. You would have made the right political call, and other factors would have swamped its consequences.

Even that assumes you correctly judged the implications of the news in the first place. In practice, knock-on effects on asset prices that might seem obvious at first can often be argued both ways. Immediately after Narendra Modi, India's prime minister, lost his parliamentary majority in June, Indian stocks tanked. Whatever it was that investors feared, they swiftly changed their minds. After falling by 6% on the day of the election result, India's benchmark index duly recovered its losses within the week and then continued to climb.

This summer's "Trump trades" may well end up looking similarly shaky, even if Mr Trump does return to the White House. The classic argument is that a promised 60% tariff on Chinese goods, plus a blanket 10% on those from elsewhere, would fuel inflation and higher bond yields. Yet the opposite might also be true. Should such tariffs trigger a tit-for-tat retaliation, the ensuing instability and shock to growth could well enhance Treasuries' safe-haven appeal, ultimately lowering yields.

For a certain type of investor, this very unpredictability is the whole point of betting on anything: bearing risk is precisely what creates the potential for outperformance. Perhaps. But deliberate exposure to this sort of radical uncertainty is a far cry from most people's investment strategy. News junkies should enjoy this year's electoral drama to their hearts' content—and keep their trading apps firmly closed.

Science & technology

Warfare

Hey, what's that sound?

Ukraine is pioneering the acoustic detection of aerial threats, with great success

ONCE RUSSIA'S full invasion got rolling on February 24th 2022, Ukraine's prospects for defending its airspace looked poor. The country's radar coverage was patchy even before its radar stations came under attack, and many incoming drones and cruise missiles were flying too low to be spotted by stations still standing.

War, however, can spur innovation. Four days after the invasion began, a group of ambitious Ukrainian techies formed an outfit called Technari to develop an alternative system, known as ePPO, for detecting and tracking Russian aerial attacks. Gennady Suldin, a co-founder, describes it as "human radar". Consisting of a smartphone app and an artificial-intelligence (AI) model, it allows verified Ukrainian citizens to report flying objects they see or hear with the push of a button.

It has proved stunningly effective. And Technari is hopeful of yet greater successes as it starts to process sounds of potential aerial threats picked up by microphone networks positioned across Ukraine. The company's work is a small part of a quiet but dramatic Ukrainian experiment in countering aerial attacks. Several other outfits are already operating networks of microphones that relay sounds to Ukrainian air-defence operators. These wartime innovations are proving to be so successful that other countries may soon follow suit.

Microphone arrays that triangulate a shooter's position have a long history in warfare, and they made much progress in the past two decades, especially in protecting Western soldiers in Afghanistan and Iraq. But the analysis of sound waves for air defence has long been considered impractical. Mary "Missy" Cummings, a former American fighter pilot who has co-written numerous academic studies on the technology's prospects, has compared the quest to "reading somebody's palm". Many have wanted to believe the approach would work, she says, but so far it has not.

Ukraine's experience has changed matters, reckons James Hecker, who commands America's air forces in Europe from Ramstein air base in Germany. He describes Ukrainian innovation in acoustic sensing as "extraordinary".

Compared with radar, Ukraine's microphone networks are cheaper and emit no signals that Russian forces might detect. And whereas clever engineering can sharply reduce an aircraft's radar signature (as Russia has shown by redesigning Iran's Shahed kamikaze drones with stealthier composites), propelling hardware through the air generates sound. Crucially, acoustic detection works best at the low altitudes where most combat drones fly. General Hecker reckons the tech is now viable up to about 3,000 metres, with radar able to monitor higher altitudes without interference from clutter near the ground.

All this explains why microphone networks are so appealing. One such was designed by Zvook ("sound" in Ukrainian), a startup in Lviv that has placed high-quality microphones near the front. The resulting recordings were used to train software to identify the acoustic signatures of threats ranging from small drones to rockets, missiles and crewed aircraft—all while disre- ▸▸

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garding the sounds of civilian life.

Zvook's detection ranges, though much shorter than radar, are nothing to sniff at. Drones, for example, can be detected up to 5km away. For cruise missiles, the range is about 7km. To pull this off, Zvook designed curved "acoustic mirrors" half a metre in diameter. These dishes concentrate sound waves on the microphones they cup. Most listening stations have two, for a coverage arc of about 200°. Processing takes place on an adjacent computer.

Zvook listening stations, each smaller than a shoebox, are produced for about $500 each. By comparison, a radar able to detect a smallish drone 5km away can cost $500,000. A microphone network can therefore be relatively dense, and accuracy increases along with the number of stations that hear a sound. Kyivstar, a telecoms firm, installs Zvook's kit on its cell towers, handles maintenance and transmits data all free of charge. In areas without functioning cell towers, such as near the front, the system is often hidden in grass without the bulky acoustic mirrors, which might be spotted. Power is provided thanks to a battery or solar panel. For these more discreet emplacements, data are transmitted by broadband satellites.

Zvook's detections typically take less than 12 seconds to show up in an army computer program called Delta. Maryan Sulym, an air-defence sergeant and Zvook's boss, says the rate of false positives is now about 1.6%. To provide additional verification, Delta users receive a nine-second clip of the sound in question. In areas where Zvook's roughly 270 (and counting) stations, all donated to the army, are listening, radar is often switched on only in response to alerts, he says. Zvook's hand in foiling airstrikes, most notably on Kharkiv, Ukraine's second city, earned Sergeant Sulym permission to focus his efforts on a big expansion of the network.

Its accuracy should increase, too. To triangulate a sound's origin more efficiently, Zvook is designing a special array of four microphones to plug in to listening stations. That should allow the direction of a sound's origin to be located to within about 5°. Sergeant Sulym hopes that this will be good enough for interceptors to be launched without the need for a prior sweep from ground radar. Military personnel are due to test an initial batch of 15 of these triangulation arrays next month.

A far bigger acoustic-detection network has been developed by a secretive Ukrainian outfit called Sky Fortress. It consists of several thousand listening stations, with thousands more planned. Though its initial listening stations captured and processed sound with Android smartphones, the network, like Zvook's, now uses dedicated microphones and microcomputers. Data are fed into a Ukrainian command-and-control system known as Virazh. Like ePPO and Zvook, Sky Fortress is mostly funded by donations, an astonishing development for air defence.

Few outside experts are privy to Sky Fortress's workings. One of them is Riki Ellison, founder of the Missile Defence Advocacy Alliance (MDAA), a non-profit in Alexandria, Virginia. Sky Fortress has become so extensive and "so damn good", he says, it now detects most Russian munitions that fly low into Ukraine. Russian units have begun to muffle or otherwise alter their drones' acoustic signatures, but the detection algorithms promptly adapt. "This is AI at its best," says Mr Ellison.

Advances in data processing are revealing acoustic signals to be surprisingly rich. Frequency spectrograms shared by a Ukrainian colonel, who requested anonymity, show that even similar drones have distinct sound signatures. Thomas Withington, an air-defence specialist at RUSI, a think-tank based in London, says you can even hear the motor strain caused by heavy payloads.

Everybody, look what's going down

Russia is responding in kind. Tallamkho Design Bureau, a firm in Grozny in Chechnya, recently announced that its new microphone system, Malik, can protect Russian trenches and other positions by detecting Ukrainian drones from about 330 metres out. A smaller Malik system attaches to a soldier's uniform.

Other countries are also taking note. Several weeks ago Sky Fortress's kit was quietly demonstrated on a test range in Europe. Representatives from 11 NATO countries saw (unarmed) cruise missiles and drones handily detected and tracked. Mr Ellison of MDAA, the organiser, says two more such events are planned. NATO is considering deploying microphones for its air defences, says General Hecker.

