

Russia's air campaign

The once and future war

The selfish case for helping Ukraine has never been more compelling

HOW FAST fortunes can shift in war. Only a few months ago Russia seemed stuck. It was unable to advance on the front line despite suffering over 1,000 casualties a day, even as Ukrainian strikes deep within enemy territory were piling pressure on Vladimir Putin. In recent weeks, however, the dynamic has changed. Russia is exploiting new technology and extra production to hit Ukrainian cities with savage ferocity in a bid to make life there unbearable. Ukraine is not about to collapse—its front line remains strong—but European allies need to redouble their support. In this war they are glimpsing the future, and Ukraine is where their defence must begin.

As we set out in our reporting (see Briefing), Russia has sharply intensified its air war against Ukraine's cities, border crossings and infrastructure far from the front. This is made possible by new technology, including a switch from propeller- to jet-powered Shahed drones which will need interceptor missiles to counter them. Using a "mesh" network of radio relays between drones, Russia can hunt moving targets such as railways, not just home in blindly on set co-ordinates. It is also building its own version of the American Starlink satellite system, which threatens to give it a big advantage in deep strikes in 2027.

Russia's second strength is volume. Its production target for jet-Shaheds this year is said to be 24,000. By one estimate, it can launch over a hundred of its ballistic missiles each month. Given that Ukraine and its allies are critically short of air defences, including Patriot interceptors, that is a grave problem.

These new weapons will not suddenly bring about a Russian victory. The direct military benefit from blowing up shopping malls, petrol stations, trains and other civilian targets is marginal. But Mr Putin believes that, if he sows enough fear, saps public morale and thumps an already-slumping economy, he will break his victims' resolve. It does not help that Ukrai-

nian politics has soured amid gripes that the president, Volodymyr Zelensky, has centralised power and that corruption is rife. If Mr Putin is right, and people flee from Ukraine or money runs short, that will eventually weigh on the front line, too.

Ukraine, and its Western backers, must prove him wrong. Unfortunately, that will be hard—and probably impossible before the punishing winter adds to Ukrainians' burden. Some measures are technically obvious, but politically hard. America's government and Elon Musk should let Ukraine expand the use of Starlink over western Russia. That could help destroy Russia's mobile missile-launchers. But few expect them to agree, owing to an exaggerated fear of escalation.

The priority is to get more European money to Ukraine faster. Promises this year from NATO countries to give Ukraine \$60bn in bilateral military aid are unfulfilled. Ukraine's generals talk of \$27bn in budgetary shortfalls, even as they plan to launch 10m drones this year. The EU's promise to supply €90bn (\$103bn) is broadly on track, but more should be disbursed early.

The money is needed to prop up the economy. But it is also vital to speed up the pace of Ukraine's military innovations and to help its burgeoning arms industry scale them up fast. With Western help, it may in time develop its own supply of cheap missiles and interceptors.

Europe has already done a lot to back Ukraine, partly by stepping in when President Donald Trump withdrew America's financial support. To ask for more may seem unwise, especially when some populist-right parties are calling for funding to be curbed. However, the moral case for supporting Ukraine remains strong, and the selfish one has never been more compelling. Mr Putin believes Russia is at war with Europe. His armies are already well-practised in asymmetric drone warfare, and they are learning all the time. Europe, by contrast, is unprepared. It must learn from Ukraine by backing it. ■



Fiscal foolishness

Not your bond

Markets are waking up to the rich world's reckless borrowing

FINANCE DOES not offer many sure bets. One, for the past few decades, has been that most rich-world sovereign bonds are safe. Those lending cash to all but the diciest governments could feel confident they would get it back, plus interest at a rate set by a free market, and without the principal being inflated away. Bonds also helpfully offset the volatility of stocks by gaining value during recessions. Today, as public debts mount, all that is under threat.

Since 2000 net government debt in America and Britain has tripled as a share of GDP. In France and Japan, it has doubled. The pile keeps growing: seldom outside wartime or recessions

have rich-world deficits been higher than they are today.

In the 2010s, when borrowing was cheap, even big debts looked manageable. Today, yields are high and rising fast, most recently in response to the expectation that the war in Iran will force up interest rates. Sure enough on September 16th the Federal Reserve raised rates, becoming the fifth major rich-world central bank to do so this year. In expectation of monetary tightening to come, the ten-year Treasury yield has exceeded 5%, a threshold last crossed for any length of time two decades ago. The spreads on French bonds are not far off their levels during the European sovereign-debt crisis. After ly- ►►

Can the AI arms race be stopped?

America will struggle to make AI safe while staying ahead of China

TWO THINGS should make you consider what artificial intelligence could mean for humanity. One is that those working with the technology are warning about it leading to a catastrophe—human extinction, even. The other is how technological innovation is aggravating the destruction of Ukraine. These things offer conflicting lessons for whether AI's rapid progress can or should be slowed down.