Several defence ministries in the military alliance's east are already purchasing acoustic gear for air defence. A Polish aerial-tracking firm supplying them, Advanced Protection Systems, had discontinued R&D on acoustics some years ago. Events in Ukraine persuaded it to try again, says Maciej Klemm, its boss. The firm now also sells acoustics hardware to an undisclosed entity in Ukraine.

Thales, a European defence giant, has also spotted an opportunity. Next year its first microphone system for drone detection will hit the market, says Jean-Michel Negret, a product manager based near Paris. Other big Western companies will no doubt get involved. They would be wise to watch Ukraine for inspiration. In a new twist, some enterprising Ukrainian technologists are rigging dog-fighting drones with microphones to help them zero in on their Russian opposite numbers in aerial combat. The sound ideas continue. ■

Ocean life

Deep breaths

Polymetallic nodules are a previously unknown source of oxygen

THE VAST majority of Earth's oxygen is made as a by-product of photosynthesis, the use of light to convert water and carbon dioxide into sugars. Any oxygen found in regions where photosynthesis is impossible—such as the abyssal seafloor, a pitch-black realm up to 6,000 metres deep—was thought to be surface gas on the move.

In a paper published in *Nature Geoscience*, however, Andrew Sweetman at the Scottish Association for Marine Science and his colleagues reveal that some is, in fact, "dark oxygen" created without sunlight.

The first indications that this gas was being produced on the abyssal seafloor came in 2013, when researchers noticed that oxygen levels were higher near polymetallic nodules, lumpy agglomerations of metal and minerals found across the ocean floor. The researchers believe that the electric field these nodules exert could strip electrons from the water, liberating oxygen from its molecular prison.

This discovery implies the possibility that aerobic (oxygen-dependent) life arose before photosynthesis evolved. That is controversial. But dark oxygen could certainly help aerobic microbes that survive in the deep today—as well as the larger organisms that eat them.

As I live and breathe!

Public health

The war on AIDS

MUNICH

Scientists meet to discuss pummelling HIV—and clues to a possible cure

ON JULY 22ND the week-long 25th International AIDS Conference kicked off in Munich. Though these gatherings are no longer the war councils they were in the epidemic's early days—for the strategy to defeat HIV is now pretty much settled—there remains much fighting to be done.

In a report released as the conference started, UNAIDS, the United Nations agency that deals with the disease, said that almost 40m people are now infected. There were 1.3m new infections in 2023, and 630,000 HIV-related deaths. But those numbers are down from 2.1m and 1.3m respectively in 2010. That year is the baseline for calculating the drop of 90% in annual new infections and HIV-related deaths, which experts reckon would end AIDS as a public-health threat. The hope is to reach this target by 2030. On current trends that seems unlikely. But the numbers are, mostly, heading in the right direction.

Because sub-Saharan Africa has been the worst-hit part of the world, most effort has been concentrated there. This has paid off. New infections there since 2010 have fallen by 56%. Partly as a consequence, UNAIDS's figures say that for the first time since the epidemic began more new infections occurred outside this part of the world than in it. Another contributor to the shift, however, was that in three areas—Latin America; eastern Europe and central Asia; and the Middle East and north Africa—new infection rates rose.

Although no cure currently exists, AIDS can nonetheless be ended. This depends on two steps: treating those already infected and preventing transmission to those who are not. Targets help, if only to clarify objectives. For treatment, UNAIDS promulgates the easy-to-remember formula "95-95-95". This translates to an aspiration that 95% of those infected are aware of the fact, that 95% of this group are taking antiretroviral drugs to suppress their infections, and that in 95% of those so treated (ie, 86% of those infected), the treatment is successfully suppressing their viral load. Across the world the "treatment trilogy" is an encouraging 86-89-93, with 30.7m people estimated to be on antiretroviral drugs.

Crucially—and this is where treatment and prevention are linked—people taking antiretroviral drugs in the way the doctor ordered have negligible viral loads and so are unlikely to pass the infection on. This state of affairs, known in the field as U=U (undetectable=untransmissible), gives a constellation of preventive approaches (such as condoms, microbicidal vaginal rings and various prophylactic drug regimes) a better chance of working.

Using drugs for pre-exposure prophylaxis, commonly called PrEP, is a particularly promising approach. Some 3.5m people around the world already take Truvada or Descovy, the first PrEPs to be approved. But these are pills which provide only short-term protection, so must be swallowed regularly. Longer-term cover comes from an injection.

The first injectable PrEP was cabotegravir, made by ViiV Healthcare and approved by America's Food and Drug Administration (FDA) in 2021. This gives protection for two months, and a trial in Uganda showed it was more popular than pills. The second is lenacapavir, from Gilead Sciences, which also makes Truvada and Descovy. The meeting coincided with the publication of complete results from PURPOSE-1, a trial of this in South Africa and Uganda. PURPOSE-1, which began in 2021 and involved 5,300 women, showed it gave 100% protection for six months. This is seen as a real breakthrough, and activists called on Gilead to make it available cheaply.

On the question of a cure, some news announced just before the conference caused particular interest. This was the revelation of the seventh known individual to reach apparently permanent remission from HIV infection after a bone-marrow transplant to treat leukaemia. Bone marrow is the source of the immune system's CD4 T-cells, which are attacked by HIV. So, in a few cases where a leukaemia patient was also HIV-positive, surgeons deliberately sought a donor who had a mutation in the gene for a T-cell surface protein called CCR5 (which the virus uses to enter those cells), in the hope of curing two diseases for the price of one. That's because HIV finds it difficult to infect T-cells of people with mutated CCR5 proteins.

What is special about the latest case, that of an anonymous individual known as the second Berlin patient (the first, Timothy Brown, was treated in Germany's capital in 2007), is that the donor had inherited this mutation from only one parent, meaning half the relevant protein molecules in her bone marrow were unmutated and thus remained HIV-friendly. Moreover, news of the second Berlin patient comes after a yet-more-puzzling case reported last year from Geneva, in which the donor had completely normal CCR5 proteins.

Surprise twist

All this suggests that something more complex is going on. Sharon Lewin, president of the International AIDS Society, which organises the meeting, is a leading light in the search for a cure for AIDS. She suspects that, in the patients who have been cured, preparations for transplant intended to kill the existing marrow, and also the immune response of the new marrow to remaining old marrow, are shrinking the reservoirs in which HIV hides and giving the CCR5 mutation a helping hand.

Such reservoir-shrinkage, by means of special drugs, is something she is already investigating. Combined with infusions of T-cells genetically engineered to disrupt CCR5, it might form the basis of a cure. ■

Road safety

My other car is a hologram

MILTON KEYNES

Augmented-reality windscreens offer the promise of distraction-free driving

WHILE WAITING for the traffic lights to change, your correspondent notices a pair of red warning squares appear on the windscreen. They follow a couple of pedestrians as they cross the road directly ahead. Another warning, this time farther in the distance, highlights a third person, harder to spot, stepping out from behind a line of waiting cars. On the move again, a road to the right is illuminated in blue to indicate the turn suggested by the satnav. A local landmark also gets a name tag attached as it passes by.

This realistic test is of a head-up display (HUD) produced by Envisics, a firm based in Milton Keynes, just north of London, and one of the leaders in "augmented-reality" displays for vehicles. These work a bit like the virtual-reality headsets worn by computer gamers, except they do not require the user to don any elaborate accessories. Though HUDs have been available in some cars since the late 1980s, producing two-dimensional images on the windscreen directly in the line-of-sight of the driver, this version has far greater clarity because it is holographic. In other words, it produces three-dimensional images with height, width and depth that appear to be part of the view of the road ahead.

Holographic HUDs are likely to represent the future of car design. Apart from being able to clearly provide information on navigation and a vehicle's performance, moving images that pick out warnings of any dangers in the road ahead offer a promise of safer, distraction-free driving.

The very first HUDs were much simpler. In the second world war, some fighter pilots flying Spitfires benefited from an image of a gunsight reflected onto a screen in their line of sight. As pilots don't have time to look at an instrument panel in the intensity of a dog fight, the innovation has spawned generations of successors. Modern fighter jets use much more sophisticated HUDs which provide both targeting and flight information.

HUDs for land-based vehicles have similarly been growing in capability. They began by simply replicating bits of the dashboard display, such as a speedometer and turn signals. More modern versions can make use of a vehicle's cameras and other sensors to identify potential hazards, like a cyclist in the road ahead. Holography allows three-dimensional images to move with any hazards, appearing closer or farther away as the view changes. This provides visual depth clues which help a driver understand more clearly what a vehicle's safety systems have detected, says Xiaoxi He of IDTechEx, a firm of analysts.

Displaying such information directly in front of a driver also reduces the need to look down and refocus on a touchscreen, which is increasingly seen as a distraction that can result in accidents, adds Dr He. As a result, she expects a combination of smart display-features and enhanced safety will help drive the market for automotive HUDs to over $10bn by 2034, growing at a compound annual growth rate of 24%.

Envisics, which has its roots in holographic research carried out at the University of Cambridge, is backed by companies that include General Motors (GM), Hyundai, Jaguar Land Rover and Stellantis (whose largest shareholder part-owns *The Economist*'s parent company). The firm's new HUD is due to appear later this year in the Cadillac Lyriq, an electric SUV produced by GM.

The technology itself is cutting-edge. Earlier HUDs mainly produced two-dimensional or stereoscopic images using liquid crystal or LED projectors on the dashboard to create an image reflected on the windscreen. Envisics's new system uses three miniaturised lasers, producing the primary colours of red, blue and green, controlled by a customised processing chip and lots of software to produce moving holograms. Among the challenges the company faced was making the device small enough to fit on the dashboard, yet sufficiently powerful to produce bright images which can be seen by a driver in direct sunlight. This was not easy, says Jamieson Christmas, Envisics's boss, which is why the system is covered by over 1,000 patents.

It will be up to carmakers to choose what kind of information they display holographically, although there is clearly a limit to what can be presented on the windscreen. For one thing, holographic displays could assist with the growing use of vehicle automation, which is still some way from the widespread adoption of full "hands-off" autonomy. Greater levels of visual information would be better at alerting drivers when and why they need to take back the wheel while using features like intelligent cruise-control.

Talk, don't touch

Touchscreens could also be enhanced by the use of HUDs. As more and more controls move from physical switches to cheaper touchscreens, concerns are growing that fiddling around with screen icons and sub-menus can be dangerously distracting. The addition of voice-activated controls can help keep a driver's eyes on the road, although spoken commands can be misunderstood, which often results in drivers looking at a touchscreen to find out why. That can be avoided if a spoken request is confirmed with a HUD message.

As HUDs continue to get smarter, though, there are some in the industry who wonder if they might one day replace touchscreens altogether. Future motorists, whether or not they need to take the controls at all, might simply operate their vehicles by engaging with a hologram. ■

A streamlined display

Culture

Your summer reading list

Read trip

Packing for a holiday? Take these books published in 2024

Fiction

Hard by a Great Forest.
By Leo Vardiashvili.
A man returns to Georgia after two decades in exile, then disappears. His son sets off in pursuit. This book takes the form of a thrilling puzzle hunt but is also a meditation on the country's history.

The Heart in Winter. By Kevin Barry.
From the beginning of this short, lyrical novel about two lovers who meet in a boomtown in Montana in the 1890s, a tragedy seems to be in the offing. It reflects the two sacred tenets of the Western: a reverence for the landscape and an awareness of its brutality.

Help Wanted. By Adelle Waldman.
A lively yarn about the employees of a big-box store in upstate New York. The pride of characters who expertly stack boxes is real but fragile. It is threatened by greedy employers and automation.

James. By Percival Everett.
Told from Jim's perspective, Mark Twain's "Adventures of Huckleberry Finn" feels startling and new. This brilliant literary retelling has a dark twist and action-packed scenes of revenge that read like they are destined for re-enactment on the big screen.

Mania. By Lionel Shriver.
Transformed by ideological extremism, America is the novel's setting and subject. In this alternative America everyone is smart and anyone who feels differently is a bigot. The themes—of society's quick pivots and friendships' poisoning by the culture wars—are slightly (but not unbelievably) absurd.

→ ALSO IN THIS SECTION

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74 The Seine, centre stage

75 The witch who started a trend

The Road to the Country.
By Chigozie Obioma.
This novel sheds light on a dark period in Nigeria's history: the civil war of 1967-70. It captures the country's fault lines and warns of what happens when nation-building fails. Almost 60 years on, the war's aftershocks can still be felt.

Culture and arts

All That Glitters. By Orlando Whitfield.
A student-turned-gallery employee sees the secretive art market up close and witnesses the spectacular rise and fall of a wheeler-dealer, Inigo Philbrick, who was convicted of perpetrating the largest art fraud in American history. This is "Liar's Poker" for the art world.

Everest, Inc. By Will Cockrell.
Mountaineering has gone mainstream. Climbing Mount Everest, once a feat of staggering endurance, is now the extreme sport *du jour*. But that does not mean it is safe. More people are reaching the summit, but more are dying en route, too.

Get the Picture. By Bianca Bosker.
A journalist tries to understand what makes the secretive art world tick. She works at galleries, a painter's studio and a museum to chronicle the whims of collectors and art-world insiders.

Reading Genesis.
By Marilynne Robinson.
One of America's greatest living novelists analyses the first book of the Bible. The result is a lesson in close reading and, at times, a sermon. Ms Robinson balances profound pessimism about human nature with confidence in a loving God.

History

The Eastern Front. By Nick Lloyd.
A superb history of the Eastern Front in the first world war. Apart from the heroism and resilience of the ordinary soldiers, this is a story of vainglory, cynicism, incompetence and callousness.

Every Living Thing. By Jason Roberts.
A tale of scientific rivalry and the race to categorise all life on Earth. Carl Linnaeus and Georges-Louis de Buffon never met. But by the middle of the 18th century both were famous—and at loggerheads. Thanks to its surprising twists and turns, this book is an unnaturally good read.

A History of the World in 12 Shipwrecks.
By David Gibbins.
A series of essays on shipwrecks, written by a maritime archaeologist. Together they paint a picture of how people pushed the borders of their known worlds.

How the World Made the West.
By Josephine Quinn.
A professor of ancient history romps through 4,000 years, demolishing the fusty notion that something called Western civilisation stands somehow alone, or that it descends directly from ancient Greece and Rome. With a wealth of detail, she shows that "civilisations" are instead complex, ever-changing mosaics.

Impossible Monsters. By Michael Taylor.
An intellectual revolution began in 1811 when Mary Anning, a 12-year-old living in south-west England, excavated the first fossil of a marine reptile, the *Ichthyosaurus*. This splendid history of discovery tells a much-told tale better than it has been told before.