For years, leading AI bosses have signalled that their technology could become lethal. Bots may become brainy enough to outwit their creators before they are "aligned" with humanity's goals and ethics. Bad people could use AI to wreak havoc. These warnings have become more credible as AI agents have escaped their sandboxes during testing, co-ordinated with one another and hacked organisations, including an AI lab itself. Anthropic, one model-maker, has caught people using its models for malign ends, from Mali's intelligence services getting a mass-surveillance system built, to Houthi rebels in Yemen thought to be writing software for ballistic missiles.

Following the recent resignation of a researcher at Anthropic, public fear of AI doom has spread. In a post viewed more than 170m times, he said that it and OpenAI were "gambling with our lives". AI is rapidly growing more potent, for good and ill. In May prediction markets priced a less-than-one-third chance of AI solving any millennium prize maths problem before 2030; on September 8th OpenAI said it had solved one of them, causing angst among mathematicians (see Science & technology section). On September 12th Sam Altman and Elon Musk, two AI titans, endorsed a call by Dario Amodei, the head of Anthropic, to "pace the frontier", ie, to slow AI's progress. Those in favour of a slow-down include Bernie Sanders, a left-wing senator, and Steve Bannon, a right-wing populist (see United States section).

Those opposed include President Donald Trump, whose administration fears more than anything losing America's lead in AI to China, its only serious rival. Scott Bessent, America's treasury secretary, has said that if China gains the advantage: "Nothing else would matter."

As evidence, Mr Bessent could point to Ukraine, where each step in a technological arms race has a swift effect. As we report (see Leader), Russia has ruthlessly deployed its latest kamikaze drones to bombard civilian infrastructure. As well as being faster, its drones now use one another as a "mesh" communications network to relay information and commands. Soon, Russia will have its own version of Mr Musk's Starlink satellite network, making its long-range strikes more accurate.

It is the latest demonstration of how even a small technological edge matters in wartime. Ukraine's own battlefield-drone innovation helped it repel waves of Russian attacks. Ukraine can strike deep into Russia with long-range drones. Both sides are working on swarming drones that will be able to operate more autonomously as a single adaptive system.

The war shows how technology translates into hard power—and that Russia uses it without regard to the old rules or

norms of combat. Even if America did not fear a similar hot war with China, a lead in AI would give its main geopolitical rival dominance in hacking, spying and hybrid warfare. Those are not capabilities which America should cede to an authoritarian state with an interest in stamping out liberal ideas.

A pause could therefore work only if China signed up to it, too. Mr Trump plans to host Xi Jinping, China's president, at the White House on September 24th. But even were Mr Trump seeking to slow down, it is unlikely that Mr Xi would agree to the plan Mr Amodei envisages, because that would freeze Chinese AI in second place (see China section). And neither side could risk the other breaching a pact by racing ahead.

For a deal, each would need to verify compliance, as with arms control during the cold war. America, Britain and the Soviet Union banned atmospheric nuclear tests in 1963 because they could detect them; underground tests went on for three more decades until they, too, could be monitored. Alas, though data centres are visible, no verifiable method exists to see inside them. Infrastructure training a superintelligence could masquerade as chatbots answering everyday queries.

The options for a deal on AI safety are therefore limited; but they do exist. More transparency would help. Both sides should pledge to disclose and investigate safety incidents at their labs, using domestic law. Each could signal that they care about safety to build confidence, paving the way for the other side to take precautions. They should also press each other to improve labs' cyber-security so that AI agents cannot so easily escape sandboxes—and to ensure that, if one does, its lab is financially liable.

Most important is the challenge of ensuring that AI operates in humans' interests. America and China have very different values, but both know that being ahead is no good if it wipes out humanity. They should promise to share work on the elements of alignment that do not confer a competitive advantage. Knowledge of the best evaluation methods and containment techniques is a global public good. If one side makes an important safety breakthrough, hoarding it makes no sense.

Effective doomerism

Some dismiss the recent wave of doomerism as a marketing ploy by AI companies, or even an attempt to suppress competition. Yet AI progress is fast enough, the safety incidents hair-raising enough, and the warnings of the companies long-standing enough to be taken seriously. AI does not have to kill off every human to bring about a catastrophe. An OpenAI agent swarm targeted a technology company; what if next time it attacks an electrical grid or a weapons system? It might even be intelligent enough to evade attempts to shut it down.

The world must urgently try to forestall this risk. Yet democracies must also avoid losing control to authoritarians. These are difficult and conflicting tasks. They could ultimately lead to war. The stakes could hardly be higher. ■