Medieval Horizons. By Ian Mortimer.
An account of a profoundly misunderstood period, which shows that the Middle Ages were not marked by violence and superstition. Instead huge steps in social and economic progress were made, and the foundations of the modern world were laid.

Revolusi. By David Van Reybrouck.
From remote Asian islands to Dutch nursing homes, a Belgian archaeologist and historian has tracked down eyewitnesses to Indonesia's colonial period, producing the definitive account of a neglected epoch.

Smoke and Ashes. By Amitav Ghosh.
A gripping account of profits, power and powerlessness wreaked by drugs. The opium poppy looks delicate and innocuous. But the author angrily points the finger at multinational companies whose success is tied to the opium trade.

Why War? By Richard Overy.
Humans have engaged in warfare throughout their existence. They are not going to change now. A respected British historian probes nearly 100 years of scholarship attempting to understand the mechanisms that have embedded warfare throughout humans' time on Earth.

The Wide Wide Sea. By Hampton Sides.
The riveting tale of Captain James Cook's final, fatal voyage. This book strikes the balance between justified admiration for the explorer's seamanship and a legitimate resentment of the colonialism that followed indigenous peoples' first contact with Europeans.

Venice. By Dennis Romano.
From 16th-century spies to rising sea levels, this monumental account of Venice reveals its elusive origins and precarious future. Clear, entertaining, yet academically rigorous.

Biography and memoir

Ian Fleming. By Nicholas Shakespeare.
The most comprehensive biography of James Bond's creator documents his patriotism and notable contributions to Britain's war effort, but it does not make him likeable.

Maurice and Maralyn.
By Sophie Elmhirst.
A deeply reported tale of a couple stranded at sea for almost four months in 1973. Never sentimental and perfectly paced, this book tells the best sort of love story: a true one.

Metamorphoses. By Karolina Watroba.
A biography of Franz Kafka's afterlife, which considers how Kafka metamorphosed from a sickly lawyer to a global literary icon.

Monet. By Jackie Wullschläger.
The first account in English of the celebrated artist's work and private life, written sympathetically and with skill. The Monet who emerges is a contradictory, difficult man. His most lasting relationship—in art and in life—was with water.

Troubled. By Rob Henderson.
At once a fascinating memoir and an analysis of the "luxury beliefs" gripping American elites. A graduate of Yale targets the stupidity of what now passes for orthodoxy, but he does so without penning an angry culture-war screed.

Politics and current affairs

Autocracy, Inc. By Anne Applebaum.
The author made her name with "Gulag", a Pulitzer-prizewinning history of the Soviet Union's prison camps. Her new book is shorter and more urgent. Today's strongmen typically crave little besides power itself and the loot it brings. They have spun a network of mutual support.

Counter-Intelligence.
By Robert Hannigan.
Diversity, equity and inclusion is associated with woke pseudoscience and corporate flimflam. But this engaging book by the former director of GCHQ, Britain's signals-intelligence service, is a compelling corrective to that view. Codebreaking requires people who think in different, original and unusual ways.

How Tyrants Fall. By Marcel Dirsus.
Between 1946 and 2010 69% of autocrats were jailed, killed or forced into exile when they lost power. A political scientist considers how other dictators seek to avoid such a fate. Will the techniques that toppled despots of old still work in an age of mass surveillance?

World on the Brink.
By Dmitri Alperovitch and Garrett Graff.
A how-to manual for managing America's rivalry with China. This book is both a useful layman's introduction to the world's

most pressing geopolitical issue and a collection of sensible recommendations, the main one being patience.

Health, science and technology

The Anxious Generation. By Jonathan Haidt.
An eminent social psychologist, who has previously tracked the decline of free speech on university campuses, looks at the "great rewiring of childhood" by smartphones and social media. At once compassionate in tone and data-rich in approach, this makes for a gripping read for parents of adolescents.

The Balanced Brain. By Camilla Nord.
An enlightening round-up of what scientists know about the workings of the brain, and how they know it. Beware "neurobollocks", it warns: catchy stories that pin a mental disorder on one chemical or brain region. Moods involve a large number of neurotransmitters and several parts of the brain.

Co-Intelligence. By Ethan Mollick.
Generative AI will dramatically change white-collar jobs. A professor at the Wharton School at the University of Pennsylvania explains how—and provides useful tips on how to harness it. AI should literally be a "co-intelligence": don't give up your own.

Dark Wire. By Joseph Cox.
In 2018 the FBI launched Operation Trojan Shield. It established Anom, an encrypted messaging app, soon used by criminals to communicate and strategise about murders, drug deals and more. The tale of the largest law-enforcement sting operation in history.

Tits Up. By Sarah Thornton.
The author's experience of a double mastectomy and reconstruction set off a four-year quest to seek "the multifarious meanings and uses of breasts". She peeks into places where women's chests are revered, including strip clubs and milk banks, and offers fun flashes of art and history. You will not look at breasts in the same way again.

Why We Die. By Venki Ramakrishnan.
The quest to cheat death has a long history. A Nobel-prizewinning biologist explores strategies to arrest the decay of body and mind. Can humans learn the secrets of longevity from the hydra, a tiny aquatic creature capable of indefinite self-renewal? Scientists are trying. ■

All titles on this list were published in America or Britain in 2024.

Page-turners

"Hillbilly Elegy" v "The Art of the Deal"

NEW YORK

What the Republican candidates' books reveal about who they are—and were

"READING WELL", wrote Harold Bloom, a well-read literary critic, is "the most healing of pleasures." Apparently Bloom did not read many books by political candidates. They combine a salesman's saccharine pushiness and the suspense of watching a second hand rotate, with prose that has been focus-grouped into a turgid blandness from which nothing resembling pleasure can be wrung. Hillary Clinton made "Hard Choices"; Joe Biden had "Promises to Keep"; Mitt Romney offered "No Apology".

Both men at the top of the Republican ticket, Donald Trump and J.D. Vance, wrote books that made them household names before seeking high office. Their bestsellers are worth rereading to understand how the authors have changed from their original printed personas.

Start with "Hillbilly Elegy", Mr Vance's memoir. It chronicles his early life growing up in a fractious family of Appalachian transplants to Ohio defined less by poverty than by an inability to make sensible decisions. His father left when Mr Vance was a toddler; his mother inhaled heroin (after opiates ran out) and exhaled drama and abuse; before putting the plug in the jug, his grandfather was a violent drunk whom his gun-toting grandmother doused in gasoline and lit after he passed out on the couch (their 11-year-old put out the flames).

This is the loam from which Mr Vance's Horatio Alger story blossoms. Out of this chaos, with the encouragement of a cousin, Mr Vance joins the marines, Although hesitant ("I reminded myself that my country needed me"), he gets through boot camp with encouraging letters from his grandmother: "Hello sweet heart all I can think about is them dicks screaming at you that is my job not them fuckers."

After four years in the marines, he attends Ohio State University, and then gets into one of America's most elite institutions, Yale Law School. There he experiences archetypal class discomfort: not knowing which silverware to use or that there was more than one type of white wine. He comes to understand that "There is enormous value in what economists call social capital," and dedicates himself to earning some, meeting the right sorts of friends and interning on Capitol Hill.

"Hillbilly Elegy" was published in 2016, just as journalists began clamouring to understand the Trumpier parts of America. It became a bestseller, won rave reviews and was made into a film; the *New York Times* called Mr Vance "a fiercely astute social critic of the sort we desperately need right now". Here was someone who seemed to straddle left and right, navigating his way through liberal institutions in a way that urban elites understood and railing against segregating the poor "into little enclaves", while also stressing his military service and personal responsibility in classic conservative terms. Much as Barack Obama told ▸▸

black men that "We've got no time for excuses," Mr Vance offered his peers tough love, castigating them for undisciplined spending, eating and work habits.

American liberals today elegise the Mr Vance of 2016. Now he is the running-mate of a man he once called a "cynical asshole" and feared might become "America's Hitler". (He voted for a third-party candidate in 2016.) Politicians often shift with the winds. Mr Vance seems to genuinely believe that today's Republican Party, with its religiosity and zeal for protectionism, is better placed to help communities like his than Democrats, and that making peace with Trumpism is the only way to advance in Republican politics. If that sort of realpolitiking seems cynical, it also puts him in good company in Washington.

Mr Trump's first book, "Trump: The Art of the Deal", was also a bestseller. Written with (or perhaps more accurately "by") Tony Schwartz, a journalist, the book came out in 1987, when Mr Trump was still largely a creature of New York tabloids without a national profile. *Publishers Weekly* called it a "boastful, boyishly disarming, thoroughly engaging personal history", and anyone capable of reading it at a sufficient remove may find it intermittently charming. Mr Trump, for all his faults, is funny; witty political candidates, including Mr Obama and Ronald Reagan, tend to win.

But the book is a work of salesmanship so relentless as to border on the solipsistic; the effect is like being stuck in a lift with someone who just will not stop talking about himself. Where Mr Vance humanised his family by showing their flaws, Mr Trump trots out relative after relative, shellacked in clichéd praise. He tells the story of his late brother, Robert, sharing his blocks with him on the condition that he return them when he was done. But young Donald "created a beautiful building. I liked it so much that I glued the whole thing together. And that was the end of Robert's blocks."

As for Mr Trump himself, his strategy is to "aim very high, and...just keep pushing and pushing and pushing to get what I'm after". But money, he says piously, "was never a big motivation for me, except as a way to keep score". Like Mr Vance, he fancies himself an outsider; moving into a studio apartment in Manhattan in 1971 after being brought up in Queens "was probably more exciting for me" than moving into Trump Tower. And also like Mr Vance, he finds himself confronting unfamiliar social habits. Watching two associates get drunk leaves him bewildered: "My father would come home every night at seven, have his dinner, read the newspaper, watch the news, and that was that. And I'm as much of a rock as my father." Stormy Daniels and Melania Trump might disagree.

Mr Trump's co-author has since expressed "shame and regret" at helping "a buffoonish real-estate developer" get into the White House. Ten chapters, each about a different deal, form the meat of the book. But reading this as a business book, especially 37 years after it was published and eight years after Mr Trump won the presidency, is a mistake. Like "Hillbilly Elegy", it is an ambitious man's self-introduction to the wider world.

Both books also showcase personae left behind. Mr Trump no longer needs to pretend to be a reliable homebody indifferent to money. Nor is Mr Vance likely to bring up "all of my reservations about Donald Trump". Some of Mr Vance's law-school friends have taken to deriding him publicly, just as Mr Trump is light on endorsements from his first-term cabinet members. It can be lonely at the top, but at least they have each other. ■

The Paris Olympics

The river runs through it

GENNEVILLIERS, PARIS AND VITRY-SUR-SEINE

The Seine's vital role in Paris's culture and economy will outlast the games

"I WAS BORN on a boat," says Jacky Delannoy, a 66-year-old captain, standing on the bridge of a container ship moored to the Paris dock. "My Mum couldn't get ashore in time, so I was born aboard." The fourth generation of bargemen in his family, Mr Delannoy is at the helm of a 135-metre-long container ship, longer than a football pitch. Part of a fleet belonging to Sogestran, a logistics firm, it journeys each day up and down the Seine between Paris and Le Havre, a port on the Atlantic coast. Heading downstream, the ship's hotchpotch containers carry cars, cement, champagne, furniture, wine and more.

Trying to solve trash-flow problems

During the opening ceremony of the Olympic games on July 26th, the spectacle will require no manufactured decor; the athletes no unnatural parade route. The Seine will be the stage, Paris the enchanting backdrop. The river, winding its way 777km from a plateau in Burgundy (of which 13km flow through Paris), will carry national teams aboard a flotilla of boats—past bridges, monuments and cobbled quaysides that lend the French capital its charisma. Later hundreds of athletes will plunge into the river for both triathlon and swimming races.

The Seine has long lapped at the imaginations of film-makers, painters, poets and writers. In his poem "Le Pont Mirabeau" ("The Mirabeau Bridge") Guillaume Apollinaire compares the movement of the Seine to time and past love. Often the river is seen as a woman: "la" Seine in French, an enchantress or seducer. Many writers treat it as the essence of Paris. In "The Masterpiece", a novel published in 1886, Emile Zola describes the "soul of the great city, rising from the waters", which "wrapped" the lovers in his novel, Claude and Christine, in tenderness.

The dark murky depths of the Seine, and the cobbled quays that pass under its shadowy bridges, evoke concern, too. In "Under Paris", a new thriller streaming on Netflix, killer sharks that have bred in the catacombs escape to feast on triathlon swimmers in the river. (Real-life contestants will not want to watch it before they compete; the Seine's water quality is enough cause for fear.)

Everyone who has heard of Paris knows the Seine, but not everyone is aware that it is also a working river. Albert Marquet, an early 20th-century French artist, painted barges filled with coal, wood and wine moored along the Paris quays. Before the second world war, over three times more goods were transported along the Seine than is the case today. But the flow is still impressive: in 2023 18m tonnes of goods made their way by the river.

In recent years Paris has been at the forefront of trying to rethink city transport and coax drivers off the roads. Yet the Seine often gets overlooked in that endeavour. For all the vessels that chug their way along the river, it could bear many more, and the city could be greener for it, says Stéphane Raison, director of Haropa, a firm that links the ports of Paris, Rouen and Le Havre; he thinks it is possible "to create a green corridor" along the river.

Upstream, in the shadow of the modernist Ministry of Finance, the Port de Bercy and its former warehouses were once the country's wine-distribution centre. To- ▸▸

day the dock at Bercy is mostly quiet; the wine trade packed up half a century ago. A couple of skateboarders practise kick-turns under a nearby bridge. Yet, on the quayside, a row of vans await the delivery of crates of pre-prepared IKEA orders—flat-packs, rugs, kitchen sinks, armchairs—which arrive by barge at 5am each morning. "Your package has been on a cruise!" announces an IKEA advertisement. Since 2022 the Swedish furniture giant has been ferrying online orders there by river, and onwards by electric vehicle for home delivery in Paris.

Different users of the River Seine today, though, collide in their expectations. The City of Light draws tourists seeking to conjure romance and delight from unspoilt views. Too many hulking cargo barges, motoring at a fair clip past Notre Dame or under the Pont des Arts, may intrude. On a recent weekday, one ran aground off the Ile Saint-Louis, mobilising a flotilla of river-police boats, divers and a fire brigade. An ambitious expansion of river trade could pit culture against commerce, aesthetics against function, environmental conservation against economic renewal.

Green but not clean

This is partly a debate about how the river looks, and who can use its banks. Downstream, at Gennevilliers, on the capital's north-western outskirts, the Port de Paris is a vast, humming six-basin port run by Haropa. Approached from the river, it is largely hidden behind banks of reeds and grasses. But in the face of fresh demands, the smaller docks that abruptly punctuate the central Paris riverscape are having to plant saplings and widen access at weekends. Joggers, walkers and cyclists, as well as evening revellers, have recolonised the quays of Paris, where cars once sped along expressways.

It is also a matter of the water's past use. Pollution from industrial activity has left a dirty legacy. Swimming in the Seine has been banned since 1923. More important, during heavy rainfall, overflowing creaky old sewage systems that spill human faecal matter into the river have, until this year, rendered the Seine untouchable. Despite a clean-up effort, in 2023 the city had to cancel various swimming trials due to unsafe levels of *E. coli* and other bacteria. According to World Triathlon, a governing body, swimmers can take part only if the level of *E. coli* does not exceed 900 colony-forming units per 100ml.

Water tested as recently as early July in the Seine showed levels higher than this. But the races are due to go ahead as planned. This is mainly thanks to recent clement weather and the construction of an immense underground overflow wastewater storage basin in eastern Paris that started operating in May, part of a broader effort to make the river swimmable, at a cost of over €1.4bn ($1.5bn).

Over the centuries the Seine has stirred the heart, inspired the imagination and repelled invaders; it has been fortified, channelled, embanked. Despite barrages, it still floods, bringing debris swirling along its course. The Seine is "an elusive companion", writes Elaine Sciolino, in a book about the river. Shimmering at night, it turns by day from "molasses to pewter, from emerald to celadon". Today the river represents perhaps above all an effort to help the city breathe. Even the fish are back. Recently 32 species have been logged, including eel, trout, roach, pike and catfish, up from just three in the 1970s.

Downstream from the Paris docks, brutalist concrete towers give way to wooded banks. Captain Delannoy navigates his container ship towards the lock at Chatou, past cormorants and swans, houseboats and parks. Curious passers-by on the riverbank stop to watch. Once the captain briefly tried the land-borne life, but could not adjust. The Seine, for him, is "freedom". And there is space for everyone on it, he thinks. "Water," he says, "is life." ■

"The Blair Witch Project" at 25

Scares on a budget

A masterclass in doing more with less

IF YOU WANT to scare people, it helps if they believe the tale is real. Mary Shelley opened her novel "Frankenstein" (1818) with a series of letters. Bram Stoker put diary entries and newspaper clippings into "Dracula" (1897) to increase its authenticity. But it was "The Blair Witch Project", released 25 years ago in July 1999, which most convincingly muddled fact and fiction. In the process, it became one of the most important horror films of all time.

Was it a drama or a documentary? Audiences were not quite sure. Posters asserted: "In October of 1994, three student film-makers disappeared in the woods near Burkittsville, Maryland, while shooting a documentary" about a local myth. "A year later their footage was found." At the Sundance Film Festival flyers asked for help finding Heather Donahue, Joshua Leonard and Michael Williams and listed a hotline for the sheriff's office.

The writer-directors, Daniel Myrick and Eduardo Sánchez, had also blurred the line between reality and performance during filming. Ms Donahue, Mr Leonard and Mr Williams lent their real names to their characters. They operated the cameras themselves, and the wobbly, close-up shots imply youngsters out of their depth. The crew disoriented the actors by restricting their access to food and disturbing their sleep. As much of the dialogue was improvised, the bickering presumably came naturally.

The effect of all this was gripping—and the response was feverish. "The Blair Witch Project" made almost $250m at the global box office: a hefty return on the shooting budget of $35,000 (though post-production expenses brought the total cost to around $200,000-500,000). It became a cultural phenomenon, popularising the "found footage" genre and inspiring numerous parodies and rip-offs, including the lucrative "Paranormal Activity" franchise.

Witch way did it go?

"The Blair Witch Project" proved that storytellers could make a virtue of the simple and the rough-hewn. The creeping terror comes not from fancy special effects, but from odd noises and the trio's realisation that they are lost. As a result, the movie ushered in an era of successful low-budget horror; the genre is Hollywood's most profitable to this day. The Blair Witch may be fictional, but the fear of the woods the film instilled in millions of viewers is very real.

Economic & financial indicators

	Gross domestic product % change on year ago latest		quarter*	2024†	Consumer prices % change on year ago latest		2024†	Unemployment rate %		Current-account balance % of GDP, 2024†	Budget balance % of GDP, 2024†	Interest rates 10-yr gov't bonds latest, %	change on year ago, bp	Currency units per $ Jul 24th	% change on year ago
United States	2.9	Q1	1.4	2.2	3.0	Jun	3.0	4.1	Jun	-3.3	-6.9	4.3	42.0	-	
China	4.7	Q2	2.8	4.7	0.2	Jun	0.4	5.0	Jun‡§	1.2	-4.5	1.9 §§	-51.0	7.28	-1.1
Japan	-0.7	Q1	-2.9	0.8	2.9	Jun	2.4	2.6	May	3.2	-4.8	1.1	62.0	153	-7.9
Britain	0.3	Q1	2.9	0.6	2.0	Jun	2.8	4.4	Apr‡‡	-2.8	-4.2	4.2	-15.0	0.77	1.3
Canada	0.5	Q1	1.7	1.8	2.7	Jun	2.5	6.4	Jun	-0.7	-1.2	3.4	-10.0	1.38	-4.3
Euro area	0.5	Q1	1.1	1.0	2.5	Jun	2.5	6.4	May	3.1	-3.1	2.5	4.0	0.92	-2.2
Austria	-1.1	Q1	0.7‡	0.5	3.1	Jun	3.5	5.0	May	2.9	-2.4	3.0	-9.0	0.92	-2.2
Belgium	1.3	Q1	1.1	1.2	5.4	Jun	3.5	5.9	May	-0.6	-4.6	3.0	-8.0	0.92	-2.2
France	1.3	Q1	0.6	1.2	2.5	Jun	2.6	7.4	May	-0.2	-5.2	3.3	45.0	0.92	-2.2
Germany	-0.2	Q1	0.9	0.3	2.5	Jun	2.6	3.3	May	6.6	-1.5	2.5	4.0	0.92	-2.2
Greece	1.9	Q1	3.0	2.4	2.5	Jun	2.9	10.6	May	-5.8	-1.3	3.5	-25.0	0.92	-2.2
Italy	0.7	Q1	1.4	1.0	0.9	Jun	1.3	6.8	May	1.1	-5.2	3.8	-24.0	0.92	-2.2
Netherlands	-0.6	Q1	-2.0	0.1	3.4	Jun	3.4	3.6	Jun	8.6	-1.4	2.7	-3.0	0.92	-2.2
Spain	2.4	Q1	3.2	2.4	3.6	Jun	3.0	11.7	May	2.3	-3.5	3.2	-19.0	0.92	-2.2
Czech Republic	-0.2	Q1	0.9	1.3	2.0	Jun	2.3	2.7	May‡	0.4	-2.5	3.8	-24.0	23.4	-7.0
Denmark	1.3	Q1	-5.4	1.4	1.8	Jun	1.7	2.9	May	9.5	1.6	2.4	-30.0	6.88	-2.3
Norway	-0.8	Q1	0.7	1.0	2.6	Jun	3.3	4.1	Apr‡‡	15.9	12.0	3.5	-20.0	11.0	-8.6
Poland	2.0	Q1	2.0	2.9	2.6	Jun	3.8	4.9	Jun§	0.5	-5.4	5.6	19.0	3.96	1.3
Russia	5.4	Q1	na	2.9	8.6	Jun	7.3	2.6	May§	1.4	-1.6	15.5	432	86.2	5.2
Sweden	0.3	Q1	2.9	0.6	2.6	Jun	2.1	8.7	May§	5.5	-1.1	2.0	-45.0	10.8	-3.4
Switzerland	0.6	Q1	1.8	1.1	1.3	Jun	1.4	2.4	Jun	7.3	0.6	0.5	-37.0	0.88	-1.1
Turkey	5.7	Q1	9.9	3.0	71.6	Jun	55.8	7.7	May§	-2.8	-4.7	26.2	835	32.9	-18.0
Australia	1.1	Q1	0.5	1.7	3.6	Q1	3.5	4.1	Jun	-0.4	-1.4	4.3	28.0	1.51	-2.0
Hong Kong	2.7	Q1	9.6	3.2	1.4	Jun	1.3	3.0	Jun‡‡	11.2	-2.8	3.3	-44.0	7.81	nil
India	7.8	Q1	5.4	6.9	5.1	Jun	4.7	9.2	Jun	-0.5	-5.1	7.0	-11.0	83.7	-2.3
Indonesia	5.1	Q1	na	5.2	2.5	Jun	2.8	4.8	Q1§	-0.3	-2.4	7.0	75.0	16,215	-7.3
Malaysia	5.8	Q2	na	4.4	2.0	Jun	2.5	3.3	May§	2.5	-4.4	3.8	-7.0	4.67	-2.1
Pakistan	2.8	2024**	na	2.8	12.6	Jun	14.5	6.3	2021	-1.7	-7.4	14.1 †††	-173	278	3.2
Philippines	5.7	Q1	5.3	5.4	3.7	Jun	3.4	4.0	Q2§	-3.0	-5.9	6.3	-6.0	58.5	-6.3
Singapore	2.9	Q2	1.4	2.4	2.4	Jun	2.9	2.1	Q1	19.7	0.1	3.1	11.0	1.34	-0.8
South Korea	2.3	Q2	-0.9	2.7	2.4	Jun	2.6	2.9	Jun§	2.8	-1.6	3.1	-51.0	1,384	-7.5
Taiwan	6.6	Q1	1.1	3.3	2.4	Jun	2.0	3.3	Jun	14.2	0.5	1.6	47.0	32.8	-4.5
Thailand	1.5	Q1	4.6	2.8	0.6	Jun	1.0	0.9	Jun§	2.4	-3.6	2.8	nil	36.2	-4.7
Argentina	-5.1	Q1	-9.9	-3.2	272	Jun	225.1	7.7	Q1§	0.2	-0.8	na	na	928	-70.8
Brazil	2.5	Q1	3.1	2.0	4.2	Jun	4.2	7.1	May§‡‡	-1.4	-7.8	12.2	132	5.62	-15.8
Chile	2.3	Q1	7.8	2.7	3.8	Jun	3.8	8.3	May§‡‡	-3.2	-2.3	6.1	74.0	949	-13.0
Colombia	0.9	Q1	4.4	1.1	7.2	Jun	6.7	10.3	May§	-2.8	-5.8	10.5	17.0	4,051	-2.6
Mexico	1.6	Q1	1.1	2.1	5.0	Jun	4.4	2.6	May	-0.6	-5.0	10.0	120	18.4	-8.6
Peru	1.4	Q1	3.2	2.7	2.3	Jun	2.5	5.3	Jun§	-0.4	-4.1	6.9	6.0	3.76	-4.8
Egypt	2.2	Q1	na	2.4	27.5	Jun	29.0	6.7	Q1§	-4.2	-5.0	na	na	48.3	-36.1
Israel	-0.4	Q1	14.4	1.3	2.9	Jun	2.8	3.2	Jun	6.3	-6.8	4.8	97.0	3.65	0.6
Saudi Arabia	-0.8	2023	na	1.0	1.5	Jun	2.0	3.5	Q1	-0.3	-2.2	na	na	3.75	nil
South Africa	0.5	Q1	-0.2	1.1	5.0	Jun	4.8	32.9	Q1§	-2.0	-5.2	9.5	-76.0	18.3	-3.0

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

Markets

In local currency	Index Jul 24th	% change on: one week	Dec 29th 2023
United States S&P 500	5,427.1	-2.9	13.8
United States NAScomp	17,342.4	-3.6	15.5
China Shanghai Comp	2,902.0	-2.1	-2.5
China Shenzhen Comp	1,546.3	-3.3	-15.9
Japan Nikkei 225	39,154.9	-4.7	17.0
Japan Topix	2,793.1	-4.2	18.0
Britain FTSE 100	8,153.7	-0.4	5.4
Canada S&P TSX	22,639.6	-0.9	8.0
Euro area EURO STOXX 50	4,861.9	-0.6	7.5
France CAC 40	7,513.7	-0.8	-0.4
Germany DAX*	18,387.5	-0.3	9.8
Italy FTSE/MIB	34,471.7	0.3	13.6
Netherlands AEX	903.5	-1.4	14.8
Spain IBEX 35	11,210.1	0.9	11.0
Poland WIG	84,486.1	-0.8	7.7
Russia RTS, $ terms	1,137.5	nil	5.0
Switzerland SMI	12,203.2	-1.1	9.6
Turkey BIST	10,991.6	-1.3	47.1
Australia All Ord.	8,205.5	-1.2	4.8
Hong Kong Hang Seng	17,311.1	-2.4	1.5
India BSE	80,148.9	-0.7	10.9
Indonesia IDX	7,262.8	0.5	-0.1
Malaysia KLSE	1,621.1	-0.8	11.4

	Index Jul 24th	% change on: one week	Dec 29th 2023
Pakistan KSE	79,397.0	-2.2	27.1
Singapore STI	3,460.8	-0.8	6.8
South Korea KOSPI	2,758.7	-3.0	3.9
Taiwan TWI	22,871.8	-3.8	27.6
Thailand SET	1,298.1	-1.6	-8.3
Argentina MERV	1,582,113.0	3.8	70.2
Brazil BVSP*	126,422.8	-2.3	-5.8
Mexico IPC	53,168.4	-1.1	-7.3
Egypt EGX 30	29,090.6	2.6	16.9
Israel TA-125	2,064.2	0.5	9.4
Saudi Arabia Tadawul	12,101.2	-0.5	1.1
South Africa JSE AS	80,595.1	0.2	4.8
World, dev'd MSCI	3,516.0	-2.5	10.9
Emerging markets MSCI	1,082.4	-2.6	5.7

US corporate bonds, spread over Treasuries

Basis points	latest	Dec 29th 2023
Investment grade	107	154
High-yield	359	502

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

Commodities

The Economist commodity-price index 2020=100	Jul 16th	Jul 23rd*	% change on month	year
Dollar Index				
All items	131.3	129.4	-1.9	-1.0
Food	139.1	140.8	-1.2	-3.6
Industrials				
All	124.9	119.9	-2.6	1.6
Non-food agriculturals	134.1	134.5	-1.7	15.7
Metals	122.6	116.2	-2.9	-1.9
Sterling Index				
All items	130.3	128.8	-3.7	-1.4
Euro Index				
All items	137.9	136.3	-3.2	0.8
Gold				
$ per oz	2,456.3	2,405.7	3.5	22.6
Brent				
$ per barrel	84.1	80.9	-5.6	-3.4

Sources: Bloomberg; CME Group; Fastmarkets; FT; LSEG Workspace; LME; NZ Wool Services; S&P Global Commodity Insights; Thompson Lloyd & Ewart; Urner Barry; WSJ. *Provisional.

For historical indicators data, visit economist.com/economic-and-financial-indicators

IOSCO

International Organization of Securities Commissions (IOSCO) Call for Applications: IOSCO Secretary General

IOSCO is the leading international policy forum for financial markets regulators and the global standard setter for financial markets regulation. It develops, implements and promotes adherence to internationally recognized standards for financial markets regulation and works closely with other international organizations on the global regulatory reform agenda.

The organization's membership regulates more than 95% of the world's financial markets in some 130 jurisdictions. By providing high quality technical assistance, education and training, IOSCO supports its members to come together to achieve its three objectives:

(i) enhancing investor protection,
(ii) ensuring markets are fair and efficient, and
(iii) promoting financial stability by reducing systemic risk.

The Secretary-General is a full time executive, appointed by and accountable to the organisation through the IOSCO Board and Board Chair and is responsible for supporting the pursuit of IOSCO's strategic objectives and for heading the General Secretariat under the leadership of the Board Chairman.

The General Secretariat, which is based in Madrid, Spain, is around 40 full time staff strong – comprising c. 25 permanent staff and c. 15 secondees from IOSCO members.

The Role

You will be responsible for leading and managing the work of the General Secretariat which serves as the permanent base for the organisation's global membership, and is staffed by a multinational team. Your main responsibilities will focus on coordinating with the Board Chair in managing IOSCO's internal and external relationships, while raising IOSCO's global standing and profile; ensuring that the General Secretariat provides quality technical support to the Board Chair, the IOSCO Board, Board Committees and IOSCO's work generally in pursuit of its aims and objectives; leading IOSCO's regulatory capacity building initiatives. One of your key tasks will be implementing the strategic Board Priorities and the organisation's bi-annual Workplan.

The Candidate

You possess outstanding managerial, leadership, diplomatic, analytic and communication skills. You are an experienced securities markets professional with a strong background in financial market regulation. You will need to be fluent in English.

Applications

For any queries please contact Tim Pinkowski at SG-Vacancy@iosco.org or the IOSCO Board Chairman at president@fsma.be.
Applications should be submitted to the Nominations Committee at SG-Vacancy@iosco.org by close of business on 5 September 2024 (CEST).

Applications must be accompanied by:

- A full curriculum vitae;
- Any other information about the person needed to adequately brief the Nominations Committee on their credentials for the role, such as relevant references;
- Compelling track-record of people management and managerial skills, drawing on the individual's experience in leading an organisation or relevant team through change; and
- Where the nomination is by an IOSCO member, a written assurance that the person nominated is interested in being considered for the role of the Secretary General and has the adequate profile and credentials to occupy the position.

More information, including the job description, is available at:
https://www.iosco.org/about/?subsection=vacancies

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OBITUARY
Thomas Neff

The physicist who rid the world of a third of its nuclear warheads died on July 11th, aged 80

CROUCHING UNDER his school desk as he had been instructed, Thomas Neff listened to the sirens wailing. This was a nuclear-attack drill, aka "duck and cover". The giant threat of the Soviet Union was a constant in those days. All through grade school and high school he had those drills. But Portland, Oregon, was a remote, blue-collar place back then, and he was just a teacher's son who was happy to earn extra nickels by picking strawberries and beans. Why would the Soviets attack him, and how could it do any good to hide under his desk?

In October 1991, at a meeting of American and Russian officials on nuclear disarmament, he asked himself much the same question. The first arms-control agreement, START-1, had just been signed. The Russians, amid the chaos of the collapsing Soviet Union, were protesting that they were broke and could not afford to dismantle their warheads. The Americans did not trust them to do so. Since the Russians could not even pay the wages of workers in their nuclear plants, the nightmare now was that some starving workers might go rogue, selling nuclear material to North Korea or Iran. The Americans wanted to monitor the dismantling but obviously, Dr Neff thought, the Russians would not open their plants to a lot of spies. The two sides were talking past each other. What good could that do?

Besides, he had a better idea. Its basis was not politics, but economics. The Russians were desperate for hard cash; America needed uranium to power its civilian nuclear plants. If the Russians diluted the highly enriched uranium in their warheads down to commercial strength, by adding more natural uranium, America could "buy" it with trade credits. The time was right, with world uranium prices soft. It could be done gradually, without flooding the market. Once Russia had a financial motive, it would want to keep those warheads safe. Swords into ploughshares; darkness to electric light. Or, as he put it, "We'll trade you this thing you're interested in for this other thing we're interested in."

The idea was so good, he felt sure it would work. And, over two decades, it did. By 2013, when the last of 250 shipments of Russian uranium arrived in Baltimore, more than 20,000 warheads had been eliminated, around a third of the peak global number. The Russians had earned $17bn in credits for food and essentials; the fuel they supplied, 15,000 tonnes of low-enriched uranium, was enough to power the whole United States for two years.

And hardly anyone knew. At MIT, where he researched nuclear energy and solar power from 1977 onwards, most of his colleagues had no idea. For him it was a bit like spycraft. At that October meeting he said nothing publicly, but lingered in the corridor to waylay Viktor Mikhailov, deputy minister of the Soviet Atomic Energy Ministry. Mikhailov, acting independently, called all the shots on nuclear power. He was, as usual, smoking. Through the fug, Dr Neff asked him if he had any uranium to sell. "How much?" came the reply. "500 tonnes?" "I think I can do it."

Later he thought he could have asked for 700 tonnes. Mikhailov liked a deal, and the sales revenue would be, in effect, his ministry's budget. But 500 would do. By next April, clutching Mikhailov's card but with no appointment, he got smoothly into the foreign ministry in Moscow. You could do that in those days. He visited nuclear plants, too, finding the workers there dedicated and disciplined (as little else in Russia was). It was a fine moment for a man with a plan, which he christened "Megatons to Megawatts".

Nonetheless, it soon became a tangle. The Russians were mostly keen, though some complained that the nuclear warheads were "heritage" that should not be destroyed. The Americans were much less eager, wondering why on earth they should help the enemy. Some called it crazy. Chaos reigned on one side, inertia on the other. He wrote op-eds and countless memos, pushing, but the arrangement was not signed until 1993 and not implemented until 1994. He drafted much of the legislation himself, pushing more. Meanwhile he kept in close touch with Mikhailov, including helping him to write a letter to the State Department endorsing the plan. Above all, he tried to ensure that Russia was treated fairly. The US Enrichment Corporation, the agency that bought uranium to distribute to America's power plants, often would not use the Russian uranium and refused to pay for it. In that event the shipments stopped, Mikhailov exploded, and Dr Neff found himself on yet another flight east.

Luckily, he was well cut out for this work. He could get on with anybody and everybody, and tended to see the good in people. There were also few who knew more about nuclear energy. His start in physics had been slow and self-taught, in way over his head at Stanford, until he spent a summer drumming the textbooks into his brain. But soon nuclear and solar energy became his field. With that expert credential he helped to draft the legislation setting up President Nixon's new energy department, and in 1984 wrote a book on the state of the world uranium market. Quite by chance, from 1972 he was also executive assistant to the president of the American Physics Society who, because he did not have time for government meetings, sent him along instead. This was the best thing that ever happened to him. First, it made him buy a suit. Second, it put him at the heart of national science policy and, on that October day, face-to-face with Russians, too.

Working in groups, however, was not his forte. He liked the nimbleness of being a free agent, virtually unknown, spotting things that could be fixed. Of course anyone could do that. But the trick then was to seize those moments and actually do something. The fall of the Soviet Union, once the overwhelming enemy, was a huge chance, and he was there at the right time. He had a good plan, and never stopped believing in it. That way, more or less alone, he moved nuclear mountains. ■

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